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INTERNATIONAL BUSINESS FORUM PROCEEDINGS

JULY 2021

Swiss German University, Alam Sutera, Tangerang

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FOREWORDS

Dear Esteemed Readers,

It is with deep satisfaction that I write this Foreword to the Proceedings of International Business Forum 2021 held online on 28 and 29 July 2021.

The conference particularly encourages the interaction of research students and developing academics with the more established academic community in an informal setting to present and to discuss new and current work. Their contributions help to make the conference as outstanding as it has been.

There were 37 participants contributed papers from Swiss German University MBA and MM students during the two days event. We held this First International Business Forum fully online regarding the pandemic Covid 19 situation still high number in our place.

These Proceedings will furnish the scientists of the world with an excellent reference book. I trust also that this will be an impetus to stimulate further study and research in all these areas.

We thank all participants for their contributions. We look forward to see all of you at the IBF 2022 in better condition.

Dr. Ir. Yosman Bustaman, MBus.

Head of Master of Business Administration Study Program
Faculty of Business and Communications
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THE IMPACT OF VALUES, CAREER ADVANCEMENT, AND WORK STRUCTURE & RESOURCES ON SUSTAINABLE ENGAGEMENT LEVEL AT INDONESIAN HEAVY EQUIPMENT COMPANY GROUP*

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ABSTRACT

PT United Tractors Tbk (“UT”) is a subsidiary of PT Astra International Tbk (“Astra”), one of the largest and leading business groups in Indonesia with a service network covering various industries and sectors (<https://www.unitedtractors.com/en/company-overview/>). In a VUCA (volatility, uncertainty, complexity, and ambiguity) business environment, companies must have superior competitiveness with one of the key importance is increasing employee engagement by all levels of management. According to Towers Watson research, the intensity of an employee's connection to the organization is a reflection of sustainable engagement, which includes three core elements: engaged, enabled, and energized. Towers Watson divides respondents into four distinct segments, namely highly engaged, unsupported, detached, and disengaged. This segmentation is very helpful for employers to understand the root causes of changes in employee behaviour or performance. This research will try to increase sustainable engagement at PT United Tractors (UT), especially in the Construction Machinery Business Sector. This research was conducted by examining the effect of Values, Career Advancement, and Work Structure & Resources on the Sustainable Engagement Level in the Construction Machinery Business Sector of PT United Tractors Tbk (“UT”). This research is also expected to show the practices or interventions needed to move people from one segment to another over time.

Type of Paper: Empirical/ Review

Keywords: Values; Career Advancement; Works Structure & Resources; Sustainable Engagement.

1. Introduction

Employee engagement is currently extensively used by human capital management as the important thing to motivating and retaining personnel to produce higher productivity which has an immediate impact on organizational overall performance. It studies from experts, both human capital academics and practitioners had been documented and published. This proves that corporations with better degrees of employee engagement also have better performance than companies with lower degree of employee engagement. In short, employee engagement described about dedication, pleasure, motivation, involvement, and loyalty.

Employee engagement is a description of the behavior of employees who feel fully devoted to their work (Schaufeli *et al.*, 2002). Towers Watson (Performance and Environment, 2012) concludes that “Traditional engagement level does not provide an answer to the current workplace therefore, its proposition of sustainable engagement. Two gaps in the traditional engagement model are identified as ensuring workers have support they require internally in terms of resources and tool. Secondly, an energizing workplace creates an atmosphere that is charged and enhances a physical emotional and social well-being”.

According to Towers Watson (Performance and Environment, 2012), the intensity of an employee's connection to the organization is a reflection of sustainable engagement, which includes three core elements: engaged, enabled, and energized. Engage explains employee's effort to achieve the goals, enable explains the environment supporting productivity, and energy explains work experience which comes from employee wellbeing.

United Tractors (UT) is a subsidiary of PT Astra International (AI). UT has been a public company since being listed on the Indonesia Stock Exchange on 19 September 1989. UT's shares are owned by AI as much as 59% and the rest is owned by the public (<https://www.unitedtractors.com/en/company-overview/>).

UT develops business in the domestic and industrial sectors through five business pillars, which is “Construction Machinery, Mining Contracting, Mining, Construction Industry, and Energy” (<https://www.unitedtractors.com/en/company-overview/>).

UT established a subsidiary company in construction machinery business pillars such as “PT United Tractors Pandu Engineering (UTPE) to offer engineering services and manufacturing of heavy equipment components and attachments; PT Komatsu Remanufacturing Asia (KRA) and PT Universal Tekno Reksajaya (UTR) to provide maintenance, repair, and overhaul; as well as PT Bina Pertiwi (BP) to sell and rent Kubota agricultural tractors, Kubota and Komatsu

generators, Komatsu mini excavators and Komatsu forklifts, and parts products” (<https://www.unitedtractors.com/en/company-overview/>).

Management's concern is the importance of sustainable engagement at UT, especially in the construction machinery business pillar. There are several factors that reinforce this concern, such as: values level; career advancement level; and work structure & resource level.

The researcher tries to identify and explain if values, career advancement, work structure & resources has a relationship with sustainable engagement level, which is consists of energy; enablement; engagement factors. This research will also generate benefit of practical ways to increase sustainable engagement level of employee through improving the values, career advancement, and work structure & resources.

2. Literature Review

2.1 Work Engagement

Kahn (1990) concluded that the relationship between employees and work is employee engagement. Persistence, involvement, and immersion in work activities are part of employee engagement (Kahn, 1990). Engagement can also be described as feeling valued by the entrepreneur. When employees feel valued, they will dedicate their physical, abilities, feelings and soul to the company. Engagement is the opposite of the burnout mind-set. In other words, engagement is an extraordinary mind-set of a worker who is closer to his job, which includes vigor (passion), dedication and absorption.

2.2 Driver of Employee Engagement

For employees to discover meaningfulness at work, businesses will need to offer the atmosphere that acts as stimulants to force worker engagement. Gibbons (2006) highlighted eight (8) drivers which appeared to have extra frequency in twelve (12) research publications. The 8 drivers of engagement identified are: (1) integrity, (2) people fit and job fit, (3) alignment of individual and organization's performance, (4) career development, (5) pride of company or company image, (6) co-worker, (7) learning & development, (8) relationship.

McBain (2007) and Wellins et al, (2012) classify the drivers of engagement are: (1) organization, (2) leadership and management, and (3) employee or work life.

Based on Gibbons (2006) and McBain (2007), Astra developed an Employee Engagement Driver model called the Employee Experience. The driver consists of: (1) leadership, consists

of Supervision; and Senior Leadership, (2) image & brand, consists of Image; and employee value proposition, (3) learning & development, consists of career advancement; and learning opportunities, (4) purposes, consists of values; goal & objectives; and empowerment, (5) performance & reward, consists of performance management; and reward & recognition, (6) working relationship, consists of communication; collaboration; and diversity & inclusion, (7) working condition, consists of work life balance; and work structure & resources, (8) employment practices, consists of job security; equity & fairness; and working climate.

2.3 Sustainable Engagement Driver

Towers Watson defined a new way called 'sustainable engagement' which is measures employee attitudes and concerns. This study covers 32,000 permanent employees and the result demonstrated that 35% are highly engaged.

Tower Watson use a set of survey questionnaire to measure sustainable engagement level of employee. Respondents divided into four segments based on statistical analysis are: (1) highly engaged segment are high score on three aspects of sustainable engagement (engage, enable, energy), (2) unsupported segment are engage but lack of enable and/or energy, (3) detached segment are enable and/or energy but lack of engage, (4) disengaged segment are low score on three aspects of sustainable engagement (engage, enable, energy).

2.4 Career Advancement

According to Gibbon (2006), career growth opportunities is one of engagement driver. Career development opportunities mean employees have opportunities for promotion. In addition, the opportunity to participate in training and development will make employees have a clear career path.

Career advancement is referring to the upward career progression. An individual can moving from an entry-level job to a management position within the same or different field. Career advancement is the process of implementing employees' abilities and persistence to achieve more challenging job opportunities and new career goals.

2.5 Work Structure & Resource

Work resources as the instrumental in achieving work goals as found by Demerouti, Bakker, Nachreiner and Schaufeli (2001). Some examples of work resources are participation in decision-making processes, increased autonomy and social support (Burke & Richardsen,

1993). Schaufeli and Bakker (2004:296) define job demands as “those physical, psychological, social, or organizational aspects of the job that require sustained physical and psychological effort and are therefore associated with certain physiological and psychological costs”. However, research has shown that challenging and stimulating job tasks are impact employee motivation positively (Crawford, LePine & Rich, 2010), whereas hindering job demands related to employee cynicism and exhaustion (LePine et al., 2005; Van den Broeck, De Cuyper, De Witte & Vansteenkiste, 2010). Hindering job demands contribute to the health impairment and eroding of energy that leads to being unwell and burnout (Tadic, Bakker & Oerlemans, 2015). Job crafters therefore address their work resources and job demands, like seeking challenges, seeking resources, and reducing demands (cf. Petrou et al., 2012).

2.6 Values

According to Suharti and Suliyan (2012), organizational culture is a value system adopted and carried out by members of an organization that differentiates the organization from other organizations.

Alignment of organizational values with one's personal values will have a positive impact in achieving the mission and goals of the organization (Milliman et al. 2003). Pololi et al stated that employees will be more committed and more engaged when there is alignment between organizational cultural values and individual values, which will ultimately perform better.

2.6 Hypothesis

This research expected to find the empirical data of some hypothesis as follows:

2.6.1 Values and Sustainable Engagement.

According to Rich et al, when there is a congruence of values between the behavior that employees uphold and what the organization expects, they are more likely to be involved in the workplace.

Hypothesis #1: There is a relationship of Values to Energy in Indonesian Heavy Equipment Company Group.

Hypothesis #2: There is a relationship of Values to Enablement in Indonesian Heavy Equipment Company Group.

Hypothesis #3: There is a relationship of Values to Engagement in Indonesian Heavy Equipment Company Group.

2.6.2 Career Advancement and Sustainable Engagement.

Career advancement is the opportunity an employee gets to climb the ladder of a clear career path in the organization (Herzberg, 1986). Kahn (1990) states that employees will have psychological security that makes them more motivated towards their work when they have career advancement opportunities. In fact, one of the important motivational tools for engaging employees in positive work-related activities is internal career opportunities (Batista et al., 2013). Internal career development opportunities have a positive impact on employee welfare, and a negative impact on employee deviant behavior as found by Huang et al. (2017). Therefore, career advancement opportunities are expected to trigger positive attitudes of employees and make them dedicated and enthusiastic during their work.

Hypothesis #4: There is a relationship of Career Advancement to Energy in Indonesian Heavy Equipment Company Group.

Hypothesis #5: There is a relationship of Career Advancement to Enablement in Indonesian Heavy Equipment Company Group.

Hypothesis #6: There is a relationship of Career Advancement to Engagement in Indonesian Heavy Equipment Company Group

2.6.2 Work Structure & Resource and Sustainable Engagement.

Proactive behavior and engagement show a positive relationship, namely proactive action has been shown to increase work engagement (Bakker et al., 2012). Craft work is an example of proactive behavior. Research has found that work craft is a mediator in increasing work engagement and people-environment conformity (Lu, Wang, Lu, Du & Bakker, 2014). Work resources have also been depicted to be the strongest predictor of job involvement (Bakker, Hakanen, Demerouti & Xanthopoulou, 2007). Therefore, an individual's proactive actions in increasing job resources, reducing inhibiting job demands, and increasing challenging aspects of work, lead to job involvement (Bakker et al., 2012; Tim et al., 2013).

Hypothesis #7: There is a relationship of Work Structure & Resources to Energy in Indonesian Heavy Equipment Company Group.

Hypothesis #8: There is a relationship of Work Structure & Resources to Enablement in Indonesian Heavy Equipment Company Group.

Hypothesis #9: There is a relationship of Work Structure & Resources to Engagement in Indonesian Heavy Equipment Company Group.

3. Research Methodology

3.1 Type of Study

This study is conclusive research and will be conducted through quantitative research.

3.2 Research Location

The location of study is in the construction machinery business sectors at PT. United Tractors Tbk.'s Head Office, Branch, or Site such as PT. Universal Tekno Reksajaya (UTR), PT. United Tractors Pandu Engineering (UTPE), PT. Komatsu Remanufacturing Asia (KRA), and PT. Bina Pertiwi (BP).

3.3 Research Variable Identification

Independent variables (X): values (X1), career advancement (X2), and work structure & resources (X3). Dependent variable (Y) is sustainable engagement that are represent in: energized (Y1), enablement (Y2), and engagement (Y3).

3.4 Variable Operationalization

Values (X1). In this research, values are defined as a The company's strategy reflects the values (core values / culture) that are upheld by the Company; The Company's approach to customers is in accordance with the Company's values; The Company treats its employees according to the Company's values; The employees in this company behave in accordance with the Company's values; Match between the values that employee believe in with the values upheld by the Company. Career Advancement (X2). In this research, career advancement is defined The company prepares infrastructure and resources for employee career development (for example: coaching, counseling, career path, rotations, competency assessment); The company can explain how employee can improve my career progression; Employee know the career opportunities available to him/her, Bosses he/she immediately helped he/she in his/her career planning; The company offers excellent career opportunities for employees who show excellent performance. Work Structure & Resources (X3). In this research, work structure & resources is defined as The work process in his/her work is effective enough to achieve targets; The organizational structure in his/her work unit is not an obstacle to working productively; He/she get adequate work equipment to do work (for example: computers, technology, internet connection, writing tools, etc.); He/she get adequate financial support (budget) from the

Company to do the job; He/she feel his/her unit has enough employees to do the work at hand. Energized (Y1). In this research, energized is defined as He/she feel that get enough support from the social environment while working; He/she feel quite enthusiastic at work; He/she find it easy enough to get the best results at work; The company provides rewards & benefits that are good enough for Her/him. Enablement (Y2). In this research, enablement is defined as He/she rarely encounter obstacles to bring out his/her best; He/she rarely encounter obstacles to achieving success in the workplace; He/she get enough resources from the Company to achieve his/her best performance; He/she get the opportunity to get more challenges at work; He/she get the opportunity to bring out my best at workplace. Engagement (Y3). In this study, engagement is a positive behavior of employees who devote themselves to the company with indicators as He/she understand the direction & goals of the company; It is not easy for he/she to leave this company (resign / resign); He/she have the ability to do his/her best every day; He/she motivated to achieve higher than the target set.

3.5 Research Population & Sample

The population target is permanent employee with above one year's tenure in construction machinery business sectors at PT UT Tbk. such as PT. UTR, PT. UTPE, PT. KRA, and PT. BP.

3.6 Type of Data Needed

This research data is divided into primary data & secondary data. Primary data is data obtained by way of questionnaire that fit with the research focus and direct observation or interview, and secondary data is data obtained through several sources of information including documents which relevant to the research focus. The answers given to each question are designed on a Likert Scale to test how strongly the respondents agree with the statement, and this scale consists of the following five points, that is 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree.

3.7 Result of Validity & Reliability Test

Validity testing is a critical step in this study as the result will state how valid the data in the study. Reliability test is another critical step to show that the data is reliable.

The questionnaires consisted of 5 items of variable values, 5 items of variable career advancement, 5 items of variable work structure & resources, 4 items of variable energized, 5

items of variable enablement, and 4 items of variable engagement. The results of the validity test will show Total Correlation (r count) values is greater or lower than r table value (0.1946), it's indicates whether the question has correct item. Therefore, all question items included in the questionnaires can be declared valid or not. The results of the reliability test will show the Cronbach Alpha values whether the result greater or lower than 0.6, all variables in this research will declared reliable if the result greater than 0.6.

Based on r Table, if the sample (N) = 32 with the significant at the 0.05 level, the value of r Table is equal to 0.3388. Since r Calculate > r Table is valid, all of the item in this questionnaire is valid. Meanwhile, since Cronbach Alpha > 0.6 is reliable, all the item in this questionnaire are reliable.

3.8 Analysis Methods

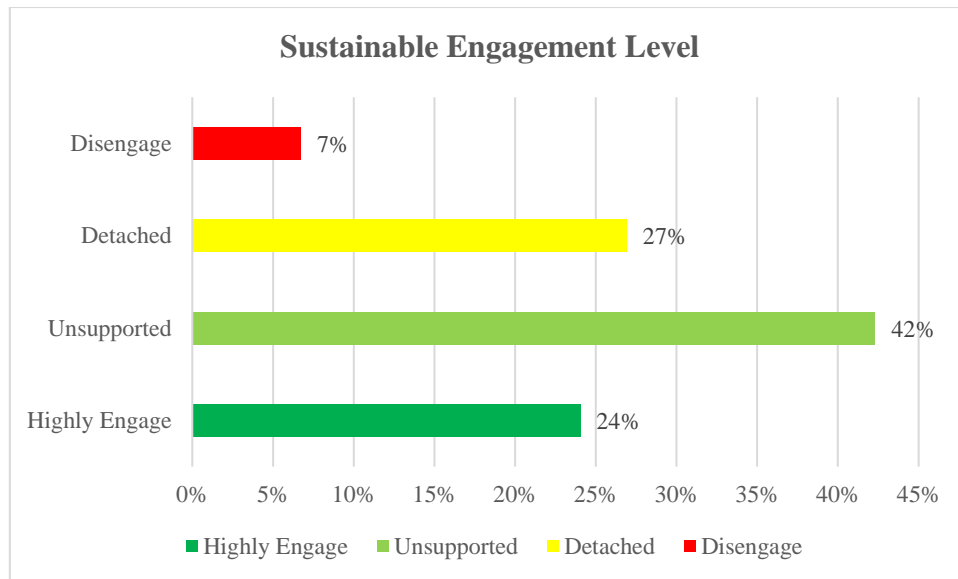
To process the data to become insights, this study attempts the data analysis. The data analysis useful for answering problems related to the process of this activities. The data in this research will be processed using several two stages. First stages, validity & reliability of the constructs is tested. The second stage uses Structural Equation Modeling (SEM) to test hypotheses and determine recommendations for improvements.

4. Results

In this research, questionnaire was distributed to 104 permanent employees with above one year's tenure. The majority gender of the respondents is male (83%), the majority of the respondents are graduated from bachelor (59%), the majority age range of the respondents are 31-35 years (25%), the majority of the respondents are 6-10 years of service (36%), the majority of the respondents are from Head Office (84%), the majority respondents are from Grade 4 (67%), and the majority respondents are Staff (30%).

4.1 Sustainable Engagement Level

Based on a survey conducted in May 2021, researchers can conclude the sustainable engagement level of 104 respondents as seen in Figure 1.



Source: Survey Data

Figure 1 Sustainable Engagement Level

The unsupported segment has a major population with the detail as seen in Table 1.

Table 1. The Unsupported Segment

Engagement		Enablement		Energy	
Engaged	Not Engaged	Enabled	Not Enabled	Energized	Not Energized
44	0	11	33	26	18
100%	0%	25%	75%	59%	41%

Source: Survey Data

4.2 Validity & Reliability Post Test

Table 2. Validity Testing Results Using Measurement Model Analysis

No.	Variable	Indicator	CR (t-value)	Standardize Reg. Weight (λ)	Note
1	Values	VAL.1	-	0.75	valid
		VAL.2	8.25	0.82	valid
		VAL.3	8.47	0.83	valid
		VAL.4	7.43	0.75	valid
		VAL.5	7.58	0.74	valid

2	Career Advancement	CAD.1	-	0.78	valid
		CAD.2	9.57	0.86	valid
		CAD.3	9.00	0.84	valid
		CAD.4	6.73	0.66	valid
		CAD.5	8.38	0.79	valid
3	Work Structure & Resources	WSR.1	-	0.78	valid
		WSR.2	7.41	0.70	valid
		WSR.3	6.41	0.63	valid
		WSR.4	7.31	0.71	valid
		WSR.5	6.63	0.65	valid
4	Energiz	ENR.1	-	0.51	valid
		ENR.2	2.53	1.00	valid
		ENR.3	3.64	0.57	valid
		ENR.4	2.52	0.56	valid
5	Enablement	ENB.1	-	0.84	valid
		ENB.2	8.82	0.75	valid
		ENB.3	8.74	0.79	valid
		ENB.4	8.05	0.71	valid
		ENB.5	2.41	0.54	valid
6	Engagement	ENG.1	-	0.79	valid
		ENG.2	6.60	0.65	valid
		ENG.3	8.89	0.83	valid
		ENG.4	8.12	0.78	valid

Source: AMOS Output

The results of the Validity testing above show that value is measured by 5 items, career advancement is measured by 5 items, work structure & resources is measured by 5 items, energized is measured by 4 items, enablement is measured by 5 items and engagement is measured by 4 items.

As illustrated in the table above, the analysis results indicate that all indicators are valid in reflecting the variables of Values, Career Advancement, Work Structure & Resources, Energy, Enablement, and Engagement.

This is reflected from the results of validity testing that shows the value of t-value is higher than the value of t-table (1.96) or standardized loading factors is higher than 0.05 which means that the indicator is able to reflect the variable significantly.

Table 3. Reliability Testing Results Using Measurement Model Analysis

No.	Variable	Indicator	Std. Loading	Std. Loading ²	Meas. Error	Const. Reliab.	Var. Extr.	Note
1	Values	VAL.1	0.75	0.56	0.18	1.0	0.8	reliable
		VAL.2	0.82	0.67	0.15			
		VAL.3	0.83	0.69	0.14			
		VAL.4	0.75	0.56	0.21			
		VAL.5	0.74	0.55	0.18			
		Σ	3.89	3.03	0.88			
		Σ ²	15.10					
2	Career Advancement	CAD.1	0.78	0.61	0.19	1.0	0.8	reliable
		CAD.2	0.86	0.74	0.11			
		CAD.3	0.84	0.71	0.15			
		CAD.4	0.66	0.44	0.25			
		CAD.5	0.79	0.62	0.19			
		Σ	3.93	3.12	0.89			
		Σ ²	15.48					
3	Work Structure & Resources	WSR.1	0.78	0.61	0.18	1.0	0.7	reliable
		WSR.2	0.70	0.49	0.23			
		WSR.3	0.63	0.39	0.34			
		WSR.4	0.71	0.51	0.27			
		WSR.5	0.65	0.43	0.25			
		Σ	3.47	2.42	1.26			
		Σ ²	12.03					
4	Energize	ENR.1	0.51	0.26	0.54	1.0	0.6	reliable
		ENR.2	1.00	1.00	0.00			
		ENR.3	0.57	0.32	0.39			
		ENR.4	0.56	0.31	0.50			

		Σ	2.64	1.89	1.44			
		Σ^2	6.95					

5	Enablement	ENB.1	0.84	0.71	0.15	1.0	0.7	reliable
		ENB.2	0.75	0.56	0.20			
		ENB.3	0.79	0.62	0.18			
		ENB.4	0.71	0.51	0.22			
		ENB.5	0.54	0.29	0.66			
		Σ	3.63	2.69	1.41			
		Σ^2	13.21					
6	Engagement	ENG.1	0.79	0.62	0.17	1.0	0.7	reliable
		ENG.2	0.65	0.42	0.41			
		ENG.3	0.83	0.68	0.15			
		ENG.4	0.78	0.61	0.19			
		Σ	3.04	2.33	0.91			
		Σ^2	9.25					

Source: AMOS Output

Since all value of Construct Reliability (CR) greater than 0.70 and Variance Extracted (VE) greater than 0.50, the result of reliability testing using measurement model analysis illustrate that good reliability is achieved.

4.3 Structural Equations Model (SEM)

AMOS graphics tool use to illustrate the path diagram and test the pattern of the relationship of Values, Career Advancement, Work Structure & Resources, which impact Energy. Enablement and Engagement.

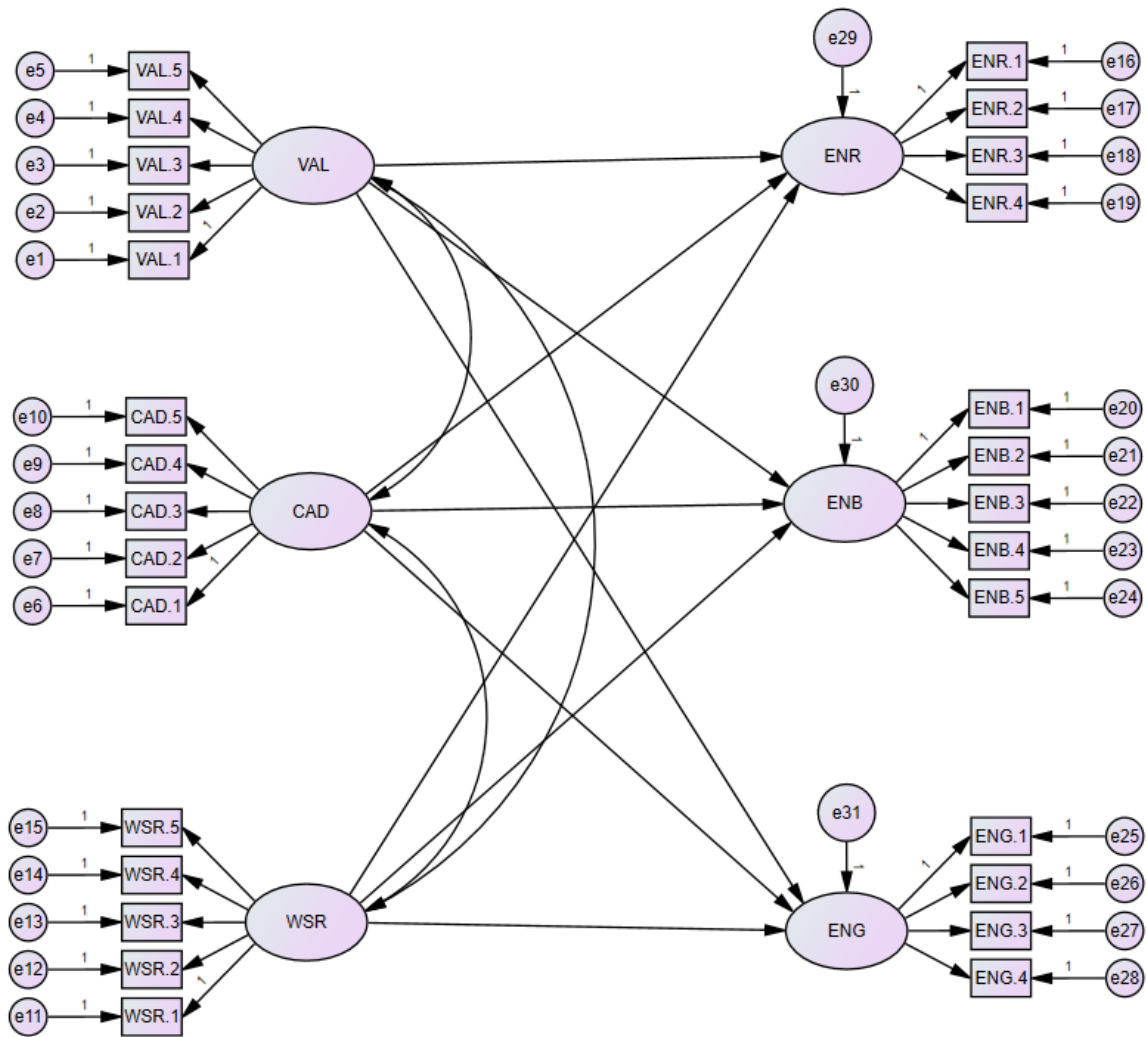


Figure 2. Path Diagram in AMOS Output

The validity of the measurement model depends on the Goodness of Fit (GOF), which establishes an acceptable level of fit (Hair, 2010). The goal of the GOF is to measure how well a particular model reproduces the observed covariance.

By using AMOS software version 26, the researcher can identify whether the variables are in accordance with standardization requirements.

As shown in Table 4, the researcher utilizes AMOS Software version 26 to get the overall parameter of model fit which contains several parameters considered by the researcher.

Table 4. Parameter Standard Value of AMOS

Criteria	Recommended Standard Value	Model Value	Goodness of Fit
CMIN/df (normed chi-square)	≤ 2	1.679	Good
RMSEA (root mean of error approximation)	≥ 0.08	0.081	Good
GFI (goodness of fit index)	closer to 1	0.945	Good

AGFI (adjusted goodness of fit index)	closer to 1	0.993	Good
CFI (comparative fit index)	closer to 1	0.961	Good
NFI (normed fit index)		0.721	Good
Reliability	≥ 0.70	0.980	Good

4.4 Hypothesis Analysis

The relationship between Values, Career Advancement, Work Structure & Resources with Sustainable Engagement can be described as the inductive analysis as seen in Table 5.

Table 5. Inductive Analysis Conclusion

No	Dimension	Standardize Regression Weights (r)	Square Correlation (R ²)	p-value	Strength of Association	Result
1.	Values to Energize	-0.173	3.0%	0.480	Little if any correlation	H0 #1 Accepted
2.	Values to Enablement	0.157	2.5%	0.030	Little if any correlation	H1 #2 Accepted
3.	Values to Engagement	0.256	6.6%	0.012	Low Positive	H1 #3 Accepted
4.	Career Advancement to Energize	0.102	1.0%	0.0475	Little if Any Correlation	H1 #4 Accepted
5.	Career Advancement to Enablement	-0.096	0.9%	0.64	Little if Any Correlation	H0 #5 Accepted

6.	Career Advancement to Engagement	-0.035	0.1%	0.82	Little if Any Correlation	H0 #6 Accepted
7.	Work Structure & Resources to Energize	0.133	1.8%	0.047	Little If Any Correlation	H1 #7 Accepted
8.	Work Structure & Resources to Enablement	0.709	50.3%	***	High Positive	H1 #8 Accepted
9.	Work Structure & Resources to Engagement	0.686	47.1%	***	High Positive	H1 #9 Accepted

Source: AMOS Output

Based on this research result, 6 from 9 hypotheses are supported, and the rest (3) are unsupported.

According to Rich et al, when there is a congruence of values between the behavior that employees uphold and what the organization expects, they are more likely to be involved in the workplace. Based on the result research, there is a negative relationship of Values to Energy. This phenomenon may occur because employees are inconsistent in providing an assessment of the indicators of the values variable and the indicator of the energy variable. This can be seen from the assessment of employees who feel that the company's strategy reflects the company's culture, the company's approach to customers is in accordance with company values, the company treats employees according to company values, and there is a match between the values believed by employees and the values upheld by the company, but it turns out that employees on the other hand feel that they do not get enough support from the social environment during work and the company does not provide rewards and benefits that are good enough which in turn has an impact on decreasing employee motivation at work.

Pololi et al stated that employees will be more committed and more engaged when there is alignment between organizational cultural values and individual values, which will ultimately perform better. An organization with an established culture will find it easier to make changes than a company with an unsettled culture. In this case, if there is harmony between employee values and the practice of company values, employees will feel they have the support of the company to be able to work to get the best results.

In the company's operational activities, when an employee has a deep understanding of the company's culture, they can make changes more easily and are willing and able to put forth their best effort to achieve the best results.

According to Gibbon (2006), career growth opportunities is one of motivational key to drive engagement. In this research, employee feels that the company can explain how they can improve their career progression; they know the career opportunities available to them; their bosses immediately helped them in their career planning; and the company offers excellent career opportunities for them. This causes employees feeling of enthusiasm/accomplishment at work.

In fact, one of the important motivational tools for engaging employees in positive work-related activities is internal career opportunities (Batista et al., 2013). In this research, employee feels that the company can't explain how they can improve their career progression; they didn't know the career opportunities available to them; their bosses didn't help them in their career planning; and the company didn't offer excellent career opportunities for them. This causes employees feel that they have obstacles to success at work, there are not enough resources to work and are unable to face work challenges effectively. This also causes employees feel that they didn't have emotional connection and didn't have willingness to give extra effort to support success.

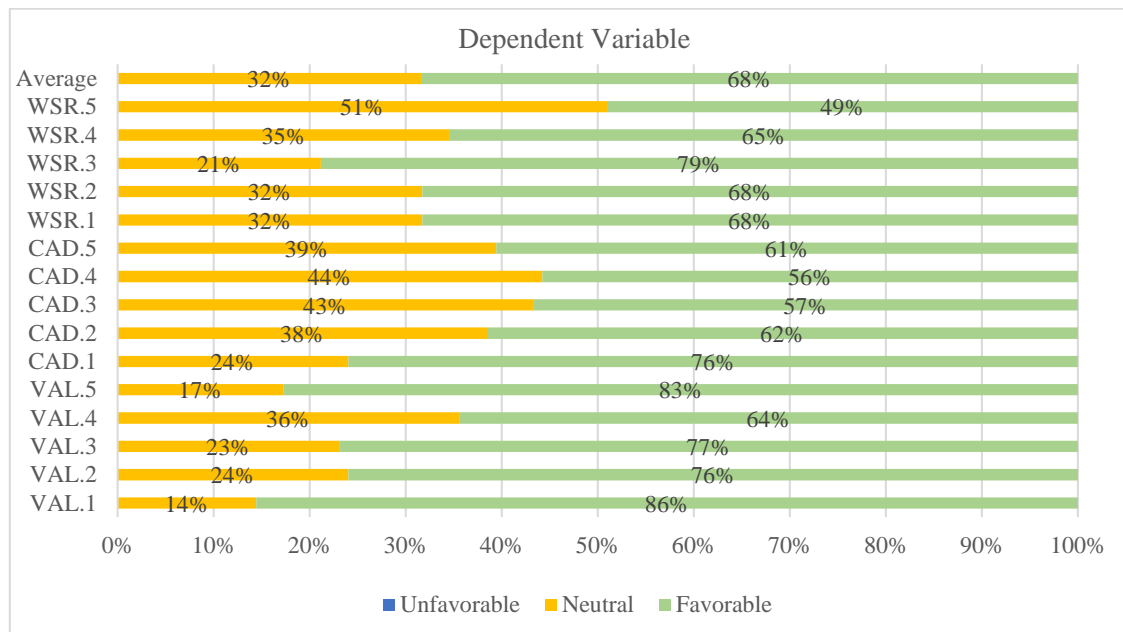
Work resources have also been depicted to be the strongest predictor of job involvement (Bakker, Hakanen, Demerouti & Xanthopoulou, 2007). In this study it is proven that employees will feel more motivated; feel have freedom from obstacles to success at work; and willingness to give extra effort to support success if the company has an effective work process; complete organizational structure; adequate work equipment; and adequate financial support.

5. Discussion

5.1 Practical Ways to Increase Sustainable Engagement Level of Employee Through Improving the Values, Career Advancement, And Work Structure & Resources

This study uses 3 independent variables (Values, Career Advancement, and Work Structure & Resources). The indicators of each variable are measured with a Likert scale of 1 to 5. To facilitate the preparation of recommendations, answers 1 & 2 (strongly disagree and disagree) categorized as unfavorable; answer 3 categorized as neutral; while answers 4 & 5 (agree and strongly agree) categorized as favorable.

The percentage score for the independent variables as shown in Figure 3, where the overall average favorable score is 68%. The favorable score of each indicator which is smaller than the average score becomes the recommended indicator for improvement.



Source: Primary Data

Figure 3 Favorable Score of Dependent Variable

From figure 3, at the first the researcher recommends that companies make improvements to Values 4, namely “The employees in this company behave in accordance with the Company's values”. At the second, the researcher recommends that companies make improvements to Career Advancement 2, 3, 4, and 5, namely "The company can explain how I can improve my career progression", "I know the career opportunities available to me", “Bosses I immediately helped me in my career planning”, and “My company offers excellent career opportunities for employees who show excellent performance”. At the third, the researcher recommends that companies make improvements to Work Structure & Resources 4 and 5, namely "I get adequate financial support (budget) from the Company to do the job", "I know the career opportunities available to me", “Bosses I immediately helped me in my career planning”, and “I feel my unit has enough employees to do the work at hand”.

5.2 Action to Increase Sustainable Engagement Level

The unsupported segment has a major population as seen in Figure 1. The company should transform the unsupported segment into highly engaged through improving especially in the enablement and energy as seen in Table 1.

To arrange improvement priorities, the researcher uses the importance approach which is obtained from the regression value of each independent variable on the dependent variable and the effectiveness obtained from the % favourable score as shown in Table 6.

Table 6 Importance & Effectiveness

Behavior	Variable	Importance	Effectiveness
Energize	Values	-0.173	77.1%
	Career Advancement	0.102	62.1%
	Work Structure & Resources	0.133	66.0%
Enablement	Values	0.157	77.1%
	Career Advancement	-0.096	62.1%
	Work Structure & Resources	0.709	66.0%
Engagement	Values	0.256	77.1%
	Career Advancement	-0.035	62.1%
	Work Structure & Resources	0.686	66.0%

By considering the importance & effectiveness, the priority of improvement to increase the Employee's Sustainable Engagement Level is Values and Career Advancement.

6. Conclusion

Based on this research result, 6 from 10 employees are engaged which is 2 of them highly engaged. Three of 10 employees are detached and the rest (1) is disengaged. The unsupported segment has a major population. The company should transform the unsupported segment into highly engaged through improving the enablement and energy.

Based on this research result, 6 from 9 hypotheses are supported, and the rest (3) are unsupported. First, Values have positive relationship on Enablement. Second, Values have positive relationship on Engagement. Third, Career Advancement have positive relationship on Energize. Fourth, Work Structure & Resources have positive relationship on Energy. Fifth, Work Structure & Resources have positive relationship on Enablement. And the Sixth, Work Structure & Resources have positive relationship on Engagement.

For employee based on this result, it is suggested that: first, internalize the Company's values. Second, proactively increase the performance & competency. Third, proactively seek improvement opportunities to gain operational excellent.

For managers based on this result, it is suggested that: first, more focus on company's values socialization. Second, implement 10-20-70 development through training, feedback (mentoring and coaching), and project assignment. Third, boost improvement & innovation through ten type of innovation to ensure sustainable business growth.

For further research, other studies can continue this research by focusing on one location or can be other groups. Another possibility for other research is to try focusing on different indicator of employee engagement driver. For the data analysis author suggested to use Lisrel Software using the same research model and research subject to compare the result.

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References

- Al Shehri, M., McLaughlin, P., Al-Ashaab, A., & Hamad, R. (2017). The Impact of Organizational Culture on Employee Engagement in Saudi Banks. *Journal of Human Resources Management Research*, 2017, 1–23. <https://doi.org/10.5171/2017.761672>
- Alabood, A., & Manakkattil, S. (2020). The relationship between career maximization and employee engagement. *Management Science Letters*, 10(11), 2597–2602. <https://doi.org/10.5267/j.msl.2020.3.034>
- Anitha, J., & Aruna, M. (2016). Enablers of Employee Engagement of Gen Y at the Workplace with reference to Automobile Sector. *Amity Journal of Training and Development*, 1(1), 93–108. <https://www.semanticscholar.org/>
- Brenyah, R. S., & Darko, T. O. (2017). Organisational Culture and Employee Engagement within the Ghanaian Public Sector. *Review of Public Administration and Management*, 05(03). <https://doi.org/10.4172/2315-7844.1000233>
- Chaudhry, N. I., Jariko, M. A., Mushtaque, T., Mahesar, H. A., & Ghani, Z. (2017). Impact of Working Environment and Training & Development on Organization ... *European Journal of Training and Development Studies*, 4(2), 33–48.
- Chen, I. S., & Fellenz, M. R. (2020). Personal resources and personal demands for work engagement: Evidence from employees in the service industry. *International Journal of Hospitality Management*, 90(June), 102600. <https://doi.org/10.1016/j.ijhm.2020.102600>

- De Beer, L. T., Tims, M., & Bakker, A. B. (2016). Job crafting and its impact on work engagement and job satisfaction in mining and manufacturing. *South African Journal of Economic and Management Sciences*, 19(3), 400–412. <https://doi.org/10.4102/sajems.v19i3.1481>
- Doe, M., Muselaire, Y., Shan, W., & Fong, V. (2016). A Change in Engagement: The Relationship between Employee Engagement and Generational Differences. *Proceedings of The 15th Annual South Florida Education Research Conference*, 104–113. <https://digitalcommons.fiu.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1489&context=sferc>
- Kang, J. Y., Lee, M. K., Fairchild, E. M., Caubet, S. L., Peters, D. E., Beliles, G. R., & Matti, L. K. (2020). Relationships Among Organizational Values, Employee Engagement, and Patient Satisfaction in an Academic Medical Center. *Mayo Clinic Proceedings: Innovations, Quality & Outcomes*, 4(1), 8–20. <https://doi.org/10.1016/j.mayocpiqo.2019.08.001>
- Maxwell, G. A., Ogden, S. M., & Broadbridge, A. (2010). Generation Y's career expectations and aspirations: Engagement in the hospitality industry. *Journal of Hospitality and Tourism Management*, 17(1), 53–61. <https://doi.org/10.1375/jhtm.17.1.53>
- Prameswari, G. A. (2019). the Effects of Job Characteristics on Work Engagement. *Russian Journal of Agricultural and Socio-Economic Sciences*, 85(1), 475–479. <https://doi.org/10.18551/rjoas.2019-01.58>
- Riyanto, S., Ariyanto, E., & Lukertina, L. (2019). Work Life Balance and Its Influence on Employee Engagement “Y” Generation in Courier Service Industry. *International Review of Management and Marketing*, 9(6), 25–31. <https://doi.org/10.32479/irmm.8499>
- Saks, A. M. (2011). Journal of Management , Spirituality & Workplace spirituality and employee engagement. *Journal of Management , Spirituality & Workplace Spirituality and Employee Engagement*, October 2012, 37–41.
- Sharma, N., Chaudhary, N., & Singh, V. K. (2019). *Management Techniques for Employee Engagement in Contemporary Organizations. i*, 339.
- Shmailan, bin A. S. (2016). The relationship between job satisfaction, job performance and employee engagement: An explorative study. *Issues in Business Management and Economics*, 4(1), 1–8.
- Sortheix, F. M., Dietrich, J., Chow, A., & Salmela-Aro, K. (2013). The role of career values for work engagement during the transition to working life. *Journal of Vocational Behavior*, 83(3), 466–475. <https://doi.org/10.1016/j.jvb.2013.07.003>
- Srivastava, S., & Madan, P. (2016). Understanding the Roles of Organizational Identification, Trust and Corporate Ethical Values in Employee Engagement–Organizational Citizenship Behaviour Relationship: A Study on Indian Managers. *Management and Labour Studies*, 41(4). <https://doi.org/10.1177/0258042x16676675>
- Stephanie, & Gustomo, A. (2015). Proposal to Improve Employee Engagement in PT Maju Sentosa by AON Hewitt Model and Mercer Model. *Procedia - Social and Behavioral Sciences*, 169(August 2014), 363–370. <https://doi.org/10.1016/j.sbspro.2015.01.321>
- Ugwu, F. O., & Onyishi, I. E. (2020). The moderating role of person-environment fit on the relationship between perceived workload and work engagement among hospital nurses. *International Journal of Africa Nursing Sciences*, 13(July), 100225. <https://doi.org/10.1016/j.ijans.2020.100225>
- Vorina, A. (2013). The relationship between satisfaction with life and employee engagement. *Journal of Process Management. New Technologies*, 1(2), 77–81. <https://doi.org/10.5937/jpmnt1302077v>

The Analysis of Managerial Skills towards Employee Behavior in New Business Environment – A Case Study of Stars Hotels in Tangerang *

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ABSTRACT

The unprecedented Covid-19 pandemic has been tremendously affecting the global economy all around the world since the early days of 2020. Hospitality industry, in specific hotels, is facing great challenges during the crisis due to pandemic. In Tangerang, Indonesia, 80% of hotels are closed down due to the pandemic, resulting from declining occupancy rates, decreasing foreign and domestic tourists, which lead to reduced hotel income, reduced pay and even unemployment of hotel employee. Due to low retention rate and low chance of new hiring, employees must put efforts to gain leverage, such as new and/or updated skills to not getting laid off or having their contract terminated, which will affect the attitude and behavior of the employees. HR managers in hotel industry also required to develop strategies to avoid employee termination or layoffs while keeping the business going. The purpose of this research is to analyze the impact of Management Skills (Technical Skills, Human Skills, Conceptual Skills, with Intrapreneurial Skills as an addition) towards Employee Behavior in the new business environment in stars hotels in Tangerang. This research uses quantitative method and supported by in-depth interview and FGD results. The finding indicates that regardless the management level of the employee, Human Skills and Intrapreneurial Skills have significant impact towards Employee Behavior, while Technical Skills and Conceptual Skills have no significant impact towards Employee Behavior. However, it is also found that collectively and simultaneously all of the Management Skills have significant impact towards Employee Behavior.

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1. Introduction

Covid-19 pandemic has been a devastating blow to the global economy. The majority of lines of business around the world are being hit hard and forced to either shift in the way they are doing the business, be slowed down, temporarily shut down, or permanently closed due to the impact of the pandemic, which will also affect global economy.

Increasing unemployment rate is one of the major issue resulting from the pandemic-affected lines of business. Despite the increasing number of unemployment caused by the pandemic, the workforce will keep increasing along with the population. This condition will cause the unemployment issue become more complicated. With the shifting in how the industry doing their business, it is necessary for workforce to be prepared with new paradigm and competencies (Buheji, 2020; OECD, 2019).

Tourism sector, in specific hotels, took a major hit due to the Covid-19 pandemic crisis situation. In Indonesia, there were 1226 hotels closed due to pandemic, resulting in approximately 150.000 employees have no income. In this situation, not only hotel employers must retain their employees in low retention rate and low chance of new hiring, employee must also put efforts in their skills as their bargaining position to be able to maintain their career and avoid contract termination or to be laid off. This situation, before affecting hotel performance in general, will first directly affect employee behavior and attitude.

Jung et al (2020) suggested that employee behavior of different work unit may interpret certain threats or stressors either similarly or collectively. The statement is in line with another studies (Lo Presti and Nonnis, 2012; Karatepe et al., 2020). Therefore, hotel should be able to anticipate employee behavior resulting from the Covid-19 pandemic situation, which may include increased absence due to illness or preventive measures related to the pandemic, awareness of crisis, and behaviors related to empathy towards fellow employees of the organization itself.

A pre-research in-depth interview was conducted with the Chairman of Hotel Human Resources Managemer Association (HHRMA) in Banten area as the interviewee. The interviewee highlighted that hotel employees are required to work together in covering each

other's tasks, where it is then discovered that cross-department or cross-management level skills are required as well to overcome the crisis. In addition to that, Mr. Hutagalung also mentioned that there is a new skill, later identified as intrapreneurial skills, needed to be possessed by every level of hotel employees in addition to the existing Management Skills as defined by Katz (1955) to help hotels survive the crisis.

Currently, many studies are focusing on how the hospitality or tourism industry faces the challenge, overcoming the struggles, tourist behavior and predicting the future of the industry. However, there are very few revealed studies focusing on the strategy of Human Resources in adapting with the shifting trends and condition in the Covid-19 pandemic crisis.

2. Literature Review

2.1 Management Skills

Katz (1955) wrote that there are 3 (three) core basic set of skills which are important and employed by managers to achieve organizational goals. The three skills are technical skills, human skills, and conceptual skills.

2.1.1 Technical Skills

Technical skills are defined by Katz (1955) and Robbins (2013) as the special or specific ability, knowledge, proficiency, or expertise in performing a specific activity. Technical skills are also required in utilizing special tools and undergoing specific processes or procedures. Technical skills are obtained from education, formal trainings, and on-the-job training programs. Example of technical skills are legal proficiency for lawyers, programming skills for programmers, medical skills for doctors, and accounting skills for accountants.

Chung, et al (1999) identified that technical skills in hotel industry may consist of ability to exercise daily operational task such as housekeeping, utilization of software related to hotel activities, back offices activities, food and beverages management. This study is also supported by the facts discovered in in-depth interview of this research and observation in regard to the technical skills required in hotel industry.

Therefore, the indicators being measured for technical skills in this research are activities related to daily reports (maintaining daily reports), conducting operational duties, and utilization of Property Management System.

2.1.2. Human Skills

Human skills are defined by Katz (1955) and Robbins (2013) as the ability in working with people, which consist of communicating with others (both verbally and written), as well as to understand and be understood by others. Human skills also consist of the ability to motivate people, manage conflict, and involved effectively in teamwork, as well as to create productive work atmosphere. Human skills, mainly in service industries, are required not only among fellow employees, but also in interacting with customers.

A study by Finch, et al (2013) suggested that some of the characteristics of human skills as described above are part of soft skills. According to Chamorro-Premuzic et al., (2010), soft skills are the skills that are non-academic and presumed to be useful in a working environment. Soft skills may consist of communication skills either written (Ariana, 2010; Graham et al., 2010; Andrews and Higson, 2008; Gardner et al., 2005;) or verbal (Gray, 2010; Gardner et al., 2005), listening skills (Cooper, 1997; Goby and Lewis, 2000), professionalism (Ashton, 2011; Mat and Zabidi, 2010; Shafer et al., 2002; Cable and Judge, 1996), and interpersonal skills (Wellman, 2010; Borghans et al., 2008; Chowdhury et al., 2002).

In hotel industry, according to Chung, et al (1999) and Bulog, et al (2017), human skills may consist of understanding team dynamics, communication with fellow employee as well as hotel guests, and teamwork. Therefore, the indicators being measured in this research for human skills are understanding, communication, and teamwork.

2.1.3. Conceptual Skills

Conceptual skills are defined by Katz (1955), Peterson and Fleet (2004), and Robbins (2013) as the ability in seeing the organization in bird-eye view in regard to the interrelations of its various functions, as well as recognizing its external relations with the industry, political, economy, social, and cultural forces, and coordinating these factors in a systemic point of view to achieve the organizational goals. Conceptual skills involve analyzing and diagnosing strenght and weaknesses of the organization, strategic decision making, and integrating ideas to the organization.

From a study by Finch, et al (2013), some of the characteristics of conceptual skills are closely related in terms of their meaning with problem-solving skills. According to Halpern (1998), problem-solving skills are complex cognitive, analytical, judgmental, and synthesis. According

to Scherbaum et al., (2012), problem-solving skills are related to intelligence or general mental ability. Problem-solving skills consists of critical thinking skills (Reid and Anderson, 2012; Halpern, 1998), creativity (Kilgour and Koslow, 2009; Halpern, 1998), and leadership skills (Conrad and Newberry, 2012).

According to Chung, et al (1999) and Bulog, et al (2017), in hotel industry the most important conceptual skills consist of those related to problem identification, strategic activities, and innovation. The indicators being measured in this research for conceptual skills are the ability to analyze and diagnose strenghts and weaknesses, strategic decision making, and ability to integrate strategic innovative ideas.

2.2 Intrapreneurial Skills

Glifford and Pinchot (1985) was the first to introduce the term intrapreneurship. Intrapreneur, as defined by Pinchot (1985), is “a person who focuses on innovation and creativity and who transforms a dream or an idea into a profitable venture by operating within the organizational environment.” From the aforementioned definition, it is identified that the characteristics of an intrepreneur is related to innovation, creativity, and creating profits within the organization.

Intrapreneurial skills by characteristics differ from Katz’s conceptual skills which are part of management. While management basically consists of planning, organizing, leading, and controlling resources (Schermerhorn, 2002), intrapreneurship is defined by Kuratko & Hodgetts (2004) as activities of entrepreneurship by employee of an organization, which goal is to achieve innovative results. Intrapreneurship has similar value-creating and risk-taking as entrepreneurship (Maritz (2005)), but conducted by the member of the organization within and for the organization.

2.3 Employee Behavior

Employee behavior is part of Organizational Behavior. Robbins (2013) defined Organizational Behavior as “a field of study that investigates the impact that individuals, groups, and structure have on behavior within organizations, for the purpose of applying such knowledge toward improving an organization’s effectiveness”. According to Gordon (1992) and Nassazi (2013), behaviors are modified though obtaining new skills or knowledge, which may be gained from training program, event, or experience.

Many textbook definitions agree that employee behavior refers to the reaction of employee towards a particular situation in their organization. Therefore, depending on the situation, observable employee behavior may consist of broad aspects. In this study, employee behavior observed are limited to those caused by Covid-19 pandemic crisis driving the changes in the business environment of hotel industry.

As mentioned in the introduction, hotel employees must also put efforts in their skills as their bargaining position to be able to maintain their career and avoid contract termination or to be laid off in the current Covid-19 pandemic crisis situation. During the pre-research in-depth interview conducted, it is known that there are three observable behaviors of employee caused by this situation in the hotel industry, which are compliance toward health and safety regulations, sense or awareness of crisis, and demonstrating care and empathy toward fellow employee and the organization itself.

2.4 Hypothesis

Based on the background of the research, pre-research in-depth interview, and literature review, this research develops the following hypothesis:

- H10: Technical Skills have no impact towards Employee Behavior
- H1a: Technical Skills have impact towards Employee Behavior
- H20: Human Skills have no impact towards Employee Behavior
- H2a: Human Skills have impact towards Employee Behavior
- H30: Conceptual Skills have no impact towards Employee Behavior
- H3a: Conceptual Skills have impact towards Employee Behavior
- H40: Intrapreneurial Skills have no impact towards Employee Behavior
- H4a: Intrapreneurial Skills have impact towards Employee Behavior

3. Research Methodology

3.1 Type of Study and Unit of Analysis

This study will explore, test, and verify the relationship between managerial skills and employee behavior in new business environment from existing studies, literature review, and current pandemic situation. Therefore, in terms of data collecting and analysis, quantitative method will be used to test the hypothesis, and in-depth interview as well as Focus Group Discussion (FGD) result will be used to explain the quantitative result. Unit of analysis of this

research was limited to employees of stars hotels which are members of HHRMA Banten Chapter which business operations are limited due to the pandemic. This research was conducted in Tangerang, Indonesia, which started in September 2020 and finished in January 2021.

3.2 Sampling

HHRMA Banten Chapter consists of 25 members, 20 of which are hotels. There are 10 stars hotels participated in this research (50% of total stars hotels under HHRMA Banten). The total number of employees (population) of the stars hotels participated are 404 person. The sampling method used in this research is nonprobability and convenient sampling. Survey questionnaires were distributed to hotels under HHRMA, and interview as well as focus group discussion (FGD) were conducted with HR Managers of the hotel members of HHRMA.

The number of respondents of this research is determined using the method of determining the minimum requirement based on the number of latent variables in the model, and picks the largest minimum samples required from the equation. Due to the nature of this research which uses SEM-PLS (Partial Least Squares), according to Chin (2009) the minimum sample required will be much smaller than other method. Bentler and Chou (1987) suggested that each variable shall be tested on 5 subjects, which resulting in 25 minimum samples are required. More recent than Bentler and Chou (1987), Bollen (1989) suggested that each variable is required to have at least 10 observation, which resulting in 50 minimum samples are required. Chin (2009) suggested that the minimum samples required are 20 times the number of dependent variable, which resulting in 20 minimum samples are required. Therefore, without limiting the maximum number of samples observed in this research, the author determined that the minimum sample required for this research is 50 respondents.

3.3 Data Source and Collection Method

The type of data in this research are primary data obtained from the distributed survey questionnaires, in-depth interview, as well as FGD with HR Managers of stars hotels in Tangerang which are members of HHRMA. Fieldwork method was used in the data collection. Survey questionnaires were distributed online (google form) and offline (paper questionnaires).

3.4 Research Model

Based on the variables, ‘Management Skills’ is the independent variable divided into four sub-variable, and “Employee Behavior” is the dependent variable. The research model is shown below.

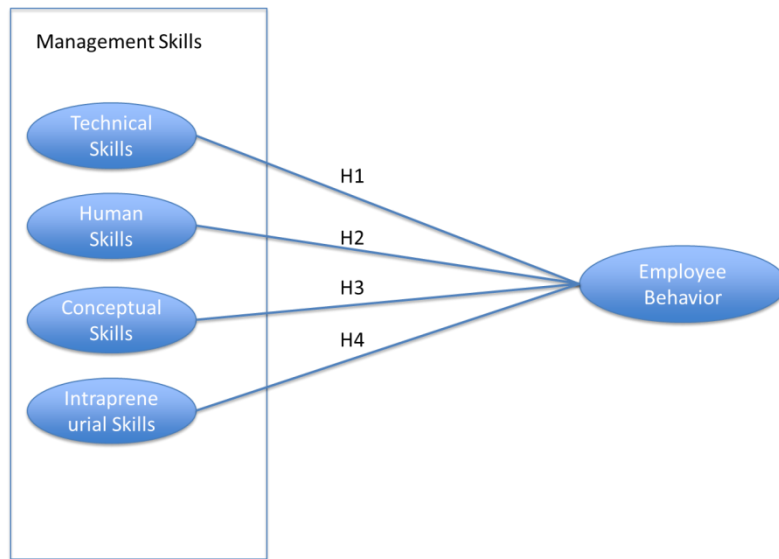


Figure 1. Research Model

4. Results

4.1 Data Analysis Result

This analysis was delivered to find the relationship between exogenous and indigenous and also it predicts the construct variable of the study.

4.1.1. Outer Model Analysis

Outer model is a measurement model which consists of paths connecting the indicators towards their factors. The outer model consists of two models, which are outer model loading and outer model weights, which both are output for reflective and formative models (Garson, 2016). Loadings that are more closer to 1.0 indicates that the latent variable is more reliable. Chin (2010) also suggested that outer loading shall be greater than 0.7. The reason of this threshold is that the loading of 0.7 is the level where the factor explains approximately half of the variance in the indicator, and the explained variance is ensured greater than error variance. The following figure illustrates the outer loading of the model.

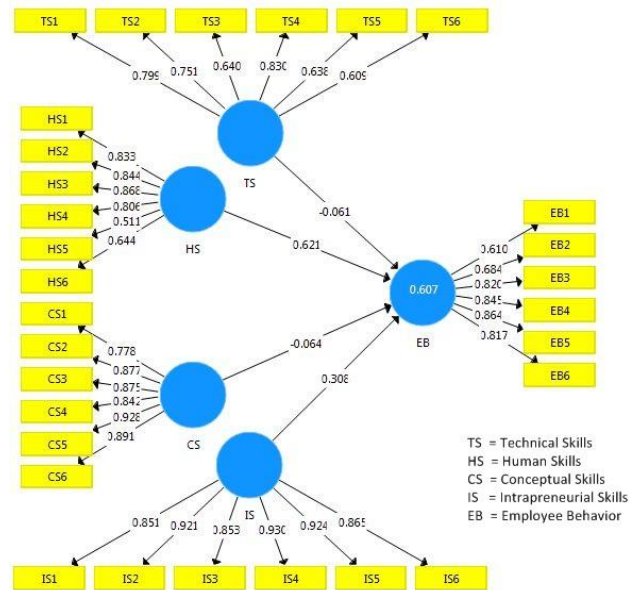


Figure 2. Outer Loading

The result drawn from SmartPLS shows that there are several indicators with loading value less than 0.70. Indicators with loading value less than 0.70 shall be eliminated from the model because they are not correlated with the construct variable, while the remaining indicators with loading greater than 0.7 may proceed to the hypothesis testing. The following figure illustrates the outer loading after those less than 0.7 were eliminated.

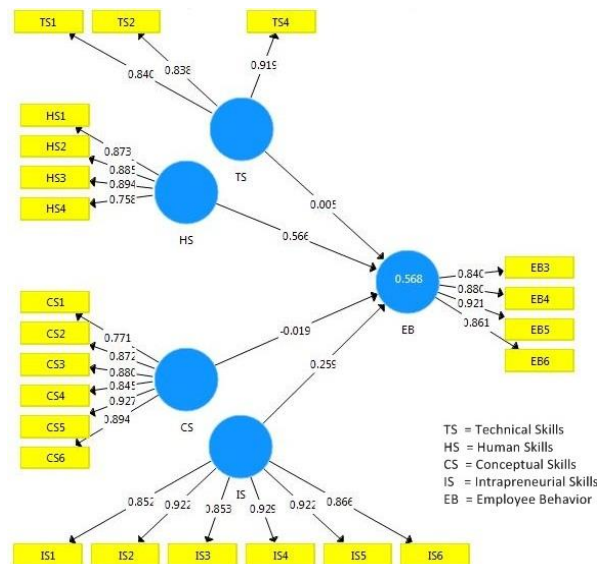


Figure 3. Outer Loading

The following table shows that Cronbach Alpha and Composite Reliability scores measuring the reliability of the variables find a good results. It shows cronbach's alpha of construct variable is greater than 0.6 as well as composite reliability. Meanwhile, the average variance extracted (AVE) shall be greater than 0.5 and the results shows that none of the construct variable valued below 0.5. Therefore, it may be concluded that the measurement model of all variables has good reliability.

Table 1. Validity and Reliability

Variable	Cronbach's Alpha	Rho_A	Composite Reliability	Average Variance Extracted
TS	0.844	0.982	0.900	0.750
HS	0.876	0.892	0.915	0.729
CS	0.933	0.948	0.947	0.750
IS	0.948	0.953	0.959	0.795
EB	0.899	0.905	0.930	0.768

4.1.2. Inner Model Analysis and Goodness of Fit (GoF)

R square explains to which extend exogenous variables hypothesized in the model are able to explain the endogenous variable. The results shows that the model has R square value of 0.568 (56,8%). The result means that the ability of independent variable (Management Skills) to explain dependent variable (Employee Behavior) is about 56.8%, while the remaining 43.2% is explained by other independent variables which are not part of this research.

Table 2. Inner model

Variable	R. Square	R. Square adjusted
Employee Behavior	0.568	0.545

Goodness of fit (GoF) is a used to validate the combined performance between measurement models and structural models. GoF shall has values ranging from 0 to 1, with 0.1 shall be interpreted as small GoF, 0.25 shall be interpreted as moderate GoF, while 0.36 and above shall be interpreted as substantial (Garson, 2016). Goodness of fit in SEM-PLS shall be calculated manually using the following formula:

$$GoF = \sqrt{AVE \times R^2}$$

With the Average AVE of 0.2958 and R square of 0.568, using manual calculation it is obtained that the model used in this research has substantial rounded up GoF value of 0.41.

4.1.3. Hypothesis Testing

Hypothesis testing is conducted by looking at the p-value of each variable, which in order for the null hypothesis to be rejected, shall be less than 0.05. SEM-PLS uses two analysis to test the hypothesis i.e., direct effect and indirect effect.

Table 3. Direct Effect

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O /STDEV)	P Values
CS -> EB	-0.019	-0.026	0.119	0.156	0.438
HS -> EB	0.566	0.571	0.114	4.957	0.000
IS -> EB	0.259	0.261	0.121	2.144	0.016
TS -> EB	0.005	0.024	0.073	0.071	0.472

Source: SmartPLS

Table 4. Indirect Effect

	CS	EB	HS	IS	TS
CS					
EB					
HS					
IS					
TS					

Source: SmartPLS

5. Discussion

From Table 3 in the previous section, it can be observed that Human Skills have 0.000 p-value towards Employee Behavior and Intrapreneurial Skills have 0.016 p-value towards Employee Behavior. The results shows that both Human Skills and Intreprenurial Skills have p-value less than 0.05, which means that both Human Skills and Intrapreneurial Skills have significant effect towards Employee Behavior. In the other hand, both Conceptual Skills (0.438) and

Technical Skills (0.472) have p-value greater than 0.05. This means that Conceptual Skills and Technical Skills do not have significant effect towards Employee Behavior.

Table 4 shows the indirect effect of the variables. Despite the significant effect of Human Skills and Intrapreneurial Skills towards Employee Behavior, no result of indirect effect is provided in the calculation. The result is the same for Technical Skills and Conceptual Skills. This result indicates that there is another variable to be determined in order to find the indirect effect.

Based on the tests conducted, it may be concluded that the result of this research supported the second and fourth hypothesis which p-values are less than 0.05, and rejects the first and third hypothesis which null hypothesis are failed to be rejected due to the p-value greater than 0.05. The summary of hypothesis testing are exhibited in Table 5 below.

Table 5. Summary of Hypothesis Testing

Hypothesis	Assumption	Results
H10: Technical Skills have no impact towards Employee Behavior		Fail to Reject
H1a: Technical Skills have impact towards Employee Behavior	+	Rejected
H20: Human Skills have no impact towards Employee Behavior		Rejected
H2a: Human Skills have impact towards Employee Behavior	+	Supported
H30: Conceptual Skills have no impact towards Employee Behavior		Fail to Reject
H3a: Conceptual Skills have impact towards Employee Behavior	+	Rejected
H40: Intrapreneurial Skills have no impact towards Employee Behavior		Rejected
H4a: Intrapreneurial Skills have impact towards Employee Behavior	+	Supported

To strengthen the findings from the quantitative results, following the In-depth interview conducted the Chairman of HHRMA Banten on November 17, 2020, an FGD was conducted with 21 HR manager

members of HHRMA Banten, 10 of which are HR managers of stars hotels. The FGD took place on December 4, 2020 in a 3 hours discussion in Tangerang.

During the FGD, each of the participants were asked two questions related to Intrapreneurial Skills and Employee Behavior during the pandemic-driven new business environment in their hotels. The first question is in regard to the role of Intrapreneurial Skills of employees during the pandemic in their hotel, and the second question is in regard to how Intrapreneurial Skills affect the attitude and behavior of the employees.

The result of the FGD indicates that it is confirmed there is a shifting of the theory in practice due to the pandemic, where it is necessary for employee regardless of their managerial level to possess and exercise technical skill related to field hotel operational works resulting from either laying-off employees, contract termination, or reduced of employee number allowed by government regulations to work in the hotel caused by the pandemic, and that intrapreneurial skills became necessary in Covid-19 pandemic crisis situation to hotel industry and shall be considered in future recruitments. Employees regardless of their managerial level and department are required to demonstrate new and innovative ideas to help the hotel to survive the crisis.

Some of the participants have even already exercised the practice of collecting ideas to survive the crisis from every managerial level in their hotels. In addition to that, not only contributing in ideas on how to survive, employees are also required to contribute in bringing in businesses to the hotel in the Covid-19 pandemic crisis.

However, the FGD also discovered that there is a limitation in the implementation of exercising intrapreneurial skills. Subject to the corporate culture, there may or may not be room for certain level of management to bring new and innovative ideas to the business, and different measures for solutions may be taken should there be no such room in order for the business to survive.

In terms of Employee Behavior, the result of the FGD indicates that intrapreneurial skills during the Covid-19 pandemic crisis may affect employee behavior. Employees with intrapreneurial ideas demonstrate confidence and feel more motivated if their ideas are accepted and implemented. Employees also demonstrate empathy and care towards their fellow employees, which are manifested in the forms of including but not limited to helping fellow employees with financial problems and lifting some of the work burdens of other employees on their own initiative.

The result of the FGD is in line and explains the result of the quantitative analysis. As previously described, the quantitative analysis of this research suggests that during the pandemic-driven new business environment in stars hotels registered under HHRMA Banten, Human Skills and Intrapreneurial Skills have significant impact towards Employee Behavior, while Technical Skills and Conceptual Skills have no significant impact towards Employee Behavior.

In term of Human Skills, both the quantitative and FGD results are in line with the Management Skills theory by Katz (1955). Katz (1955) suggested that Human Skills are necessary and required with the equal portion in every level of management. The quantitative result of this research, where Human Skills have strong and significant effect towards Employee Behavior (0.566 path coefficient) is a proof of the necessity of Human Skills even during the pandemic-driven new business environment in stars hotels registered under HHRMA Banten.

In term of Intrapreneurial Skills, the quantitative result of this research shows that the effect of Intrapreneurial Skills towards Employee Behavior is significant, despite the lower path coefficient (0.259) compared to Human Skills. The FGD result explains the necessity of Intrapreneurial Skills during the unprecedented pandemic-driven new business environment in stars hotels registered under HHRMA Banten.

Different with Technical Skills which according to Katz (1955) only required in large portion for first-line management and Conceptual Skills which only required in large portion for top management, the quantitative result also shows that Human Skills and Intrapreneurial Skills are required in every level of management. The in-depth interview and FGD result also indicates that Intrapreneurial Skills are necessary and required in every level of management with only a little limitation due to the nature of the business and culture of the hotel. Therefore, it can be concluded by both the quantitative and supporting analysis that it is confirmed for the stars hotels registered under HHRMA Banten in Tangerang, in the pandemic-driven new business environment Human Skills and Intrapreneurial Skills significantly affect Employee Behavior regardless the management level of the employee.

6. Conclusion

Based on both quantitative and supporting analysis, this research concludes the following:

1. Technical Skills have no impact towards Employee Behavior in the pandemic-driven new business environment in stars hotels registered under HHRMA Banten. The result was concluded by statistical result which shows that the relationship between Technical Skills and

Employee Behavior has the p-value of 0.472 (greater than 0.05), which means that the null hypothesis is failed to be rejected, therefore the alternative hypothesis shall be rejected.

2. Human Skills have significant impact towards Employee Behavior in the pandemic-driven new business environment in stars hotels registered under HHRMA Banten. The result was concluded by statistical result which shows that the relationship between Human Skills and Employee Behavior has the p-value of 0.000 (less than 0.05), which means that the null hypothesis shall be rejected, and the alternative hypothesis is supported.
3. Conceptual Skills have no impact towards Employee Behavior in the pandemic-driven new business environment in stars hotels registered under HHRMA Banten. The result was concluded by statistical result which shows that the relationship between Conceptual Skills and Employee Behavior has the p-value of 0.432 (greater than 0.05), which means that the null hypothesis is failed to be rejected, therefore the alternative hypothesis shall be rejected.
4. Intrapreneurial Skills have significant impact towards Employee Behavior in the pandemic-driven new business environment in stars hotels registered under HHRMA Banten. The result was concluded by statistical result which shows that the relationship between Intrapreneurial Skills and Employee Behavior has the p-value of 0.016 (less than 0.05), which means that the null hypothesis shall be rejected, and the alternative hypothesis is supported.

However, all Management Skills observed in this research, which are Technical Skills, Human Skills, Conceptual Skills, and Intrapreneurial Skills, collectively and simultaneously impact Employee Behavior.

References

- Al-Ghatani, S., Geoffrey, H. S., & Wang, J. (2007). Information technology (IT) in Saudi Arabia: Culture and the Acceptance and use of IT. *Information and Management* 44, 681-691.
- Ardianti, R. (2009). Entrepreneurship Education in Indonesia's Higher Education Institutions ; A Solution for Problems Faced by The Next Generation. *London International Conference on Education (LICE), UK*.
- Bentler, P. M., & Yuan, K. (1999). Structural Equation Modeling with Small Samples: Test Statistics. *Multivariate Behavioral Research*, 34(2), 181-197. doi:10.1207/s15327906mb340203
- Buheji, Mohamed (2020) Planning Competency in the New Normal - Employability Competency in Post-COVID-19 Pandemic. *International Journal of Human Resources Studies*,
- Bulog, I., Dulčić, Ž, & Sekulović, A. (2017). Managerial skills in hotel industry – evidence from croatia. *Management and organisation*.

- Carmeli, A., Meitar, R., & Weisberg, J. (2006). Self-leadership skills and innovative behavior at work. *International Journal of Manpower*, 27(1), 75-90. doi:10.1108/01437720610652853
- Cheng, M. Y. (2009). The Effectiveness of Entrepreneurship Education in Malaysia. *Education and Training Journal*, 51(7), 555-566.
- Chin, W. W. (2010). How to write up and report PLS analyses. Pp. 655-690 in Esposito, Vinzi V.; Chin, W. W.; Henseler, J.; & Wang, H., eds., *Handbook of partial least squares: Concepts, methods, and applications*: NY: Springer. Series: Springer Handbook of Computational Studies.
- Chung, K. Y. (2000). Hotel management curriculum reform based on required competencies of hotel employees and career success in the hotel industry. *Tourism Management*, 21(5), 473-487. doi:10.1016/s0261-5177(99)00102-8
- Conrad, D. and Newberry, R. (2012), "Identification and instruction of important business communication skills for graduate business education", *Journal of Education for Business*, Vol. 87 No. 2, pp. 112-120.
- Finch, David J., Leah K. Hamilton, Riley Baldwin and Mark Zehner (2013) An exploratory study of factors affecting undergraduate employability. *Bissett School of Business*.
- Fulgence, K. (2015). Assessing The Status of Entrepreneurship Education Courses in Higher Learning Institution. *Education and Training Journal*, 57(2), 239-258.
- Garson, G. D. (2016). *Partial Least Square: Regression & Structural Equation Model*. Asheboro, NC 27205 USA: Statistical Publishing Associates.
- Ge, C. a. (2015). The Strategies Analysis on Entrepreneurship Education in Colleges and Universities. *Management and Engineering Journal*.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2008). *Multivariate Data Analysis: A Global Perspective*. Pearson.
- Hair, J. F., Hult, G. T., Ringle, C. M., & Sarstedt, M. (2014). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Thousand Oaks, CA: Sage Publications.
- Halpern, D.F. (1998), "Teaching critical thinking for transfer across domains: dispositions, skills, structure training, and metacognitive monitoring", *American Psychologist*, Vol. 53 No. 4, pp. 449-455.
- Hoffman, R. C., & Shipper, F. M. (2012). The impact of managerial skills on employee outcomes: A cross cultural study. *The International Journal of Human Resource Management*, 23(7), 1414-1435. doi:10.1080/09585192.2011.581635
- Katz, R. L. (2009). *Skills of an effective administrator*. Boston, MA: Harvard Business Press.
- Krisnawati, N. A. (2017). Developing Collaborative Learning Model between Entrepreneurship and Incubator in Higher Education. *Proceeding of The IIER*.

- Osborne, J. W., Costello, A. B., & Kellow, J. T. (n.d.). Best Practices in Exploratory Factor Analysis. *Best Practices in Quantitative Methods*, 86-99. doi:10.4135/9781412995627.d8
- Pant, I., & Baroudi, B. (2008). Project management education: The human skills imperative. *International Journal of Project Management*, 26(2), 124-128. doi:10.1016/j.ijproman.2007.05.010
- Peterson, T. O., & Fleet, D. D. (2004). The ongoing legacy of R.L. Katz. *Management Decision*, 42(10), 1297-1308. doi:10.1108/00251740410568980
- Popescu, L., Iancu, A., Avram, M., Avram, D., & Popescu, V. (2020). The Role of Managerial Skills in the Sustainable Development of SMEs in Mehedinti County, Romania. *Sustainability*, 12(3), 1119. doi:10.3390/su12031119
- Robbins, S. P., & Judge, T. (2013). *Organizational behavior*. Boston: Pearson.
- Rosenberg, S., Heimler, R. and Morote, E.-S. (2012), "Basic employability skills: a triangular design approach", *Education and Training*, Vol. 54 No. 1, pp. 7-20.
- Sekaran, U., & Bougie, R. (2016). *Research Methods for Business*. Wiley.
- Soehardi, S. (2020). The Effect Of Covid-19 Pandemic On Hotel Employees, Hotel Occopancy Rates And Hotel Tax Income In Jakarta, Indonesia. *Universitas Bhayangkara Jakarta Raya*.
- Tonidandel, S., Braddy, P. W., & Fleenor, J. W. (2011). The Relative Importance of Managerial Skills for Predicting Leader Effectiveness. *PsycEXTRA Dataset*. doi:10.1037/e518362013-304
- Uğur, N. G., & Akbiyik, A. (2020). Impacts of COVID-19 on global tourism industry: A cross-regional comparison. *Tourism Management Perspectives*, 36, 100744. doi:10.1016/j.tmp.2020.100744

THE EFFECT OF CORPORATE CULTURE AND COMPENSATION
TOWARD EMPLOYEE PERFORMANCE THROUGH EMPLOYEE MOTIVATION AFTER THE MERGER (PT
BINA PERTIWI CASE STUDY)

By

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ABSTRACT

Changes that occur very quickly cause companies to be more innovative and adaptive to the changes themselves. Employee and company performance is important because it is related to its sustainability in the long term. On the other hand, companies must also pay attention to cultural, compensation, and motivational factors to achieve an effective and efficient performance. This research examines the influence of corporate culture and compensation on employee performance with motivation as an intervening variable. This is a quantitative study using primary data; Structural Equation Modelling (SEM) PLS is used to analysed the data obtained from PT Bina Pertiwi. The researcher obtained 100 respondent data based on predetermined criteria, which were analysed using SmartPLS software. According to the findings of this study, work culture has a positive impact on employee performance. Employee motivation mediates corporate culture on employee performance, but employee motivation does not mediate compensation effect on employee performance. PT Bina Pertiwi needs to improve the factors that affect employee motivation and performance such as work culture

Keywords: *Corporate Culture; Employee Compensation; Employee Performance; Employee Motivation*

1. Introduction

Changes that occur very quickly cause companies to be more innovative and adaptive to the changes themselves. Companies must prepare several strategies (such as mergers and acquisitions) in managing the organization to achieve excellence in the industry. Transformation continues in all fields, and this has an impact on the business world. In this regard, one of the challenges that must be faced in front of our eyes is the VUCA world. The era of volatility, uncertainty, complexity, ambiguity (VUCA), and the era of disruption today must be well understood by companies. Significant changes in the behavioral aspects and work culture of superior human resources affect company performance (Pathiramage, Jayatilake, and Abeysekera 2020). In the past, machines, capital, and geographic conditions have become an advantage, so now the culture of innovation in facing changes has become company excellence in achieving sustainable peak performance. The company's ability to continue to learn and manage current knowledge becomes the determinant of change.

Employee performance and company is essential because it is related to its long-term sustainability. This evidence is revealed through several studies conducted by (Pathiramage et al. 2020). Corporate culture is one of the main factors affecting company performance in recent decades. Organizational culture is a set of values, beliefs, and behavioral patterns that subconsciously encourage corporate members to make every choice and decision that benefits the organization's overall performance. (Ortega-Parra and Sastre-Castillo 2013). (Pathiramage et al. 2020) show organizational culture as a norm that employees perceive as their work environment and norms. This has an impact on how members behave and adapt in order to achieve organizational goals.

Mergers have been considered as a strategic approach to improving performance in any company. However, practically not all mergers imply good results. In recent years, there have been several mergers that have shown declining performance, such as Bank BTPN (PT Bank Tabungan Pensiunan Nasional Tbk and PT Bank Sumitomo Mitsui Indonesia merged to form PT Bank Sumitomo Mitsui Indonesia.) decreased from IDR 535 billion to IDR 506 billion in the first quarter of 2019. This was also confirmed by Finansia (2013) in his research, explaining that several companies experienced a decline in performance after the merger.

Almost similar to what happened at Bank BTPN and other companies, there were reports of declining company performance. The current condition of PT Bina Pertiwi (BP) after the merger with PT Andalan Multi Kencana (AMK) experienced a 27% decline in sales of heavy equipment and spare parts in 2020. Before the merger, the two companies indicated that heavy equipment and spare parts sales were also stable despite experiencing a downturn due to very challenging global and domestic conditions. PT Bina Pertiwi's company revenue has decreased, which is thought to result from a decrease in employee motivation due to the influence of compensation and the influence of post-merger corporate culture.

Business Line	Revenue - idr (before merger)				Revenue - idr (after merger)		Growth (%)
	2015	2016	2017	2018	2019	2020	
AMK							
After Market	1.207.685	1.180.126	1.356.227	1.143.416	1.626.692	889.517	-45%
Bina Pertiwi							
Unit	806.110	711.918	729.058	725.547	481.760	565.683	17%
Parts	51.704	55.707	73.321	82.191	55.646	84.046	51%
Rental	95.158	103.596	131.329	123.673	112.520	111.867	-1%
Service	32.904	33.481	45.525	45.303	35.875	61.659	72%
BPE					92.589	36.517	-61%
Total	2.193.561	2.084.828	2.335.460	2.120.130	2.405.082	1.749.289	-27%

Table 1.1. PT Bina Pertiwi – Sales Performance 2015 - 2020

Source: Sales Business Operation, 2020

PT Andalan Multi Kencana focus on the aftermarket, which includes non-genuine Komatsu parts; sales were relatively stable at 1,221,864 billion from 2015 to 2018. Similarly, PT Bina Pertiwi (BP) focuses on selling Komatsu, Komatsu spare parts, and after-sales, and sales have been relatively stable, averaging 892,597 billion. The merger process began in 2019, the sales of the two companies did not experience a significant decline. Even so, the indications have started to decline, especially at PT Bina Pertiwi, while at PT Andalan Multi Kencana there is still an increase in sales. Moreover, in 2020, there was a significant decrease in sales for the two companies, namely 27%, which resulted in the company experiencing losses.

Mergers and acquisitions have had a significant impact on employee mentality, according to the results of personal communication with the Head of the Human Resources Division of PT Bina Pertiwi; some employees have complained about differences that occurred with the company prior to the merger, such as compensation, working hours, and their authority or responsibility. They only want to work according to the hours of entry and return with the

same pay as before, even though their superiors still require them. Their tasks have not been completed; besides that, individualistic behavior also appears when they start working. At the KPI level, the performance of PT Bina Pertiwi employees has declined.

KPI	Before Marger				KPI	After Merger	
	2015	2016	2017	2018		2019	2020
KPI BP	86,53	87,3	88,05	89,74	KPI Merger	89,02	77,31
KPI AMK	83,41	82,22	85,92	89,12			

Table 1.2. KPI (Key Performance Indicator) - Report
Source : Data Annual Report PT Bina Pertiwi (2020)

Based on the data, here was a decrease in the employee KPI level; from 2018 to 2019 it decreased from 89.74 to 89.02 and decreased again in 2020 to 77.31. Employees who have low KPI levels will have difficulty achieving company goals or performance. It takes a culture, compensation, and motivation to help the company become the best and most competitive company.

The main objective of the merger is to increase synergy so that the company and employees perform better, both economic synergy, technology synergy, and managerial synergy. However, in many studies, the calculation of financial performance shows no change, even tends to decline; such as research conducted by Akhbar, RT, Nurdin, A., & Maspupah, US (2021) shows that company performance shows that there is no improvement after mergers and acquisitions. Likewise, research on mergers and acquisitions conducted by other researchers Richard (2020) uses financial ratios which are grouped into three ratios, namely the liquidity ratio, the profitability ratio, and the solvency ratio. It is suspected that the contributing factor is differences in corporate culture.

The way members of an organization interact with one another and with other stakeholders is referred to as organizational culture (Simoneaux & Stroud, 2014). Organizational culture, according to Yirdaw (2016), is the glue that connects non-human and human resources in order to foster teamwork and high performance. According to Weber and Tarba, business managers use organizational culture to differentiate their organizations (2012).(Pathiranage et al. 2020)

Organizational culture improves company performance (O'Connor & Byrne, 2015). Many business leaders recognize the significance of an effective organizational culture in driving company performance. (Unger et al., 2014). Warren Buffet, one of the world's wealthiest entrepreneurs, has emphasized the importance of organizational culture in achieving organizational success. (Childress,

2013). Similarly, Starbucks Coffee Company founder Howard Schultz emphasized the importance of corporate culture in the company's success (Flamholtz & Randle, 2012).(Pathiranage et al. 2020)

According to (Safitri 2018), Motivation is the result of several internal or external processes that create enthusiasm in carrying out an activity. Motivation is a state in which a person encourages specific desires to be carried out in order to achieve their goals. When companies merged, there were several different employee compensations and employee recognition. If this is not considered correctly, it can potentially lead to decreased employee motivation and performance. Employee compensation must be tailored to the needs of the business and employees.

Providing high compensation to employees is expected to create productivity, profit, growth, minimize risks and improve employee and company performance. This is explained by (Husni, Rahim, and Aprayuda 2020). They explain that with the right compensation system for employees, it is hoped that employees will not try to find additional income elsewhere and stay focused on the main goals of the company. Caprio et al. (2010) proved that compensation could reduce risk and improve employee and company performance. The provision of cash compensation such as salaries, bonuses, and allowances implies good performance results. On the other hand, many studies have explained that compensation can increase motivation and overcome moral hazards (agency conflicts), thereby increasing performance. According to Athar et al. (2012), there is a significant and positive relationship between compensation (base salary, bonus, allowances, and special allowances) and employee performance in Pakistan.

It is hoped that the existence of a company that implements a compensation strategy will create good work motivation for employees to be more involved and productive in the workplace. According to observations made by researchers, PT Bina Pertiwi is currently facing very challenging conditions, where employee performance has decreased significantly.

The decline in employee performance can also be affected by income or compensation for employees. At PT Bina Pertiwi compensation is divided into two, namely fixed income and variable income. Fixed income includes basic salary, fixed allowances received every month, while variable income includes incentives, bonuses, and overtime.

The implications of mergers and acquisitions can affect the environment and work culture of the company. To ensure the employees can work optimally after the merger, it is

necessary to have a corporate culture that supports creating a conducive corporate environment. This corporate culture is expected to provide maximum benefits by instilling the same values or habits in every employee.

Before joining, each company has its own corporate culture. Researchers see that employees cannot apply the old corporate culture in the company after the merger. Therefore management took steps to create a new corporate culture. PT Bina Pertiwi has a new corporate culture which was inaugurated in November 2019. A company's culture is a set of shared and firmly held norms and values throughout the organization. (Zhao, Teng, and Wu 2018). Corporate culture can influence performance in three ways: by increasing internal coordination and control, by increasing goal alignment between the company and its members, and by improving employee performance. (Guiso et al., 2015).

Corporate culture improves organizational efficiency by increasing internal coordination and control. Corporate culture encourages employees to interact and engage with one another while also improving information sharing efficiency. (Jacobs et al., 2013). A problem management culture, for example, facilitates communication about problems and coordinates problem solving, thereby improving employee performance. Corporate culture is important for businesses because it motivates employees to work toward a common goal through an incentive system (Guiso et al., 2015).

Corporate culture and corporate strategy are closely connected. A company's strategy to compete on innovation, for example, may result in a different corporate culture because it requires different employees and establishes different norms to achieve these goals (Jacobs et al., 2013). Company culture and corporate strategy are inextricably linked. A company's strategy to compete on innovation, for example, may result in different corporate cultures because it requires different employees and establishes different norms to achieve these goals. Jacobs et al. (2013)

Employee commitment to the company can be developed through compensation and corporate culture; employees strengthen their bonds with the company and are motivated to perform better (Zhao et al., 2018). Corporate culture can influence employee priorities in order to encourage consumers or clients to prioritize over efficiency (Jacobs et al., 2013).

On the other hand, there are differences in the findings of previous studies, specifically the findings of (Widyarningsih and Arfiansyah 2020) research, which concludes that partial compensation has no significant effect on motivation. In contrast to the findings of (Putri et al. 2019) research, compensation has a significant impact on performance. Then, according to (Agung and Arianto 2013) research, work culture has no significant impact on motivation, which contradicts Rizal et al. (2020), who claim that work culture has a significant impact on motivation. Then, according to (Iswandani 2016) research, work motivation has a significant impact on employee performance. Work motivation has no effect on employee performance, contrary to (Halim 2020). Of course, these two factors point to a disagreement or research gap in the findings of these studies. This stimulates the researcher to validate the impact of compensation and culture on motivation and employee performance.

The researcher chose the title *The Effect of Corporate Culture and Compensation on Employee Performance through Employee Motivation after the Merger based on the problem's background, the gap phenomenon, and the research gap (Case Study of PT Bina Pertiwi)*

1.2 Research Problems

Based on the background described and several previous studies, it is suspected that corporate culture and compensation conditions are causing a decline in the performance of PT Bina Pertiwi (BP) employees. The decrease in employee compensation causes decreased employee performance and motivated employees not to provide the best for the company.

Differences in work culture between BP and AMK have an impact on cooperation in work. This is reflected in the working relationship between employees, where the working relationship is not harmonious. Unharmonious work relationships cause employee productivity or performance to decline. In addition, the decrease in employee compensation is due to decreased company performance which results in employees not being motivated to provide the best for the company. This is, of course, also caused by a decrease in employee motivation, where employees feel they do not have the enthusiasm to move forward. Employees find it difficult to drive in achieving optimal performance.

1.3. Research Questions

The research question was based on the variables that the researcher explained, namely the effect of corporate culture and compensation on employee motivation and employee performance, after studying the problems that resulted in a decrease in employee motivation, which resulted in decreased employee performance.

Question 1 #: Does employee compensation has a significant impact to employee motivation?

Question 2 #: Does company culture has a significant impact on employee motivation?

Question 3 #: Does employee compensation have significant impact to employee performance mediated by employee motivation?

Question 4 #: Does corporate culture have significant impact to employee performance mediated by employee motivation

Question 5 #: Does employee motivation have significant impact to employee performance

1.4 Research Objectives

The research question was based on the variables that the researcher explained, namely the effect of corporate culture and compensation on employee motivation and employee performance, after studying the problems that resulted in a decrease in employee motivation, which resulted in a decrease in employee performance.

1. To investigate the relationship between employee compensation and employee motivation
2. To investigate the relationship between corporate culture and employee motivation
3. To investigate the relationship employee compensation and employee performance mediated by employee motivation
4. To investigate the relationship corporate culture and employee performance mediated by employee motivation.
5. To investigate the relationship between employee motivation and employee performance.

1.5 Scopes and Limitations

Following the formulation of problems, questions, and research objectives, the scope of this study discusses employee performance with the boundaries of work culture,

compensation, and employee motivation at PT Bina Pertiwi. The culture and compensation at PT Bina Pertiwi after the merger experienced changes that caused employee motivation to decline and was suspected of causing the decline in company performance.

2. Literature Review

2.1. Employee Motivation

Motivation can be defined according to the theory of needs developed by McClelland. McClelland's theory of needs developed Herzberg's two-factor theory. McClelland (Valaei and Rezaei 2016) establishes the theory of motivation and proposes that achievement, affiliation, and power motivate employees, while Herzberg et. al. in (Valaei and Rezaei 2016) discusses motivational factors influenced by employee job satisfaction or dissatisfaction. Managers can learn which factors have the most impact on team members through interactions with employees. Employees are motivated by a variety of factors, and their behaviors will differ depending on the most powerful motivator. The components of the needs theory developed by McClelland in (Valaei and Rezaei 2016) consist of (a) the need for affiliation, which is the need to form social relationships with colleagues, (b) the need for power, which is the need to lead and influence others, and (c) the need for achievement, which is the need to account for, set goals, and receive feedback. The learned needs theory, as explained in the theory, has both strengths and weaknesses.

McClelland in (Pacesila, 2014) acknowledges that each individual has different special needs and ultimately affect motivation and job satisfaction. Managers can use needs theory to identify motivations that have a significant influence on team members, allowing them to better understand goal setting, provide feedback, and motivate and reward employees. Furthermore, leaders can match employees with jobs that are better suited to their individual needs, as well as understand high-performing employees within the organization. (Pacesila, 2014). The weakness of McClelland's needs theory regarding the needs for achievement, affiliation, and power is a subconscious attribute, which means that employees may be unaware of their needs. In some cases, individuals cannot understand special needs, so that managers have difficulty recognizing employee needs. The theory is then rendered inapplicable in the public sector because government employees are motivated by job and salary stability rather than power. Likewise, (Chen and Hsieh 2015) middle managers in the public sector are influenced by job security, interpersonal connections, and individual motivation, according to a study.

(Kirilina and Panina 2017) Explain why employee motivation is critical to providing effective performance. The organizational structure, operational procedure specifications, the chosen leadership style, employee needs, and a variety of other factors all influence the selection of motivational tools. Given the constant changes in the labor market, increasing competition on the one hand, and company reorganization, as well as changing requirements, which apply to both existing and new employees on the other, the motivation system must be constantly improved.

2.2. Employee compensation

Compensation management is an important tool in management's toolbox for motivating employees and positively impacting employee behavior and productivity. (Greene, 2014; Bustamam et al., 2014). In order to achieve an organization's goals, compensation management determines employee hiring and retention. It serves as the foundation for individual participation in improving employee performance. (Bustamam and colleagues, 2014; Shaw, 2014; Terera and Ngirande, 2014; Xavier, 2014)(Adeoye and Fields 2014)

Employee compensation provides a wide range of benefits, both monetary and non-monetary (Calista, 2013). Robins claims that (2013). Salaries, incentive payments, and other benefits and services can all be included in organizational compensation. When an employee is underpaid, he or she is more likely to reduce their performance by working slower or seeking attention. (Syah, Marnisah, and Zamzam 2021). Compensation can be a factor of motivation and performance which is described as an inner strength that makes individuals act on something (Rizal, Zamzam, and Marnisah 2021).

According to Hasibuan in (Halim 2020), the compensation payment system that is commonly applied is: The amount of compensation (salary, wages) is determined by time standards such as hours, weeks, or months in the time system. The amount of compensation/wages is determined in the output system based on the unit produced by the worker, such as per piece, meter, liter, and kilogram. The wholesale system is a wage system that bases the number of services on the volume of work and the amount of time spent doing it. Employees who work hard and perform well will be recognized and rewarded by the organization. Employees will improve their performance in the hope of receiving a higher level of compensation in this case.(Halim 2020).

Dissatisfaction with compensation can lead to decreased performance, increased absenteeism, and employee turnover (Sinaga and Hidayat 2020). Furthermore, Werther and

Davis in (Rizal et al. 2021) stated that in the incentive system, compensation is linked to performance. Employees are compensated based on their performance rather than their seniority or the number of hours worked. (Rizal, Idrus, and Mintarti 2014). Surya (2011) explains that compensation can take the form of salaries and wages, as well as incentive pay for benefits and services., and compensation for occupational safety and health, which found a positive relationship between compensation and work motivation. (Juliningrum and Sudiro 2013)

2.3. Corporate Culture

When organizations continue to evolve as a result of globalization, a changing workforce, and information technology, work relationships and business ethics present new challenges for managers in managing and controlling resources. Organizational culture is an important component of performance and a source of long-term competitive advantage for businesses.

Culture is the norm and value that guides organizational members' behavior. (Lutham, 2012). An organizational culture is a set of beliefs, values, and behaviors that are typically learned to cope with and live in an organization. Organizational culture is typically manifested by members of the organization. (Fachreza, Musnadi, and Majid 2018). A company culture is a set of norms and values that are widely shared and strongly held across the organization. (Zhao et al. 2018).

The need to understand, predict, and influence events that occur in organizations is the main reason in studying organizational culture. Schein in Aurachman (2020) organizational culture is divided into three components: assumptions, artifacts, and values. Assumptions are unofficial but important organizational rules. Artifacts, such as work processes, workplace settings, and organizational structures, reflect visible organizational culture. Values reflect the beliefs of members as well as the business strategy of the organization (Childress, 2013). These three components all contribute to the organization's effective culture. According to Kotter and Heskett in Dewi (2015), who conducted research on more than 200 companies in the United States, there is a strong relationship between organizational culture and business performance.

2.4. Employee Performance

It can be illustrated that performance occurs when an employee is satisfied with his job, the employee will be motivated to give greater effort, and in turn, help achieve organizational goals. An organization needs human resource support as the key to achieving the goals set. Quality human resources will assist organizations in increasing labor productivity. Strategic positions that can improve organizational performance are employees, namely individuals who work in an organization or company.

According to Khairizah et al. (2016), the outcomes of work related to organizational goals are quantity, quality, efficiency, and other effectiveness criteria. Performance as a work achievement is the result of a person's work in carrying out the tasks assigned to him based on skills, environmental adaptation, experience, leadership, team, sincerity, and time.

Employee performance is the result of a number of factors working together. These factors are the organization's internal environmental factors, external environmental factors, and employee internal factors (Wirawan, 2013). Employee internal factors, namely factors from within the employee which are congenital factors and factors obtained when the employee develops. Talents, personality traits, and physical and psychological well-being are all congenital factors. Meanwhile, obtained factors such as knowledge, skills, work ethic, work experience, and work motivation. After being influenced by the organization's internal environment and the external environment, these internal employee factors determine employee performance.

2.5. Hypotesis

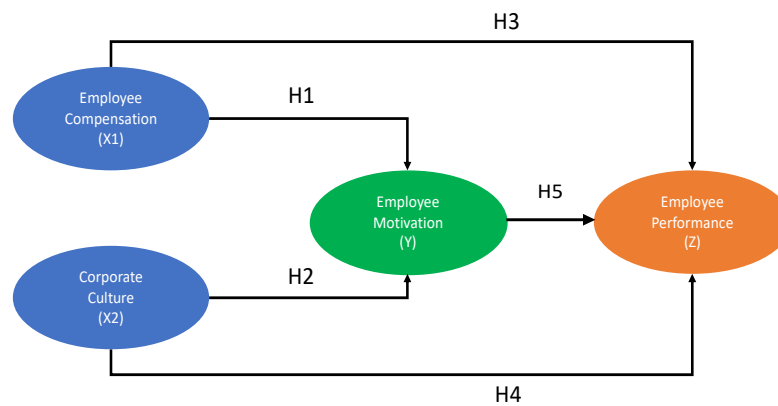


Figure 2.1. Variables Hypothesis

Hypothesis

H1: Employee compensation have significant influence to employee motivation.

H2: Corporate Culture have significant influence to employee motivation.

H3: Employee Compensation have significant influence to employee performance mediated by Employee Motivation.

H4: Corporate Culture have significant influence to Employee performance mediated by Employee Motivation.

H5: Employee Motivation have significant influence to employee performance

3. Research Methodology

3.1. Type Of Study

The survey method was used in this study, which took a sample of one population and used a questionnaire as a data collection tool. This survey method is descriptive quantitative in nature. Descriptive quantitative research aims to explain various conditions, situations, or variables that arise in society, which is the research object based on what happened. Because it is concept development and data collection, this study employs a quantitative descriptive research design to investigate the influence of work culture and compensation on work motivation, which has implications for employee performance (Sekaran and Bougi, 2016)

3.2. Unit Of Analysis /Unit Obseravation

This study was carried out at the PT Bina Pertiwi office, located at Jalan Raya Bekasi KM 22 Cakung, East Jakarta. Because there are several problems related to the decline in performance caused by several factors, including the occurrence of a merger between PT Andalan Multi Kencana and PT Bina Pertiwi, this location is used as a research location, so this company is used as a research location.

3.3. Population & Sample Target

The population is made up of objects or subjects with specific qualities and characteristics that the researcher decides to investigate and then concludes. (Sugiyono, 2012). The unit of analysis in this research is all employees, both managerial and non-managerial PT Bina Pertiwi, who are at the head office, branch and site. In determining the number of samples using SEM, in Hair (2018), the sample size guidelines are (1) sample size of 100 is sufficient if the estimated level used is 0.70 or more and exists in at least three variables. (2) If the estimated level uses a range of 0.40 to 0.70 then the minimum sample size is 200. (3) If the estimated level is below 0.40, the sample size used is at least 400. Based on this, the sample used is 100 samples according to company data.

3.4. Data Processing Procedure

After collecting questionnaire responses from respondents, the authors conducted several stages in this study to determine the influence of employee compensation and corporate culture on employee motivation in improving employee performance. The following are the steps that were taken:

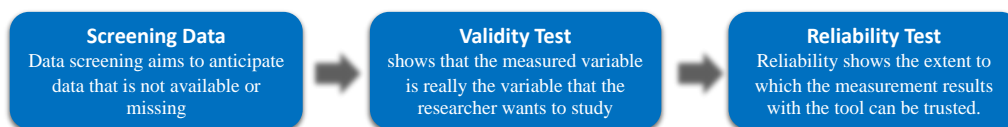


Figure 3.2. Data processing procedure

3.5. SEM (Structural Equation Modelling) Analysis.

The Structural Equation Model (SEM) Partial Least Squares (PLS) using smartPLS 3 was used in this study to analyze the effect of exogenous and endogenous variables. Because SEM PLS conceptual

modeling is based on previous research, construct development is required. SEM PLS does not require the data used to meet the requirements of the assumption of data normality; thus, SEM PLS is an alternative procedure for SEM-based covariance. We find data that are not normally distributed. In addition, SEM PLS can use a small sample size, does not require randomization of the sample so that the selected sample can be done with a non-probability approach, such as sampling by accidental sampling, purposive sampling, and the like be used in SEM PLS. PLS can handle many independent variables on the predictor side, even when the predictor displays multicollinearity (Garson, 2016). SEM PLS can be implemented as a regression model that predicts one or more dependent variables with one or more independent variables based on the path model (Garson, 2016) (Bonn 2018). There are several steps in Structural Equation Modeling to process data using SmartPLS

a. Performing Path Diagram construction

SEM PLS explains and visualizes the relationship between latent variables and indicators, as well as constructs and constructs. The path diagram includes the outer and inner models to help visualize and analyze the model. Researchers can conduct analyses based on the comprehensive path diagram that has been created.

b. Outer Model

The researcher creates a specification relationship model between latent constructs and indicators, as well as a structural model of latent variables. The outer model contains convergent validity or loading factor value, discriminant validity and cross-loading factor to understand the discriminant value in each construct, composite reliability, extracted mean-variance, and Cronbach alpha.

c. Inner Model (Structural model)

To make it easier to explain, the model depicts the relationship of each latent variable. The inner model, also known as the structural model, is made up of R square and Q square of predictive relevance to determine and estimate the parameter coefficient and significance level.

d. Test the hypothesis with Resampling Bootstrap

Hypothesis testing in SEM with the PLS method includes testing of structural modeling parameters X1, X2, and Y. Resampling bootstrap is used to solve estimation problems in order to obtain the best estimate and overcome assumptions. The purpose of this analysis is to confirm the hypothesis in this study, including both direct and indirect effects. The data were checked for correctness and completeness prior to analysis. Microsoft Excel, smartPLS 3, and the SPSS application are used to process data. To make the analysis results more communicative, they are presented descriptively, qualitatively, quantitatively, and with tables.

4. Results

It is known that two hypotheses are accepted and two are rejected based on the results of data processing performed to answer the proposed hypothesis. The following is an analysis of the relationship between variables based on the proposed hypothesis:

4.1. The effect of employee compensation on employee work motivation.

H1 : Employee compensation has a significant effect on employee work motivation.

According to the results of hypothesis testing, the P-Values that form the effect of employee compensation on work motivation are 0.137 with a T-Statistics value of 1.486, implying that employee compensation has no effect on work motivation. This is consistent with the findings of (Murty 2015), who explain that the compensation provided by the company may not always motivate employees.

According to the facts discovered, employees of PT Bina Pertiwi receive compensation that has not been able to motivate employees in carrying out their responsibilities effectively; these findings correspond to the findings of the hypothesis testing that has been conducted. The T-Statistics value of 1.486 indicates that the effect of employee compensation on work motivation has a low significance level, according to the results of the path coefficient test in the evaluation of the inner model scheme. This is because the compensation provided does not correspond to the work performed. Compensation complaints are frequently brought to the attention of the leadership, but

there has been no change.

In this regard, the role of compensation does not significantly affect work motivation at PT Bina Pertiwi. During the pandemic and unstable economic conditions, it is challenging for PT Bina Pertiwi to increase compensation to employees. The forms of compensation that can be given include flexibility in working time (the division of work from home and work from office according to company needs). With time flexibility, employees can better adjust their working hours and implement more work-life. That way, employees will be more motivated and productive at work. In addition, the company has provided free training for employees according to the field they want to learn. Hopefully, employees will gain new skills and become more enthusiastic in applying their new skills in carrying out their responsibilities. This is in contrast to the research conducted by (Laras et al. 2021) with the title *The Effect of Work Environment and Compensation on Work Motivation and Performance: A Case Study in Indonesia*; in his research, it is explained that compensation and the work environment in the organization determine employee motivation. Compensation (fixed salary and allowances) has a significant and positive effect on motivation. With the title *The Effect of Competence and Compensation to Employee Motivation and Its Impact on Employee Performance*, (Indarti 2018), investigates the relationship between compensation and motivation in The Personnel and Training Board of Karawang Regency. According to the findings of his study, compensation has a significant impact on work motivation.

2. The influence of work culture on employee work motivation.

H2 : Work Culture has a significant effect on employee work motivation

According to the results of hypothesis testing, the P-Values that form the influence of work culture on work motivation are 0.000 with a T-Statistics value of 11.343, implying that work culture influences work motivation. This is consistent with the findings of (Subagyo, Miyasto, and Idris 2014), who conducted research titled *Analysis of the Effect of Organizational Culture, Competence, and Commitment on Employee Performance Mediated by Work Motivation (Study on BPKP Representatives of Central Java Province)*. According to his research, work culture influences the work motivation of BPKP employees. A positive work environment can boost enthusiasm and sacrifice for the organization. Work culture, according to (Wahyuni, Suteja, and Sitiari 2021), can effectively motivate employees to carry out their responsibilities. Many business executives recognize the impact

of an effective organizational culture on employee motivation (Unger et al., 2014).

The facts found at PT Bina Pertiwi follow the hypothesis test results that have been carried out that corporate culture affects employee motivation at work. The eight pillars of PT Bina Pertiwi's culture known as "GREAT" (Growth mindset, Respect, Excellence, Agile, Trustworthy) are strongly believed and implemented wholeheartedly. The company realizes that the behavior of employees at work strongly influences the sustainability of a company. The "GREAT" culture makes employees always strive to provide the best service to customers professionally with all their heart. In addition, employees also prioritize thinking, working, and working together in a systematic, disciplined manner, using the principle of priority and mutual respect. Employees are always at the forefront and are proactive in providing the best solutions to become role models, inspirations, and motivations for their work environment.

Based on this, the work culture implemented by employees plays a significant role in motivating and supporting organizational performance. According to the results of the path coefficient test in the evaluation of the inner model scheme, the influence of work culture on motivation has the most robust level of significance compared to the influence of other variables, as indicated by the T-Statistics value of 11.343. This is due to the fact that work culture has a direct impact on the process of motivating employees. In this regard, the role of work culture at PT Bina Pertiwi has a significant impact on work motivation. This is supported by (Zhao et al. 2018) research, which explains that corporate culture can develop employee commitment to the company; employees are increasingly strengthening their bonds with the company and are motivated to perform better. When it comes to carrying out their responsibilities (Jacobs et al., 2013).

3. The effect of employee compensation on employee performance mediated by employee motivation
H3 : Employee compensation has a significant effect on employee performance which is mediated by employee motivation.

The P-Values that form the effect of employee compensation on employee performance with motivation as mediation are 0.181 with a T-Statistics value of 1.340, indicating that motivation does not mediate the effect of employee compensation on employee performance, according to the results

of hypothesis testing. This is consistent with the findings of Priyanto's (2016) study, which found that motivation does not mediate the effect of compensation on employee performance at PT. Bo Kyung Pasuruan. According to the findings of his research, the compensation variable has a positive but not statistically significant effect on employee performance through motivation. The findings of this study contradict those of Rini et al. (2014) and Endrianingsih (2014), who found that compensation has a positive and significant effect on employee performance through motivation. Employees' primary consideration in carrying out their work is compensation; compensation is a source of income for both employees and their families. Thus, at work, employees will tend to expect sufficient income to meet the needs of a decent life for the employee's entire family. Thus, compensation is a motivation for employees to carry out their work seriously. Apart from being fair, compensation must also be appropriate in terms of nominal value based on a decent standard of living and applicable labor regulations. If employees' expectations for compensation are met, it will create better performance with a feeling of satisfaction at work and, in the end, can achieve company goals as a whole.

The facts found; employees of PT Bina Pertiwi receive compensation that has not been able to motivate employees in carrying out their responsibilities effectively; the results are by the hypothesis test that has been carried out. The T-Statistics value of 1.340 indicates that the impact of employee compensation on performance by mediating motivation has a low level of significance, based on the results of the path coefficient test in evaluating the inner model (indirect effect). The provision of compensation may result in this condition not occurring as a result of the work done. Employees frequently complain about their pay for the work they do, but there is no visible change.

During the pandemic and unstable economic conditions, providing an increase in employee compensation is very difficult for PT Bina Pertiwi. Other forms of compensation that can be given include awards and work-life balance. With recognition and work-life balance, employees get things that can motivate them to work. Compensation is a benefit provided to employees as a substitute for performance-based contributions and as a means of motivating them. The findings of this study contradict the findings of Pradita (2017), who investigated the effect of compensation, leadership style, and marketer characteristics on the motivation and performance of marketers at the PT Bank Rakyat Indonesia (Persero) Tbk. Jombang branch. In his study, he explained how employee motivation could mediate the effect of compensation on employee performance.

4. The effect of work culture on employee performance mediated by employee motivation.

H4 : Corporate culture has a significant effect on employee performance which is mediated by employee motivation.

According to the results of hypothesis testing, the P-Values that form the influence of work culture on work motivation are 0.000 with a T-Statistics value of 4.967, implying that work culture affects performance with motivation acting as a mediator. This is consistent with Subagio's (2014) research finding that work culture influences performance, with motivation acting as a moderator. His study is titled "Analysis of the Influence of Organizational Culture, Competence, and Commitment on Employee Work as Mediated by Work Motivation" (representative study of BPKP, Central Java province). In the results of this study, organizational culture also affects motivation, and motivation affects performance.

The facts found at PT Bina Pertiwi follow the hypothesis test results that have been carried out that corporate culture affects performance with motivation as a mediation. The eight pillars of PT Bina Pertiwi's culture known as "GREAT" (Growth mindset, Respect, Excellence, Agile, Trustworthy) are strongly believed and implemented wholeheartedly. The company realizes that employee performance is the spearhead of the company's progress which is influenced by an organizational culture that motivates employees. The "GREAT" Employees are encouraged by culture to always strive to provide the best professional performance to customers with all of their hearts. This is supported by (Wahyuni et al. 2021) research, which explains that work culture influences performance, with motivation acting as a moderator. Work culture is a philosophy based on a view of life as values that become the nature, habits, and driving forces that are rooted in organizational life, and which are then reflected from attitudes into behaviors, beliefs, ideas, opinions, and actions manifested at work. A strong organizational culture can foster a positive work environment, thereby improving work quality, which is the key to an organization's success. Thus, organizational culture is inextricably linked to employee motivation and performance (Majid et al., 2016).

As a result, employee-created work cultures play a critical role in motivating and supporting organizational performance. According to the T-Statistics value of 4.967, the results of the path

coefficient test for the evaluation of the inner, that the influence of work culture on motivation provides a strong significant level of influence between other variables. This is because the work culture actively participates in the process of motivating employees, which has an impact on employee performance.

5. The effect of employee motivation on employee performance

H5 : Employee motivation has a significant effect on employee performance

According to the results of hypothesis testing, the P-Values that form the influence of employee motivation on employee performance are 0.000 with a T-Statistics value of 6.127, implying that employee motivation has an effect on employee performance. As a result, H5 is accepted; the motivation variable, as described above, has a significant influence on the employee performance variable. Employee motivation can improve performance, especially at PT Bina Pertiwi. Employees want reasonable motivation, and if motivation is hampered or reduced due to certain factors, their work becomes ineffective. Employees, particularly those at lower levels, can be retained and motivated to higher levels of performance and productivity if motivation is tailored to their needs. As a result, motivation has the greatest impact on supporting performance productivity. Money does not have to be the source of motivation. Other non-financial factors that positively influence motivation include rewards, social recognition, and feedback, which can improve employee performance effectiveness.

Employee motivation through awards and social recognition is just as important in increasing PT Bina Pertiwi's employee performance. Career paths at work focus on increasing competence and meeting basic needs so that an employee can progress through the appropriate career path. Elements of leadership, service, and implementers cannot be separated from career paths in PT Bina Pertiwi, according to the organization and procedures. Several studies have also shown that rewards and promotions increase work motivation, influencing employee performance and directing it. Furthermore, when it comes to influencing the behavior of individuals or groups in order to improve organizational performance, rewards are one of the most effective management tools. Salaries, promotions, bonuses, and other forms of compensation are commonly used by organizations to motivate employees and improve their performance.

The findings of this study are supported by previous research conducted by (Murti, 2013), which found that motivation has a significant influence on employee performance. Managers must develop a pay structure based on the importance of each job, individual performance, and benefits to use rewards as a motivator. Subordinates will consider rewards, promotions, and self-actualization in the long run. PT Bina Pertiwi increased dramatically when work motivation was improved by improving career path management and adjusting salaries and benefits with KPIs, according to the Key Performance Indicators (KPI).

The results of the same study were also conducted by (Sodikin, 2013), demonstrating that motivation has a positive and significant effect on performance based on the analysis results. In his study, the variable of work motivation was able to improve the performance of Perum Damri Semarang employees. On the other hand, the findings of this study contradict previous research (Sudibya & Utama, 2012), which concluded that the work motivation variable has no significant effect on work effectiveness. Work motivation, according to his research, has not been able to improve the performance of Bali Provincial Public Works Service employees.

4.5. Research Model (After Hypothesis Analysis)

After each variable was analyzed and found that there are two hypotheses rejected. Therefore, in the case study of PT Bina Pertiwi, the research model will be as follow:



Figure 4.14. Research Model (After Hypothesis Analysis)

5.1 Conclusion

Based on the results of data processing and analysis of the comprehensive research data, the conclusions that can be obtained are as follows:

1. Employee compensation has no significant impact on employee motivation. This means that if compensation improves, it will not necessarily affect PT Bina Pertiwi employees' work motivation.
2. Workplace culture has a significant impact on employee motivation. This means that if the working conditions improve, it will have a significant impact on the increase in work motivation.
3. Employee compensation influences employee performance, which is mediated by employee motivation. This means that increasing work compensation will have a significant impact on increasing work motivation and employee performance.
4. Employee performance is influenced by corporate culture, which is mediated by employee motivation. This means that if the work culture improves, it will have a significant impact on employee motivation and performance.
5. Employee performance is significantly influenced by work motivation. This means that if the state of work motivation improves, it will have a significant impact on employee performance.

5.2. Managerial Implication

Based on the findings of the discussion analysis and some of the conclusions stated above, the following recommendations can be made to complete the findings of this study:

1. PT Bina Pertiwi needs to improve the factors that affect employee motivation and performance. Following the results of this study, work culture is a significant influencing factor. The Human Capital Manager of PT Bina Pertiwi can consider the form of compensation in the form of money or other incentives according to the needs of employees to motivate and impact employee performance.
2. Based on the results of the descriptive analysis, PT Bina Pertiwi needs to consider the work culture so that it can be effective in carrying out its duties. Work culture at various levels of the office needs to be implemented following their competencies. Human Capital Manager of PT Bina

Pertiwi can make activities needed to shape the organization's work culture so that employees are more motivated and impact their performance. A deep-rooted culture can form a productive ecosystem at work.

3. PT Bina Pertiwi should implement an appropriate work culture to increase employee motivation, which impacts overall work performance. The Human Capital Manager of PT Bina Pertiwi can analyze the most needed motivation to impact employee performance in carrying out their activities.

5.3. Recommendations for Further Study

1. Further researchers can test the same model by researching new research objects outside of PT Bina Pertiwi.
2. Further researchers can research with a broader scope of research and use the population within a company to reflect the overall condition.
3. For further research, adding new variables to add insight into developing employee performance theory is possible.

References

- Adeoye, Abayomi Olarewaju, and Ziska Fields. 2014. "Compensation Management and Employee Job Satisfaction: A Case of Nigeria." *Journal of Social Sciences* 41(3):345–52. doi: 10.1080/09718923.2014.11893369.
- Agung, Dwi, and Nugroho Arianto. 2013. "Pengaruh Kedisiplinan, Lingkungan Kerja Dan Budaya Kerja Terhadap Kinerja Tenaga Pengajar." *Jurnal Economia* 9(2):191–200. doi: 10.21831/economia.v9i2.1809.
- Bonn, Hyojin Kim Mark A. 2018. "기사 (Article) 와 안내문 (Information) [." *The Eletronic Library* 34(1):1–5.
- Calipha, Rachel, Shlomo Tarba, and David Brock. 2010. *Mergers and Acquisitions: A Review of Phases, Motives, and Success Factors*. Vol. 9. Elsevier.
- Chen, Chung An, and Chih Wei Hsieh. 2015. "Does Pursuing External Incentives Compromise Public Service Motivation? Comparing the Effects of Job Security and High Pay." *Public Management Review* 17(8):1190–1213. doi: 10.1080/14719037.2014.895032.
- Fachreza, Said Musnadi, and M. Shabri Abd Majid. 2018. "Pengaruh Motivasi Kerja, Lingkungan Kerja, Dan Budaya Organisasi Terhadap Kinerja Karyawan Dan Dampaknya Pada Kinerja Bank Aceh Syariah Di Kota Banda Aceh." *Jurnal Magister Manajemen* 2(1):115–22.
- Gupta, Nina, and Jason D. Shaw. 2014. "Employee Compensation: The Neglected Area of HRM

- Research." *Human Resource Management Review* 24(1):1–4. doi: 10.1016/j.hrmr.2013.08.007.
- Halim, Pitriyani & Abd. 2020. "Pengaruh Sikap Kerja Dan Keterampilan Kerja Terhadap PRODUKTIVITAS KERJA KARYAWAN CV. MERANTI MEDAN." *Ekonomi Bisnis Manajemen Dan Akutansi (EBMA)* 1(2):162–67.
- Husni, Tafdil, Rida Rahim, and Riyadi Aprayuda. 2020. "Cash Compensation, Corporate Governance, Ownership, and Dividend Policy on Banking Performance." 132(AICMaR 2019):212–18. doi: 10.2991/aebmr.k.200331.046.
- Indarti, Yanti Dwi. 2018. "The Effect of Competence and Compensation To Motivation of Employees and Its Impact on Employee Performance in the Personnel and Training Board of Karawang Regency." *AFEBI Management and Business Review* 3(01):52. doi: 10.47312/ambv.v3i01.132.
- Iswandani, H. 2016. "Pengaruh Motivasi Dan Beban Kerja Terhadap Kualitas Kehidupan Kerja (Quality of Worklife) Serta Dampaknya Terhadap Kinerja" *Jurnal Eksekutif* 13(2):305–19.
- Juliningrum, Emmy, and Achmad Sudiro. 2013. "Pengaruh Kompensasi, Budaya Organisasi, Terhadap Motivasi Kerja Dan Kinerja Pegawai." *Jurnal Aplikasi Manajemen* 11(4):669–70.
- Kim, Hong Soon, and Soo Cheong (Shawn) Jang. 2020. "The Effect of Increasing Employee Compensation on Firm Performance: Evidence from the Restaurant Industry." *International Journal of Hospitality Management* 88(March):102513. doi: 10.1016/j.ijhm.2020.102513.
- Kirilina, T. Yu., and O. I. Panina. 2017. "Employee Motivation Management." *Contemporary Problems of Social Work* 3(3):66–73. doi: 10.17922/2412-5466-2017-3-3-66-73.
- Laras, Titi, Bambang Jatmiko, Fathonah Eka Susanti, and Susiati Susiati. 2021. "The Effect of Work Environment and Compensation on Work Motivation and Performance : A Case Study in Indonesia." 8(5):1065–77. doi: 10.13106/jafeb.2021.vol8.no5.1065.
- Murty, Windy Aprilia. 2015. "Pengaruh Kompensasi, Motivasi Dan Komitmen Organisasional Terhadap Kinerja Karyawan Bagian Akuntansi Pada Perusahaan Manufaktur Di Surabaya." *Artikel Ilmiah: Sekolah Tinggi Ilmu Ekonomi Perbanas* 53(9):1689–99.
- Ortega-Parra, Antonio, and Miguel Ángel Sastre-Castillo. 2013. "Impact of Perceived Corporate Culture on Organizational Commitment." *Management Decision* 51(5):1071–83. doi: 10.1108/MD-08-2012-0599.
- Pathirana, Yasas L., Lakmini V. K. Jayatilake, and Ruwan Abeysekera. 2020. "A Literature Review on Organizational Culture towards Corporate Performance." *International Journal of Management, Accounting & Economics* 7(9):522–44.
- Putri, Kadek Dwiyan Ciptana, Maria Mediatrix Ratna Sari, I. Wayan Ramantha, and I. Gusti Ayu Nyoman Budiasih. 2019. "Effect of Self-Efficacy, Competence and Compensation in Performance of Financial Manager on Motivation as Moderation." *International Research Journal of Management, IT and Social Sciences* 6(3):83–93. doi: 10.21744/irjmis.v6n3.635.
- Rizal, Abdul, Fakhry Zamzam, and Luis Marnisah. 2021. "Pengaruh Budaya Organisasi, Kompensasi Dan Kompetensi, Terhadap Kinerja Karyawan Perusahaan Daerah Pasar Palembang Jaya." *Integritas Jurnal Manajemen Profesional (IJMPRO)* 2(1):27–40. doi: 10.35908/ijmpro.v2i1.77.
- Rizal, Muhamad, M. Syafie Idrus, and Rahayu Mintarti. 2014. "Effect of Compensation on Motivation , Organizational Commitment and Employee Performance (Studies at Local Revenue

- Management in Kendari City).” 3(2):64–79.
- Safitri, Ria Prasetya. 2018. “PENGARUH BUDAYA PERUSAHAAN TERHADAP MOTIVASI KERJA DAN DAMPAKNYA PADA KINERJA KARYAWAN.” *Journal of Management Review*. doi: 10.25157/jmr.v2i2.1795.
- Sinaga, Trifena Setiawaty, and Rahmat Hidayat. 2020. “Pengaruh Motivasi Dan Kompensasi Terhadap Kinerja Karyawan Pada PT. Kereta Api Indonesia.” *Jurnal Ilman: Jurnal Ilmu Manajemen* 8(1):15–22.
- Subagyo, Untung, Miyasto, and Idris. 2014. “Analisis Pengaruh Budaya Organisasi, Kompetensi Dan Komitmen Organisasi Terhadap Kinerja Pegawai Yang Dimediasi Oleh Motivasi Kerja.” *Jurnal Bisnis Strategi* 23(1):138–48.
- Syah, Bahrial, Luis Marnisah, and Fakhry Zamzam. 2021. “Pengaruh Kompetensi, Kompensasi Dan Motivasi Terhadap Kinerja Pegawai Kpu Kabupaten Banyuasin.” *Integritas Jurnal Manajemen Profesional (IJMPRO)* 2(1):15–26. doi: 10.35908/ijmpro.v2i2.76.
- Valaei, Naser, and Sajad Rezaei. 2016. “Job Satisfaction and Organizational Commitment: An Empirical Investigation among ICT-SMEs.” *Management Research Review* 39(12):1663–94. doi: 10.1108/MRR-09-2015-0216.
- Wahyuni, Ni Made, I. Nengah Suteja, and Ni Wayan Sitiari. 2021. “Competence and Work Environment Influences on Employees’ Motivation and Performance at Regional Financial and Asset Management Agency of the Regency of Karangasem.” doi: 10.4108/eai.25-11-2020.2306651.
- Widyaningsih, Meilana, and Mufti Arief Arfiansyah. 2020. “The Effect of Leadership Style and Work Motivation on The Performance of Academic Staff.” *Journal of Business Management Review* 1(3):145–54. doi: 10.47153/jbmr13.292020.
- Zhao, Hailin, Haimeng Teng, and Qiang Wu. 2018. “The Effect of Corporate Culture on Firm Performance: Evidence from China.” *China Journal of Accounting Research* 11(1):1–19. doi: 10.1016/j.cjar.2018.01.003.
- Adeoye, Abayomi Olarewaju, and Ziska Fields. 2014. “Compensation Management and Employee Job Satisfaction: A Case of Nigeria.” *Journal of Social Sciences* 41(3):345–52. doi: 10.1080/09718923.2014.11893369.
- Agung, Dwi, and Nugroho Arianto. 2013. “Pengaruh Kedisiplinan, Lingkungan Kerja Dan Budaya Kerja Terhadap Kinerja Tenaga Pengajar.” *Jurnal Economia* 9(2):191–200. doi: 10.21831/economia.v9i2.1809.
- Bonn, Hyojin Kim Mark A. 2018. “기사 (Article) 와 안내문 (Information) [.” *The Eletronic Library* 34(1):1–5.
- Calipha, Rachel, Shlomo Tarba, and David Brock. 2010. *Mergers and Acquisitions: A Review of Phases, Motives, and Success Factors*. Vol. 9. Elsevier.
- Chen, Chung An, and Chih Wei Hsieh. 2015. “Does Pursuing External Incentives Compromise Public Service Motivation? Comparing the Effects of Job Security and High Pay.” *Public Management Review* 17(8):1190–1213. doi: 10.1080/14719037.2014.895032.

- Fachreza, Said Musnadi, and M. Shabri Abd Majid. 2018. "Pengaruh Motivasi Kerja, Lingkungan Kerja, Dan Budaya Organisasi Terhadap Kinerja Karyawan Dan Dampaknya Pada Kinerja Bank Aceh Syariah Di Kota Banda Aceh." *Jurnal Magister Manajemen* 2(1):115–22.
- Gupta, Nina, and Jason D. Shaw. 2014. "Employee Compensation: The Neglected Area of HRM Research." *Human Resource Management Review* 24(1):1–4. doi: 10.1016/j.hrmr.2013.08.007.
- Halim, Pitriyani &. Abd. 2020. "Pengaruh Sikap Kerja Dan Keterampilan Kerja Terhadap PRODUKTIVITAS KERJA KARYAWAN CV. MERANTI MEDAN." *Ekonomi Bisnis Manajemen Dan Akutansi (EBMA)* 1(2):162–67.
- Husni, Tafdil, Rida Rahim, and Riyadi Aprayuda. 2020. "Cash Compensation, Corporate Governance, Ownership, and Dividend Policy on Banking Performance." 132(AICMaR 2019):212–18. doi: 10.2991/aebmr.k.200331.046.
- Indarti, Yanti Dwi. 2018. "The Effect of Competence and Compensation To Motivation of Employees and Its Impact on Employee Performance in the Personnel and Training Board of Karawang Regency." *AFEBI Management and Business Review* 3(01):52. doi: 10.47312/ambr.v3i01.132.
- Iswandani, H. 2016. "Pengaruh Motivasi Dan Beban Kerja Terhadap Kualitas Kehidupan Kerja (Quality of Worklife) Serta Dampaknya Terhadap Kinerja" *Jurnal Eksekutif* 13(2):305–19.
- Juliningrum, Emmy, and Achmad Sudiro. 2013. "Pengaruh Kompensasi, Budaya Organisasi, Terhadap Motivasi Kerja Dan Kinerja Pegawai." *Jurnal Aplikasi Manajemen* 11(4):669–70.
- Kim, Hong Soon, and Soo Cheong (Shawn) Jang. 2020. "The Effect of Increasing Employee Compensation on Firm Performance: Evidence from the Restaurant Industry." *International Journal of Hospitality Management* 88(March):102513. doi: 10.1016/j.ijhm.2020.102513.
- Kirilina, T. Yu., and O. I. Panina. 2017. "Employee Motivation Management." *Contemporary Problems of Social Work* 3(3):66–73. doi: 10.17922/2412-5466-2017-3-3-66-73.
- Laras, Titi, Bambang Jatmiko, Fathonah Eka Susanti, and Susiati Susiati. 2021. "The Effect of Work Environment and Compensation on Work Motivation and Performance : A Case Study in Indonesia." 8(5):1065–77. doi: 10.13106/jafeb.2021.vol8.no5.1065.
- Murty, Windy Aprilia. 2015. "Pengaruh Kompensasi, Motivasi Dan Komitmen Organisasional Terhadap Kinerja Karyawan Bagian Akuntansi Pada Perusahaan Manufaktur Di Surabaya." *Artikel Ilmiah: Sekolah Tinggi Ilmu Ekonomi Perbanas* 53(9):1689–99.
- Ortega-Parra, Antonio, and Miguel Ángel Sastre-Castillo. 2013. "Impact of Perceived Corporate Culture on Organizational Commitment." *Management Decision* 51(5):1071–83. doi: 10.1108/MD-08-2012-0599.
- Pathiranage, Yasas L., Lakmini V. K. Jayatilake, and Ruwan Abeysekera. 2020. "A Literature Review on Organizational Culture towards Corporate Performance." *International Journal of Management, Accounting & Economics* 7(9):522–44.
- Putri, Kadek Dwiyani Ciptana, Maria Mediatrix Ratna Sari, I. Wayan Ramantha, and I. Gusti Ayu Nyoman Budiasih. 2019. "Effect of Self-Efficacy, Competence and Compensation in Performance of Financial Manager on Motivation as Moderation." *International Research Journal of Management, IT and Social Sciences* 6(3):83–93. doi: 10.21744/irjmis.v6n3.635.
- Rizal, Abdul, Fakhry Zamzam, and Luis Marnisah. 2021. "Pengaruh Budaya Organisasi, Kompensasi

- Dan Kompetensi, Terhadap Kinerja Karyawan Perusahaan Daerah Pasar Palembang Jaya.” *Integritas Jurnal Manajemen Profesional (IJMPRO)* 2(1):27–40. doi: 10.35908/ijmpro.v2i1.77.
- Rizal, Muhamad, M. Syafii Idrus, and Rahayu Mintarti. 2014. “Effect of Compensation on Motivation , Organizational Commitment and Employee Performance (Studies at Local Revenue Management in Kendari City).” 3(2):64–79.
- Safitri, Ria Prasetya. 2018. “PENGARUH BUDAYA PERUSAHAAN TERHADAP MOTIVASI KERJA DAN DAMPAKNYA PADA KINERJA KARYAWAN.” *Journal of Management Review*. doi: 10.25157/jmr.v2i2.1795.
- Sinaga, Trifena Setiawaty, and Rahmat Hidayat. 2020. “Pengaruh Motivasi Dan Kompensasi Terhadap Kinerja Karyawan Pada PT. Kereta Api Indonesia.” *Jurnal Ilman: Jurnal Ilmu Manajemen* 8(1):15–22.
- Subagyo, Untung, Miyasto, and Idris. 2014. “Analisis Pengaruh Budaya Organisasi, Kompetensi Dan Komitmen Organisasi Terhadap Kinerja Pegawai Yang Dimediasi Oleh Motivasi Kerja.” *Jurnal Bisnis Strategi* 23(1):138–48.
- Syah, Bahrial, Luis Marnisah, and Fakhry Zamzam. 2021. “Pengaruh Kompetensi, Kompensasi Dan Motivasi Terhadap Kinerja Pegawai Kpu Kabupaten Banyuasin.” *Integritas Jurnal Manajemen Profesional (IJMPRO)* 2(1):15–26. doi: 10.35908/ijmpro.v2i2.76.
- Valaei, Naser, and Sajad Rezaei. 2016. “Job Satisfaction and Organizational Commitment: An Empirical Investigation among ICT-SMEs.” *Management Research Review* 39(12):1663–94. doi: 10.1108/MRR-09-2015-0216.
- Wahyuni, Ni Made, I. Nengah Suteja, and Ni Wayan Sitiari. 2021. “Competence and Work Environment Influences on Employees’ Motivation and Performance at Regional Financial and Asset Management Agency of the Regency of Karangasem.” doi: 10.4108/eai.25-11-2020.2306651.
- Widyaningsih, Meilana, and Mufti Arief Arfiansyah. 2020. “The Effect of Leadership Style and Work Motivation on The Performance of Academic Staff.” *Journal of Business Management Review* 1(3):145–54. doi: 10.47153/jbmr13.292020.
- Zhao, Hailin, Haimeng Teng, and Qiang Wu. 2018. “The Effect of Corporate Culture on Firm Performance: Evidence from China.” *China Journal of Accounting Research* 11(1):1–19. doi: 10.1016/j.cjar.2018.01.003.

APPLICATION OF UTAUT MODEL ON THE USE BEHAVIOUR OF
COVID-19 ELECTRONIC HEALTH CARD (E-HAC)
IN INDONESIA

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ABSTRACT

E-HAC technology is a part of mobile health technology used for Covid-19 surveillance and contact tracing apps in Indonesia. The digital health passport technology is gaining popularity between airlines and governments, but it is very much in the pilot phase. This study will confirm the connections between UTAUT model and travellers' satisfaction of E-HAC use in Indonesia during Covid-19, which previous research have not given. The research setting is the Indonesia travellers who used E-HAC during the pandemic, hence data was collected through an online survey (n=163). Findings from SEM analysis indicate that Performance Expectancy and Facilitating Conditions are important antecedents to intention to use E-HAC and that the construct of behavior intention significantly impact travellers' satisfaction in adopting the E-HAC services. This study contributes to all stakeholders such as government agencies, healthcare along with tourism service providers in developing strategies and policies to strengthen E-HAC services as a digital health passport that will boost travelers' confidence and encourage them to use applications to support Indonesia's tourism recovery program.

Type of Paper: Empirical

Keywords: *Keywords: behavioral intention, technology acceptance, technology use, UTAUT,*

COVID-19 surveillance app, E-HAC, satisfaction

1. Introduction

As we all know of one major health-related risk that being dealt by traveller is the ongoing Covid-19 pandemic. The sheer impact of the health-risk avoidance due to Covid-19 pandemic is projected that international visitor arrivals will decrease to 78 percent, triggering a reduction of US\$ 1.2 trillion in tourism export revenues and 120 million direct tourism work losses, marking seven times the impact of September 11, and the highest decrease in tourism export revenues (UNWTO,2020). COVID-19 pandemic has also led to severe losses in the Indonesia tourism sector (Wachyuni,2020; Rahma,2020; Hakim,2020). The Central Statistics Agency (BPS) records the visits of foreign travellers who came to the country in early 2020 has decreased. During January 2020, visits by foreign travellers reached 1.27 million visits. This figure decreased by 7.62 percent when compared to the number of foreign travellers' arrivals in December 2019 of 1.37 million visits. Tourism has become adapted to and resilient to various environmental, political, and socioeconomic challenges as a highly vulnerable industry (Ritchie et al. 2014; Novelli et al. 2018; Page et al., 2011; Kuo et al. 2008; Ritchie &Jiang, 2019). The tourism industry is expected to return to normal in 10-35 months, according to the World Travel and Tourism Council (WTTC) (Faus J, 2019). The results of a large travel sentiment survey conducted by Wyman (2020) in October 2020, which showed that the need to travel remains strong, provide additional support. In the poll, 63 percent of respondents planned to spend the same time or more after their first study in April 2020 when the epidemic would near the end, against 57 percent (Wyman, 2020). Apart from the forecast of travel intent, Covid-19 has transformed the perception of travel danger enormously, which is still promising beyond this pandemic (Matiza, 2020; Zenker, 2021, Davahli et al., 2020;).

1.1 Electronic Health Card Alert (E-HAC)

In attempt to manage health risks and assist travellers in minimizing their anxiety, a high-standardized health protocols and surveillance especially for travellers arriving at international borders during Covid-19 pandemic are vastly applied. Digital health passports are recently developed and designed around the world to reduce the risk of Covid-19 transmission in a way that allows people to verify their health status through digital credential and identity verification (such as the results of antigen and antibody tests, and eventually, digital vaccination records). In Indonesia, Indonesian Ministry of Health, in this case, the Directorate of Health Surveillance and Quarantine, Directorate General of Disease Prevention and Control

has developed and launched a digital health passport called E-HAC (Electronic Health Alert Card) for airline and seaports passengers in April 2020.

Since it was deployed in April 2020, Indonesian e-HAC mobile application has been downloaded by more than 1 million users through online application stores. However, this figure is still lower than number of 8 million airline passengers who travel either domestic or international during Covid-19 pandemic to and from Indonesia (BPS, 2021), showing that not all airline passengers prefer using E-HAC instead of the manual one. There were problems on E-HAC application that were identified by IT communities and travellers. For example, an interview conducted by Pangesti (2021) discovered that there were not enough details provided on the usage of E-HAC indicated that some users struggled to figure out how to use the software, especially for new users. Reviews from Apple Play Store were around 1.5 stars, very low compared to reviews acquired from the Android Play Store (4.2 stars), showing potential obstacles met in the performance systems of E-HAC. Travellers in the new normal era will expect digitalization in travelling activity would provide them with higher performance, faster processes to avoid risk of Covid-19 transmission. Any failure to meet performance and effort expectations could lead to hesitation and slower acceptance of mobile health technology, in this case E-HAC not only by airline passengers but also other travellers who uses other types of transportations. Therefore, further research on E-HAC acceptance is very important to allow for more safe and enjoyable travel experiences to and from Indonesia, domestically and internationally, which hopefully will increase travellers' satisfaction in the new normal era. However, to our knowledge, no study has investigated the significant influencing factors of E-HAC adoption by the travellers. Therefore, this study aimed to examine the behavioral intentions of travellers in using E-HAC during Covid-19 pandemic.

1.2 E-HAC and UTAUT Acceptance Model

E-HAC technology is a part of mobile health technology used for Covid-19 surveillance and contact tracing apps. Mobile health technology is not a new feature of travel (Larocque *et al.*, 2010; Farnham *et al.*, 2016; Wong and Sa'aid Hazley, 2020). Mobile healthcare technology offers huge promise for digital travel growth. It is technically viable and suitable for the travellers to utilize a mobile app to collect health information (Farnham *et al.*, 2016). If real-world, real-time data can be collected, travel health professionals can tailor the advice they provide on travel health and enhance the efficiency of the travel health consultation given to travelers (Flaherty, 2016). A smartphone or app is used to recognize or alert persons with a

COVID-19 contact (Webster P, 2020). In addition, the probable dangers and measures needed to guarantee secure travel must be communicated to travelers periodically (Chien, 2017).

Numerous studies have been performed to analyse the mechanism of mobile health adoption in developing countries such as in: Jordania (Alaiad et.al, 2019), Pakistan (Zhang & Zaman, 2019), Zambia (Gregory, 2017), Indonesia (Alan, 2018), which mostly using the main platform of Technology Acceptance Model and its' derivatives, including the UTAUT model. Since its introduction, the UTAUT model has been applied and tested extensively for predicting system usage and technology-usage-related decisions not only in various health-related groups such as seniors well-being (Hoque et.al, 2017; Changizi, 2017), chronic conditions (Salgado, 2020), family care (Inkster, Sarda and Subramanian, 2018), but also in travel-related groups such as in the acceptance of e-passport ((Ng-Kruelle *et al.*, 2006; Candra, 2016; Siringoringo and Valentine, 2018; Chebotareva, Danilina and Chebotarev, 2020) The UTAUT model offers a paradigm that not only describes digital technology adoption but also explains how those devices and applications are actually used. The UTAUT model contributes significantly to the exploration of technology adoption and use due to its potential to incorporate various TAMs (Venkatesh et al., 2003). As a result, the UTAUT model was used as the theoretical foundation for this study to test the impacts of technology-related variables on E-HAC acceptance.

Even though the UTAUT model has been broadly accepted, there are concerns about its capacity to describe individuals' technology adoption. As a result, the original UTAUT model has been expanded. Many researchers (Voutinioti, 2013; Tran et. Al, 2019; Phaosathianphan, 2019; Kukuk, 2021; Qiao, 2021) believe that increasing the number of external variables will improve this model's potential to forecast digital technology adoption. Several variables have been suggested to supplement the original UTAUT model. For example, Chao et al. (2019) used the UTAUT model to assess the variables that affect users' behavioral intentions to use m-learning, including self-efficacy, trust, habits, satisfaction, and perceived risk. Based on above studies, we investigated the possibility of extension of the UTAUT model by adding variables (perceived Covid-19 risk and travel satisfaction) to predict the acceptance of E-HAC in the perspective of travellers during Covid-19 pandemic.

1.3 Significance of The Study

At the tail end, E-HAC implementation as one of travel-risk aversion innovations to promote safe and comfortable travelling during new normal era should provide travellers with satisfaction. As mentioned above, that travellers in the new normal era have higher

expectations regarding their travel experience. The study of travelling satisfaction during new normal era, has been a research interest for several studies (Sigala, 2020; Shamshiripour et al., 2020). Travellers' satisfaction is a type of state of mind that refers to a personal evaluation of overall experience. Previous studies in the tourism sense showed that most travellers are likely to change their travel plans if a destination has risks (Fuchs & Reichel 2011; Lepp, Gibson, & Lane 2011). As a result, most visitors should minimize risk because it detracts from their experience. Another subject of tourism research should be the effect of travellers' risk-aversion actions on travellers' satisfaction (Li, Pearce, et al. 2015). Lin, Lee, and Wang (2012) stated that the more effectively undergraduates took steps to overcome danger while traveling abroad, the more satisfied they would be with their experience. Based on these facts, a research regarding whether using E-HAC increase travellers' satisfaction during their travel experience, thus adoption behavior of Indonesian travellers is very necessary to be done, since the success of E-HAC implementation is important not only from the users' acceptance but also their satisfaction to provide quantitative data for the Indonesian government to further improve health-protocols system during new normal travelling activity.

2. Literature Review

2.1 The UTAUT Model

UTAUT includes four major components that determine behavioral intent to utilize a technology and/or technology usage (performance expectation, effort expectation, social influence, and facilitating conditions). By extending the UTAUT paradigm, these UTAUT concepts have been adapted to the adoption and use of consumer electronics (Venkatesh et al., 2012). Performance expectancy is defined here as the degree to which the use of technology assists customers in carrying out those tasks; effort expectancy is the degree of ease connected with the use of technology by consumers. The degree to which customers feel important individuals (e.g., family and friends) feel they can utilize a certain technology technology is decided by behavioral intention and facilitating conditions. Individual variables of differentiation, namely age, gender, and experience, are also theorized to moderate various UTAUT associations (figure 1).

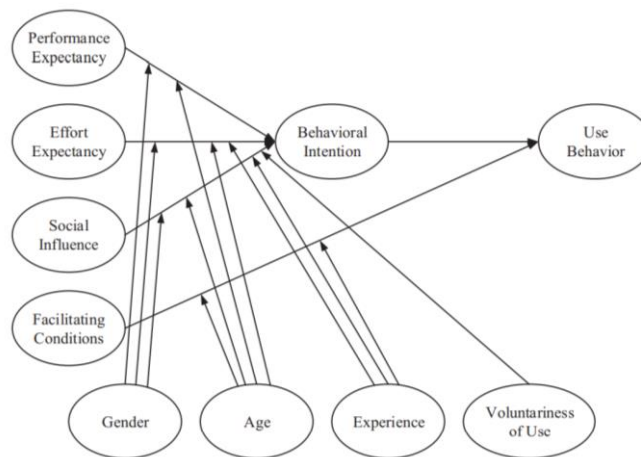


Figure 1. The Unified Theory of Acceptance and Use of Technology / UTAU
(Venkatesh, 2003)

2.1.1 Performance Expectancy

Performance expectancy (PE) is the degree to which a patient feels that technology will assist them improve their work performance. According to Venkatesh et al. (2003), performance expectancy is an extraction of the following constructs drawn from prior established models such as perceived usefulness from Technology Acceptance Model (TAM), outcome expectations from Social Cognitive Theory (SCT), extrinsic motivation from Motivational Model (MM), and job-fit from Model of Personal Computer Utilization (MPCU). Several studies have found that PE is one of the most important predictors ICT usage (Kahn, 2010; Hoque, 2016-2017; Quaosar, 2018; Davis, 1992; Jovanov, 2006; Nkosi, 2010), if not the greatest predictor (Venkatesh, 2003; Onaolapo, 2018). Pai and Huang, in 2011 had stated that PE had an influence on the health information system strategy. Carlsson et al. in 2006 discovered that the intention to use mobile devices is related to PE. Several PE measurement indications include beneficial for task, increases task effectiveness, allows activities to be completed more quickly, and allows activities to be completed more precisely.

2.1.2 Effort Expectancy

Effort expectancy (EE) is defined as the degree of ease with which a patient feels about the use of health-related technology. The three previous constructs from the technology acceptance theory that reflect effort expectancy are ease of use from Technology Acceptance Model (TAM), complexity (MPCU) and ease of use, according to Venkatesh et al., 2003. Extensive empirical research has shown that EE has a direct influence on the intention of use for the adoption of technology (Nkosi, 2010; Taylor, 1995; Nadri, 2018). For example, EE

was found to be a determinant of the intention of users to use e-Health facilities, support systems for clinical decision making and mobile health (Sun, 2013; Boontarig et al., 2012). The acceptance of health-related technology therefore depends on whether the technology is simple to use and free of effort. The more learning effort is needed, the greater the user's resistance to using them. Several measurement dimensions of EE include easy to use, clear and understandable, easy to become skilful with system, easy to get it to do what you want it to, easy to learn to operate, flexible to use, easy to do tasks with system, clear & understandable, easy to navigate, and also easy to remember how to perform tasks with system.

2.1.3. Social Influence

The amount to which a patient believes their significant other believes they should utilize health-related technology is described as social influence (SI). It underpins subjective norm from TRA/ TAM2, social elements from MPCU, and image from IDT (Venkatesh, 2003). SI is founded on the idea that an individual's behavior is impacted by how he or she feels others will perceive him or her as a result of using information technology services. As a result, users' choice to utilize the tech service may be influenced by friends, family, and peers in society (Quaosar, 2017; Hoque, 2016). According to Dwivedi et al. (2016), SI is significant in the context of technology because contact with any information technology is likely to be witnessed by others in daily life, and the impact of aspirational reference groups will contribute to the technology's adoption. Existing information system research has discovered a substantial link between SI and information system adoption (Nkosi, 2010). Sun et al. (2013) discovered, for example, that SI influences the behavioral intention to use mobile health services.

2.1.4. Facilitating Conditions

The extent to which a patient believes there is an organizational or technological infrastructure in place to assist the use of technology is referred to as Facilitating Conditions (FC). It has been observed that facilitating conditions are positively connected to the behavioral intention to utilize smartphones for health services (Boontarig, 2012; Rahimi, 2018). Users must have the necessary skills and resources to use technology. The efficient use of technology services by users is dependent on the availability of organizational resources and appropriate technological infrastructure required for their maximum efficiency. Whether or not users believe there are organizational resources and technological infrastructure in place to support the successful use

of technology services will determine whether they can use their cellphones for health care services. Some users are hesitant to use technology due to a lack of money and technological assistance. As a result, we anticipate that perceived enabling instruments, such as technological assistance, organizational resources, and knowledge, will have a favorable effect on technology intent. Several FC measuring criteria include having the resources needed to utilize the system, knowing how to use the system, interoperability with other systems, the availability of technical help, and the ability to utilize the system at work.

2.1.5 Behavior Intention

Behavior Intention is defined as an individual's motivation or willingness to exert effort to perform the target behavior (Venkatesh, 2003). The most proximal antecedent to IT use is behavioral intention to use it (BI), and this is now commonly what is meant when one refers to acceptance, although another common conceptualization of acceptance is end-user satisfaction. Because BI is thought to reliably predict actual use, and the latter is difficult to measure, BI is sometimes the only measured outcome of interest in a study of TAM. Behavioral intention and actual use behavior are highly correlated and behavioral intention is a predictor of actual use behavior (Bhattacharjee & Hikmet, 2008; Turner et al., 2010). Furthermore, interestingly, behavioral intention explained that the intention to use a technological service should be done when a service is still new in the markets (Delone & McLean, 2003).

2.2 E-HAC Use

Global cases of corona virus infection (COVID-19) continue to increase. In Indonesia, the number of COVID-19 cases also continues to increase, both due to local transmission and those brought by travellers from abroad or outside the region (imported case). The digital health passport technology is gaining popularity between airlines and governments, but it is very much in the pilot phase. The passports must be protected, user-controlled, reliable and widely accepted for international travel. Problems would arise in case of absence in agreed-upon-standard, thus travellers could find themselves in a situation where documentation that is deemed acceptable by one airline is not acceptable for another. Other concerns involving the more borders reopening, the uptake of vaccinations at scale and more global standards for the health passports. Despite the hype, industry experts cautioned that paper trails showing test results and inoculation dates are not going away anytime soon.

In Indonesia, Indonesian Ministry of Health, in this case, the Directorate of Health Surveillance and Quarantine, Directorate General of Disease Prevention and Control has developed and [launched a digital health passport called](#) E-HAC (Electronic Health Alert Card) in April 2020 (Figure 2). E-HAC is a modern version of the Health Alert Card from the manual card that was used previously. The passport authenticates a person's health status including Covid-19 test status and their vaccination records within a digital passport. The E-HAC Passport has 200 healthcare facilities across the Indonesia (mainly in Java and Bali areas) where a person can book a Covid-19 test and be recognized as 'fit to fly' by international airlines. This application has been equipped with a data base for airports, ports, bus terminals and train stations throughout Indonesia. Thus, this application can be used for recording and health checks of all passenger movements, either by land, sea, air and rail throughout Indonesia. Not only for travellers, but this application can also be used by all people who want to do early detection of COVID-19 based on HAC Assessment and Self-Assessment, record daily activities for easy tracking, record self-quarantine journals and personal health journals (medical history). Digitally. First, prospective passengers can download the E-HAC application in advance and some application settings, such as language selection, registration, and device location. Second, prospective passengers can click on the account and select the HAC option. In the upper right corner, there is a plus symbol which is the choice of Indonesian HAC to make an E-HAC card when visiting Indonesia from abroad.

Meanwhile, Indonesian Domestic HAC, to make an E-HAC card when traveling between cities in the country. Third, prospective passengers can fill in their personal data on the registration form. Personal data on E-HAC, including first name, last name, age, gender, nationality, identity number, destination province, destination district or city, destination district, and address. There are also cellphone numbers, arrival dates, vehicle names, and seat numbers.

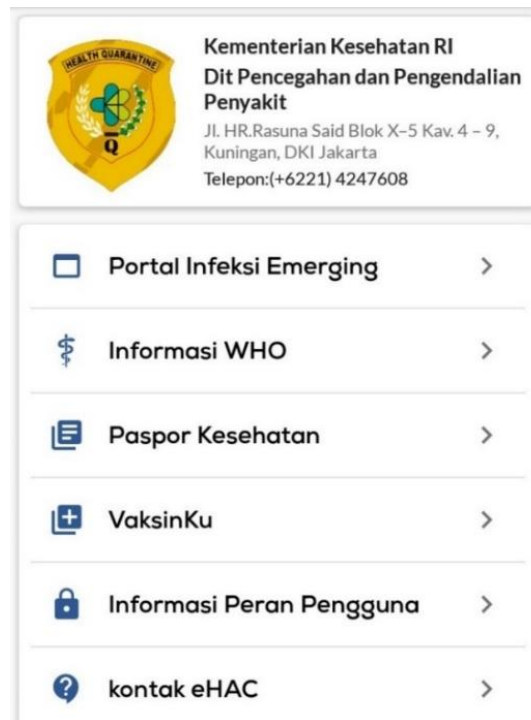


Figure 2. Electronic Health Alert Card
(infeksi-emerging.kemkes.go.id)

2.3 Travellers' Satisfaction

Satisfaction is defined as the perceived gap between prior expectation and perceived performance after consumption; when performance differs from expectation, discontent occurs (Oliver, 1980). It may be described as the degree to which a person feels that an event will elicit pleasant sentiments (Rust & Oliver, 1994). In the tourist industry, contentment is largely defined as a function of pre-trip expectations and post-trip experiences. Travellers are happy when their experiences exceed their expectations and result in emotions of pleasure. However, when they cause emotions of annoyance, the travelers are unhappy (Reisinger & Turner, 2003). In terms of technology usage for travelling, e-satisfaction is composed of behavior intention such as intention to revisit the website and repeat using of the technology intention (Wong, Lo and Ramayah, 2014). Furthermore, from previous study (Menachemi, Powers and Brooks, 2009) found that users of certain IT applications are significantly more likely to be satisfied with the level of computerization in their practice.

2.4 Summary of Previous Studies

Table 1. Summary of Previous Studies

Author and Year of publication	Title	Variables	Significant Findings
(Chiu, Cho and Chi, 2020)	Examine the predictors of the users' intention to adopt health and fitness apps.	Modified TAM	Users' satisfaction had positive impacts on their commitment, and positively affected the intention
(Siringoringo and Valentine, 2018)	Electronic passport system acceptance: an empirical study from Indonesia	Modified TAM	Information, system and service quality influenced perceived ease of use of online passport website
(Williams, Rana and Dwivedi, 2015)	Which antecedents affect the adoption of health-related technology by users	UTAUT	UTAUT model could partially shape technology artifact Behavior and the extended UTAUT must consider specific determinants relevant to cognitive, affective, and conative or Behavioral aspects of citizens.
(Voutinioti, 2013)	Investigate Adoption of E-Government Service in Greece	- UTAUT - Trust	Effort Expectancy, Trust, Facilitating Conditions, had significant positive impact on the intention to adopt E-government.
(Phaosathianphan and Leelasantitham, 2019)	Investigate Adoption Factors Influence on the Use of Intelligent Travel Assistant (ITA) for Eco Travellers	- UTAUT - Trust - Safety - Empathy - Quality	Empathy (EP) and Safety (ST) directly affected the Actual Use of ITA.
(Chao, 2019)	Investigate the factors that affect the adoption of m-learning	- UTAUT - Perceived enjoyment - Satisfaction - Perceived Risk (moderators)	Behavioral intention positively influenced by satisfaction, trust, performance expectancy, and effort expectancy; perceived risk had a significantly negative moderating effect on the relationship between performance expectancy and behavioral intention

(Norzaidi and Salwani, 2014)	Evaluating technology resistance and technology satisfaction on students' performance	<ul style="list-style-type: none"> - Tech usage - Tech Fit - Tech Satisfaction - Tech resistance 	Technology usage had significant effect to user satisfaction rather than vice versa.
(Isaac <i>et al.</i> , 2018)	Integrating User Satisfaction and Performance Impact with Technology Acceptance Model (TAM) to Examine the Internet Usage	<ul style="list-style-type: none"> - TAM - User satisfaction - Performance Impact 	perceived usefulness influences actual usage and user satisfaction, while user satisfaction positively influences performance impact
(Kukuk, 2020)	Analyzing Adoption of Covid-19 Contact Tracing Apps	<ul style="list-style-type: none"> - UTAUT - Anxiety - Perceived Credibility - Self-Efficacy 	Performance expectancy and perceived credibility having a significant and positive influence on the intention to use a contract tracing app.
(Ho, Ho and Chung, 2019)	Theoretical integration of user satisfaction and technology acceptance of the nursing process information system	<ul style="list-style-type: none"> - Web quality - Modified TAM 	User satisfaction affected perceived usefulness, perceived ease of use, and perceived enjoyment

3. Research Methodology

3.1 Research Model

This study is integrating performance expectancy, effort expectancy, social influences, and social influences, which are constructs at for the acceptance of E-HAC technology. First, the study examined at the relationship of the performance expectancy, effort expectancy, social influences, and social influences toward behavior intention to use E-HAC. Finally, the study looks at relationship between behavior intention and traveller's satisfaction in using E-HAC. Figure 3 below shows the research model.

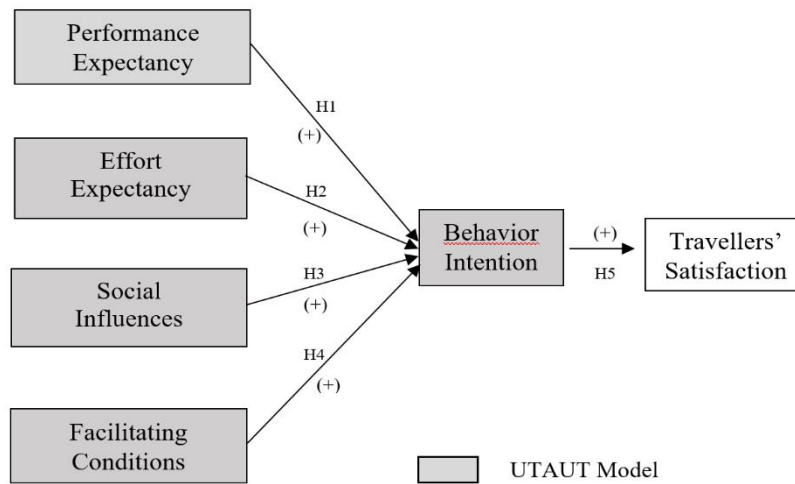


Figure 3. Proposed Research Model

3.2 Hypotheses

- H1: Performance expectancy will significantly affect behavior intention
- H2: Effort expectancy will significantly affect behavior intention.
- H3: Facilitating conditions will significantly affect behavior intention.
- H4: Social influence will significantly affect behavior intention.
- H5: Behavior intention to use E-HAC will significantly affect travellers' satisfaction.

4. Results

To evaluate above hypotheses, a questionnaire containing 29 items was selected as a method for data collection. Section 1 will be consisting of demographic questions of respondents. Section 2 will be consisting of questions regarding UTAUT dimensions. Section 3 will be consisting of questions regarding intention to use behavior and satisfaction in using E-HAC service.

The latent variables will be expressed by few items in the questionnaire. The scale items were measured on a 5-point Likert scale from “strongly disagree” (1) to “strongly agree” (5). Some sociodemographic questions were also added as the control variables for the study sample. Age was measured in years and gender was coded as a dummy variable (0 or 1), with women represented by 0. Education level will be assessed by 5 different layers (1, middle school or lower; 2, high school; 3, bachelor’s degree or postgraduate; 4, master’s degree; 5, doctorate). While travel frequency will be assessed by 4 different layers (1, 1 – 3 times per year; 2, 4 – 6 times per year; 3, 6 – 10 times per year; 4, more than 10 times per year). The questionnaire started with a brief introduction explaining the E-HAC concept to ensure that all respondents had prior knowledge and contact with E-HAC. The questionnaire was written in English and

then translated into Bahasa Indonesia, where it was double-checked by two bilingual translators. To ensure that the questionnaire retained the original meaning, a third interpreter, who had no prior knowledge of the original questionnaire, performed a back-translation into English, which was then compared to the original (Wild et.al, 2005). Respondents were recruited using posts on Facebook and LinkedIn, along with broadcast WhatsApp message using author's own network. Responses then analysed using SPSS 26 and LISREL 8.8.

Table 2. Demographics of Survey Respondents

No	Data Type	Group	Total	Percentage
1	Gender	Male	57	35,0%
		Female	106	65,0%
2	Age	20 - 29	34	20,9%
		30 - 39	98	60,1%
		40 - 49	24	14,7%
		50 - 59	6	3,7%
		60 & above	1	0,6%
3	Degree	High School	4	2,5%
		Diploma	23	14,1%
		Bachelor	89	54,6%
		Master	45	27,6%
		Doctorate	2	1,2%
4	Airplane Route	Domestic	159	97,5%
		International	4	2,5%
5	Travel Destination	Asia - Pasific	2	1,2%
		Europe	2	1,2%
		Bali & Lombok	47	28,8%
		Jabodetabek	16	9,8%
		Java Island	28	17,2%
		Other than Java & Bali Island	68	41,7%
6	Travel Frequency	1 - 2 times	79	48,5%
		3 - 5 times	49	30,1%
		more than 5 times	35	21,5%
7	Travel Purpose	Family errands	39	24,0%
		Holiday	44	27,0%
		Business trip	78	47,9%
		Education / study	2	1,2%

The socio-demographic data is described in Table 2 showing most respondents were female and majority of them were 30-39 years old. Due to travel restrictions during pandemic, most of the journey taken were business trip rather than leisure ones and most respondents only travelled 1-2 times from April 2020 to April 2021.

Table 3. Descriptive Statistics & Construct Validity

Construct	Indicator	Factor Loading	Mean	SD	CR	AVE	Cronbach's Alpha
Performance Expectancy (PE)	PE1	0.75	3.48	0.85	0.75	0.57	0.83
	PE2	0.81					
	PE3	0.71					
Effort Expectancy (EE)	EE1	0.71	3.78	0.77	0.81	0.62	0.87
	EE2	0.85					
	EE3	0.79					
	EE4	0.71					
Social Influence (SI)	SI1	0.72	3.55	0.77	0.66	0.50	0.80
	SI2	0.70					
	SI3	0.70					
Facilitating Conditions (FC)	FC1	0.61	3.86	0.66	0.56	0.44	0.77
	FC2	0.56					
	FC3	0.73					
	FC4	0.59					
Behavioral Intention (BI)	BI1	0.85	3.68	0.83	0.93	0.75	0.92
	BI2	0.90					
	BI3	0.86					
Travellers' Satisfaction (TS)	TS1	0.80	3.68	0.72	0.71	0.54	0.89
	TS2	0.83					
	TS3	0.78					
	TS4	0.38					
	TS5	0.79					

Each construct assessment for factor loading and reliability is shown in Table 3, According to Hair et al. [21], a construct is valid if CR is above 0.7 and AVE is above 0.5. PE, EE, SI, BI and TS are all acceptable and considered reliable, except for FC. Therefore, there is a somewhat lack of general convergent validity and reliability for FC.

Table 4. Model Fit Indices

Fit Indices	Values	Remarks
χ^2/df	1.59	Good Fit
RMSEA	0.054	Good Fit
SRMR	0.069	Good Fit

GFI	0.86	Good Fit
NNFI/TLI	0.97	Good Fit
CFI	0.98	Good Fit
IFI	0.98	Good Fit

The goodness of fit test is carried out by looking at the Chi-Squared and RMSEA values. Based on the structural model analysis done by LISREL, the study shows high values (≥ 0.90) of NNFI/TLI, CFI, IFI, (≥ 0.80) of GFI and low values of RMSEA, SRMR (≤ 0.08), and χ^2/df (≤ 2.0). It indicates that the study's structural model is good fit. Table 4.7 summarizes the Goodness Fit indices, whereas the hypotheses testing results are summarized in Table 4.

The results of the SEM seen in Table 5. Hypothesis testing on Lisrel version 8.8 is seen based on the t-statistical value or t-value. Based on the t-table, the t-table value in this study was 1.96. Furthermore, the hypothesis is accepted if the value of t-count $>$ t-table (1.96). The table show that a person's intention to use E-HAC is significantly influenced by their performance expectancy (t-value=2.63, $p < 0.05$) and facilitating conditions (t-value=2.64, $p < 0.05$). Effort expectancy, and social influence do not appear to have a significant influence on the intention to use E-HAC. Meanwhile, this study confirmed that user or in this case travellers's satisfaction is greatly influenced by the intention to use E-HAC (t-value=9.94, $p < 0.05$). Therefore H1, H4 and H5 can be supported, while H2 and H3 can be rejected.

Table 5. Hypothesis Testing Result

Hypothesis	Proposed Relationship	t-Value	Hypothesis Testing
H1	Performance expectancy will significantly affect behavior intention.	2.63	Supported
H2	Effort expectancy will significantly affect behavior intention.	-1.04	Not Supported
H3	Social influence will significantly affect behavior intention.	1.14	Not Supported
H4	Facilitating conditions will significantly affect behavior intention.	2.64	Supported
H5	Behavior intention will significantly affect travellers' satisfaction.	9.94	Supported

5. Discussion

The current study applied UTAUT model to examine the factors influencing consumer's acceptance and use of E-HAC as one of health-surveillance apps while travelling. Since existing studies examining this issue are limited, the present study can contribute to providing a better understanding of user's needs and requirements in airplane travelling as part of Covid-19 risk mitigation. The main findings of this study indicate that performance expectancy is one of the strongest predictors of intentions to use E-HAC while travelling and interestingly, the intention to use E-HAC has also become one of significant parameter to travellers' satisfaction.

5.1 Performance Expectancy (PE) and Behavior Intention (BI) [H1: Supported]

The result of this study suggest that performance expectancy (PE) has a significant positive effect to behavior intention (BI) with a structural coefficient of 0.34 and a t-value of 2.63. Thus, hypothesis H1: "*Performance expectancy will significantly affect behavior intention*" is supported. This supports that performance expectancy influences the intention to use E-HAC amongst the airline travellers. Performance expectancy appears to be one of key antecedent in behavioral intention of E-HAC use. According to Lim et al. (2011), perceived usefulness and self-efficacy predicted the intention to use mobile phones to obtain health information. The predicted benefit from utilizing a certain technology is referred to as performance expectancy. In the case of contract tracing applications, a benefit may be enhanced health or getting illness information more quickly. As a result, the fact that performance expectation has a large and positive impact on the intention to use health-related app suggests that if a contract tracing app delivers a clear advantage to the user, he is more inclined to implement the application. Hence, PE is one of the significant determinants of users' behavior intention to adopt E-HAC (Chao, 2019; Zahid and Din, 2019; Kukuk, 2020).

5.2 Effort Expectancy (PE) and Behavior Intention (BI) [H2: Not Supported]

The result of this study suggested that effort expectancy (EE) has a non-significant effect to behavior intention (BI) with a structural coefficient of -0.15 and a t-value of -1.04. Thus, hypothesis H2: "*Effort expectancy will significantly affect behavior intention*" is not supported. Several studies explored that performance expectancy and facilitating conditions have significant influence on IT usage (Baulch, Watkins and Tariq, 2018) while effort expectancy and subjective norms do not influence on IT adoption (Lam and Hsu, 2006; Dzimiera, 2017). This conclusion does not correspond to prior research which had a significant link between effort expectancy and usage intentions (Hoque and Sorwar, 2017; Zahid and Din,

2019; Angelopoulos, Damianou and Katos, 2020). In this situation, the magnitude of the effort spent on the use of E-HAC by the travellers does not significantly affect the choice to use of E-HAC in future. This is possibly the reason why it is easy for consumers to use and become acclimated to mobile technology at a high level. The previous study shows that the social influence decreases with time as the familiarity with technology grows (Venkatesh *et al.*, 2003).

5.3 Social Influence (SI) and Behavior Intention (BI) [H3: Not Supported]

The result of this study suggested that social influence (SI) has a non-significant effect to behavior intention (BI) with a structural coefficient of 0.23 and a t-value of 1.14. Thus, hypothesis H3: “*Social influence will significantly affect behavior intention*” is not supported. Social influence has no significant impact on the intention to use the service (Deng *et al.*, 2011). The results show no significant link between three UTAUT model on behavioral intentions, i.e. the expectations of effort expectancy and social influence. The results of several existing research match with the current result (Oliveira *et al.*, 2016; Gupta and Dogra, 2017). This might be explained from a study in Indonesia, that Covid-19 pandemic has shaped travel behavior to be more individualized and customer oriented (Irawan *et al.*, 2021). However, although social influence in this study showed insignificant relationship with behavioral intention, it should not be undervalued since it was found to significantly moderated by gender and age in mandatory settings (Venkatesh *et al.*, 2003).

5.4 Facilitating Conditions (FC) and Behavior Intention (BI) [H4: Supported]

The result of this study suggested that facilitating conditions (FC) has a significant positive effect to behavior intention (BI) with a structural coefficient of 0.59 and a t-value of 2.64. Thus, hypothesis H4: “*Facilitating conditions will significantly affect behavior intention*” is supported. Aggrelidis and Chatzoglou (2009) study showed that FCs significantly affect behavioral intention to use health information systems. Mun *et al.* (2006) reported that FC has direct impact on behavioral intention and use of technology. One of possible explanation for the significant role of facilitating conditions in the adoption of technology might well explained related to in developing countries due to a possible of digital inequality (Hsieh *et al.*, 2008) in developing country such as Indonesia. The digital inequality has been identified as a major barrier for technology adoption in developing countries (Division, 2008). In other words, users of E-HAC in this case the citizens of Indonesia, will be unable to use the services when they

do not possess the supporting resources. Therefore, facilitating conditions are likely to have strong influence in the citizens' use of E-HAC.

5.5 Behavior Intention (BI) and Travellers' Satisfaction (TS) [H5: Supported]

The result of this study suggests that behavior intention (BI) has a significant positive effect to travellers' satisfaction (TS) with a structural coefficient of 0.80 and a t-value of 9.94. Thus, hypothesis H5: *“Behavior intentions will significantly affect travellers' satisfaction” is supported.* A strong connection between prevention and satisfaction is also seen (Huang, Dai and Xu, 2020). The use of E-HAC is also a preventative strategy of Covid-19 pandemics in this research whereas travellers will take appropriate measures, which will lead to relatively high levels of travel pleasure and satisfaction, and are less likely to face real hazards.

6. Conclusion

This study marks a breakthrough in developing countries' efforts to examine factors impacting the acceptability of E-HAC services by travellers, notably in Indonesia during Covid-19 pandemic. The new study confirms previous findings and adds to the evidence that performance expectation and facilitating conditions are important for E-HAC adoption in Indonesia. The results suggest that performance expectancy is the strongest determinant of behavior intention, followed by facilitating conditions. In order to increase acceptability and utilization of E-HAC services, a successful roadmap must be created and followed by both public, commercial, and non-profit healthcare providers. This study also provides evidence that the use behavior in this care, behavior intention is an important predictor to user satisfaction, meaning travellers who used E-HAC has high satisfaction in terms of E-HAC services. This study has numerous practical implications for Indonesian authorities interested in increasing the rate of E-HAC adoption. To begin with, it produces new quantitative knowledge on the factors that influence E-HAC use in Indonesia. Second, this study produced trustworthy data that may be applied to the target respondents. Third, this study tested the UTAUT paradigm in a new setting (Indonesia) and with new technological services (i.e. E-HAC services). This is accomplished by altering the successful elements from each model that have been shown to have a significant impact on adoption intention and user satisfaction among Indonesian travellers E-HAC users. The study's findings will also assist Indonesian government agencies, and healthcare along with tourism service providers in developing strategies and policies to strengthen E-HAC services. Therefore, it is suggested that government could incorporate maximum utilitarian features like providing all the necessary information and directions about

Covid-19 alert information on nearby attractions, restaurants, hospitals etc in a single app so that travellers do not have to explore any other app to find such information and eventually develop a habit of using E-HAC especially while travelling. In terms of the importance of facilitating conditions, due to difficulty to obtain face-to-face assistance when using E-HAC under current pandemic circumstances, enhancement in supporting features such as online assistance are essential (Chan et al., 2010). This finding is aligned with the effort from Indonesian IT community to enhance the performance of E-HAC by re-designing E-HAC interface to support usefulness and easiness factor of E-HAC apps (Pangestie, 2021). Figure 5.1 shows the proposed design for the new and enhanced E-HAC. Furthermore, this study also provide insight that facilitating conditions such as support from the provider would significantly influence use behavior and user satisfaction, such as incorporating an interactive virtual chat bot to assist users to help overcome the complexity of E-HAC that combine both travel and health e-services. One limitation of this study was the small number of users and controls. The findings, however, should be taken with caution due to the small sample size, since they may not be generalizable to the entire Indonesian population.

References

- Angelopoulos, C. M., Damianou, A. and Katos, V. (2020) 'DHP Framework: Digital Health Passports Using Blockchain Use case on international tourism during the COVID-19 pandemic', *arXiv*. doi: 10.1111/j.1365-2966.2005.08922.x.
- Baulch, E., Watkins, J. and Tariq, A. (2018) *mHealth Innovation in Asia; Grassroots Challenges and Practical Interventions*.
- Candra, S. (2016) 'The evaluation of E-passport quality using E-government quality measurement (Case study of E-passport in DKI Jakarta)', *Advanced Science Letters*, 22(5–6), pp. 1360–1362. doi: 10.1166/asl.2016.6613.
- Chao, C. M. (2019) 'Factors determining the behavioral intention to use mobile learning: An application and extension of the UTAUT model', *Frontiers in Psychology*, 10(JULY), pp. 1–14. doi: 10.3389/fpsyg.2019.01652.
- Chebotareva, A. A., Danilina, E. I. and Chebotarev, V. E. (2020) 'Electronic Passports of Citizens as a Personal Essential Attribute During the Pandemic', 486(Rtcov), pp. 468–472. doi: 10.2991/assehr.k.201105.083.
- Chiu, W., Cho, H. and Chi, C. G. (2020) 'Consumers' continuance intention to use fitness and health apps: an integration of the expectation–confirmation model and investment model', *Information Technology and People*. doi: 10.1108/ITP-09-2019-0463.
- Division, C. (2008) 'Implementing e-Health in Developing Countries Guidance and

Principles', (September).

Dzimiera, A. (2017) 'Consumer's Acceptance of Mobile Health Technologies in Germany Consume's Acceptance of Mobile Health Technologies in Germany', (May), p. 69.

Farnham, A. *et al.* (2016) 'Travel medicine and mHealth technology: A study using smartphones to collect health data during travel', *Journal of Travel Medicine*, 23(6), pp. 1–6. doi: 10.1093/jtm/taw056.

Gupta, A. and Dogra, N. (2017) 'Tourist adoption of mapping apps: A UTAUT2 perspective of smart travellers', *Tourism and Hospitality Management*, 23(2), pp. 145–161. doi: 10.20867/thm.23.2.6.

Ho, K. F., Ho, C. H. and Chung, M. H. (2019) 'Theoretical integration of user satisfaction and technology acceptance of the nursing process information system', *PLoS ONE*, 14(6), pp. 1–14. doi: 10.1371/journal.pone.0217622.

Hoque, R. and Sorwar, G. (2017) 'Understanding factors influencing the adoption of mHealth by the elderly: An extension of the UTAUT model', *International Journal of Medical Informatics*. Elsevier Ireland Ltd, 101, pp. 75–84. doi: 10.1016/j.ijmedinf.2017.02.002.

Huang, X., Dai, S. and Xu, H. (2020) 'Predicting tourists' health risk preventative behaviour and travelling satisfaction in Tibet: Combining the theory of planned behaviour and health belief model', *Tourism Management Perspectives*. Elsevier B.V., 33, p. 100589. doi: 10.1016/j.tmp.2019.100589.

Inkster, B., Sarda, S. and Subramanian, V. (2018) 'An empathy-driven, conversational artificial intelligence agent (Wysa) for digital mental well-being: Real-world data evaluation mixed-methods study', *JMIR mHealth and uHealth*, 6(11), pp. 1–14. doi: 10.2196/12106.

Irawan, M. Z. *et al.* (2021) 'Exploring activity-travel behavior changes during the beginning of COVID-19 pandemic in Indonesia', *Transportation*. Springer US, (March). doi: 10.1007/s11116-021-10185-5.

Isaac, O. *et al.* (2018) 'Integrating User Satisfaction and Performance Impact with Technology Acceptance Model (TAM) to Examine the Internet Usage Within Organizations in Yemen', *Asian Journal of Information Technology*, 17(1), pp. 60–78. doi: 10.3923/ajit.2018.60.78.

Kukuk, L. (2020) 'Analyzing Adoption of COVID-19 Contact Tracing Apps Using UTAUT', *Twente Student Conference on IT*, 33rd, pp. 1–8. Available at: http://essay.utwente.nl/81983/1/Kukuk_BA_EEMCS.pdf.

Lam, T. and Hsu, C. H. C. (2006) 'Predicting behavioral intention of choosing a travel destination', *Tourism Management*, 27(4), pp. 589–599. doi: 10.1016/j.tourman.2005.02.003.

Larocque, R. C. *et al.* (2010) 'Pre-travel health advice-seeking behavior among US International travelers Departing from Boston Logan International Airport', *Journal of Travel Medicine*, 17(6), pp. 387–391. doi: 10.1111/j.1708-8305.2010.00457.x.

Menachemi, N., Powers, T. L. and Brooks, R. G. (2009) 'The role of information technology usage in physician practice satisfaction', *Health Care Management Review*, 34(4), pp. 364–371. doi: 10.1097/HMR.0b013e3181a90d53.

Ng-Kruelle, G. *et al.* (2006) 'Biometrics and e-Identity (e-Passport) in the European Union: End-User Perspectives on the Adoption of a Controversial Innovation', *Journal of Theoretical and Applied Electronic Commerce Research*, 1(2), pp. 12–35. doi: 10.3390/jtaer1020010.

Norzaidi, M. D. and Salwani, M. I. (2014) 'Campus-Wide Information Systems Article information : Evaluating technology resistance and technology satisfaction on students' performance', *Research Paper*, 9(2001), pp. 460–466. Available at: <http://dx.doi.org/10.1108/CWIS-11-2013-0062>.

Oliveira, T. *et al.* (2016) 'Mobile payment: Understanding the determinants of customer adoption and intention to recommend the technology', *Computers in Human Behavior*. Elsevier Ltd, 61(2016), pp. 404–414. doi: 10.1016/j.chb.2016.03.030.

Phaosathianphan, N. and Leelasantitham, A. (2019) 'Understanding the adoption factors influence on the use of intelligent travel assistant (ITA) for eco-tourists: An extension of the UTAUT', *International Journal of Innovation and Technology Management*, 16(8), pp. 1–26. doi: 10.1142/S0219877019500603.

Siringoringo, H. and Valentine, H. M. (2018) 'Electronic passport system acceptance: An empirical study from Indonesia', *International Journal of Electronic Governance*, 10(3), pp. 261–275. doi: 10.1504/IJEG.2018.095953.

Venkatesh, V. *et al.* (2003) 'User acceptance of information technology: Toward a unified view', *MIS Quarterly: Management Information Systems*, 27(3), pp. 425–478. doi: 10.2307/30036540.

Voutinioti, A. (2013) 'Determinants of User Adoption of e-Government Services in Greece and the Role of Citizen Service Centres', *Procedia Technology*. Elsevier B.V., 8(Haicta), pp. 238–244. doi: 10.1016/j.protcy.2013.11.033.

Williams, M. D., Rana, N. P. and Dwivedi, Y. K. (2015) *The unified theory of acceptance and use of technology (UTAUT): A literature review*, *Journal of Enterprise Information Management*. doi: 10.1108/JEIM-09-2014-0088.

Wong, B. K. M. and Sa'aid Hazley, S. A. (2020) 'The future of health tourism in the industrial revolution 4.0 era', *Journal of Tourism Futures*. doi: 10.1108/JTF-01-2020-0006.

Wong, W. P. M., Lo, M. C. and Ramayah, T. (2014) 'The effects of technology acceptance factors on customer e-loyalty and e-satisfaction in Malaysia', *International Journal of Business and Society*, 15(3), pp. 477–502.

Zahid, H. and Din, B. H. (2019) 'Determinants of intention to adopt e-government services in Pakistan: An imperative for sustainable development', *Resources*, 8(3). doi: 10.3390/resources8030128.

Appendix A.

Table 6. Modified UTAUT Questionnaire

Variable	Code	Indicator	Reference
Please state your level of agreement on the respective statements from your point of view using five-point Likert Scale ranging from 1 = “strongly disagree” to 5 = “strongly agree”			
Performance Expectancy (PE)	PE1	Using E-HAC will support safety aspects of my travelling.	Tavares, 2018
		<i>Dengan menggunakan aplikasi E-HAC akan mendukung aspek keselamatan dalam perjalanan saya.</i>	
	PE2	Using E-HAC will enhance effectiveness in managing Covid-19 risk during travelling	
		<i>Dengan menggunakan aplikasi E-HAC akan meningkatkan efektivitas dalam mengelola risiko Covid-19 dalam perjalanan saya.</i>	
	PE3	Overall, E-HAC will be useful in managing my travelling.	
		<i>Secara keseluruhan, E-HAC akan berguna dalam mengelola perawatan kesehatan saya.</i>	
Effort Expectancy (EE)	EE1	Learning how to use E-HAC is easy for me.	Venkatesh, 2012
		<i>Bagi saya, mempelajari cara menggunakan E-HAC itu mudah.</i>	
	EE2	Using E-HAC is clear and understandable.	
		<i>E-HAC dapat dipahami dengan jelas dan mudah dimengerti.</i>	
	EE3	I find E-HAC easy to use.	
		<i>Menurut saya, E-HAC mudah digunakan.</i>	
	EE4	It is easy for me to become skilful at using E-HAC.	
		<i>Bagi saya, mudah untuk menjadi ahli dalam menggunakan E-HAC.</i>	
Social Influence (SI)	SI1	People who are important to me think that I should use E-HAC.	Venkatesh, 2012
		<i>Orang-orang terdekat saya berpikir bahwa saya sebaiknya menggunakan E-HAC.</i>	
	SI2	People who influence my behavior think that I should use E-HAC.	
		<i>Orang-orang yang mempengaruhi pembentukan perilaku saya berpikir bahwa saya sebaiknya menggunakan E-HAC.</i>	
	SI3	People whose opinions that I value prefer that I use E-HAC.	
		<i>Orang yang pendapatnya saya hargai lebih suka saya menggunakan E-HAC.</i>	

Facilitating Conditions (FC)	FC1	I have the resources necessary to use E-HAC.	Venkatesh, 2012
		<i>Saya memiliki sumber daya yang diperlukan untuk menggunakan E-HAC.</i>	
	FC2	I have the knowledge necessary to use E-HAC.	
		<i>Saya memiliki pengetahuan yang diperlukan untuk menggunakan teknologi E-HAC.</i>	
FC3	E-HAC are compatible with other technologies I use. <i>Teknologi E-HAC kompatibel dengan teknologi lain yang saya gunakan.</i>		
FC4	I can get help from others when I have difficulties using E-HAC.		
	<i>Saya bisa mendapatkan bantuan dari orang lain ketika saya mengalami kesulitan dalam menggunakan teknologi E-HAC.</i>		
Behavior Intention (BI)	BI1	I intend to use E-HAC in the future when traveling.	Venkatesh, 2012
		<i>Saya berniat untuk menggunakan E-HAC di masa depan saat bepergian.</i>	
	BI2	I will always try to use E-HAC during travelling.	
<i>Saya akan selalu menggunakan E-HAC dalam saat bepergian.</i>			
BI3	I plan to continue to use E-HAC when travelling. <i>Saya berencana untuk terus sering menggunakan E-HAC saat bepergian.</i>		
Travellers' Satisfaction (TS)	TS1	I am very satisfied with E-HAC service.	Bhattacharjee (2001); M.-J. Kim, Chung, and Lee (2011)
		<i>Saya sangat puas menggunakan E-HAC.</i>	
	TS2	E-HAC service has met my expectations	
		<i>Layanan E-HAC memenuhi harapan saya.</i>	
	TS3	I am absolutely delighted using E-HAC service.	
		<i>Saya sangat senang menggunakan layanan E-HAC.</i>	
	TS4	I was more satisfied with E-HAC when compared to paper-based HAC.	
		<i>Saya lebih puas menggunakan E-HAC dibandingkan dengan kartu manual HAC.</i>	
	TS5	Please state your answer using five-point Likert Scale ranging from 1 = "very dissatisfied" to 5 = "very satisfied"	
		Overall, how satisfied are you with E-HAC?	
<i>Secara umum, seberapa Anda puas dengan layanan E-HAC?</i>			

THE INFLUENCE OF MIX MARKETING STRATEGY THROUGH PRODUCT INNOVATION ON THE MARKETING PERFORMANCE IN AGRO DIVISION OF PT UNITED TRACTORS

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ABSTRACT

Changes in conditions in the heavy equipment industry that occur very quickly cause companies to be more innovative and adaptive to the changes themselves. Marketing performance is important and a benchmark because it is related to the long-term sustainability of a company. On the other hand, companies must also pay attention to marketing strategies (marketing mix) through product innovation to achieve the desired marketing performance. This study examines the effect of the marketing mix strategy on marketing performance with product innovation as an intervening variable. This research is a quantitative research using primary data; Structural Equation Modelling (SEM) PLS was used to analyse the data obtained from PT United Tractors. Researchers obtained 100 respondent data based on predetermined criteria, which were analysed using SmartPLS software. According to the findings of this study, the marketing mix through/mediated by product innovation has a positive impact on marketing performance, but the direct marketing mix does not have a positive impact on marketing performance. PT United Tractors needs to improve indicators that affect marketing performance, especially for company effectiveness, marketing mix especially for product and product innovation, especially for visibility & communicability.

Type of Paper: Empirical

Keywords: Marketing Mix, Innovation Product, Marketing Performance.

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1. Introduction

In the heavy equipment industry in Indonesia, it began with the new order era for the entry of a number of the world's leading heavy equipment manufacturers. This is due to the growing demand for heavy equipment because at that time the government was intensively building in various fields.

The heavy equipment industry in Indonesia in the last 3 years has experienced a significant decline in demand by 53%, from 2018 the demand for heavy equipment of 13,727 units decreased to 7,238 units in 2020. This has led to an increase in equipment competition. weight in various sectors.

The heavy equipment business in Indonesia has been divided into four sectors, namely the mining sector, forestry sector, construction sector and agro sector. In terms of type of heavy equipment, it is divided into three based on tonnage, namely mini machines (below 10 tons), small machines (below 50 tons) & big machines (above 50 tons). Heavy equipment in four sectors has been used as the main / primary tool because it has the most important impact to help the performance of each company, firstly the function of the mining sector tool is used as a tool for loading and unloading mining materials, second in the forestry sector it is used as a tool for harvesting wood both for industrial plantations. & production forest, the third in the construction sector is used as a tool for making cut & fill of a road / building construction and the fourth in the agro sector is used as land clearing for planting, especially most of the oil palm.

Based on information in 2021 obtained from Mr. Sahala Fj Aritonang as manager of the agro & forestry sector of PT United Tractors, because it is a primary tool as a heavy equipment distributor for PT United Tractors in maintaining relationships with customers always holds the principle of the marketing mix which is a device consisting of product, price, promotion and distribution. The purpose of the marketing mix is to support the level of marketing, get the desired response and increase customer loyalty by creating benefits to customers (Christian A.D Selang, 2013). PT United Tractors in terms of marketing strategy always goes through product innovations to produce an increase in sales of heavy equipment or its marketing performance. Implemented for all sectors, namely product innovation "UT Command Center" and "UT Guaranteed Product Support". UT Command Center product innovation using the digital Internet is revolutionizing the way of doing business (Valette-Florence et al., 2011) to

get information regarding Parts Order Tracking, Equipment monitoring and Complaint Handling directly from customers' gadgets through UT Mobile Apps. UT Innovation Guaranteed Product Support guarantees after-sales service to customers by providing:

1) 4 Straight Customer Experience: Comprehensive service so that customers get the best quality and performance from the tools they use during day-to-day operations until the end of the engine's life, from engine inspection, engine supervision, undercarriage inspection and product support training.

2) Main Customer Experience: Services covering aspects of parts delivery, mechanics and machine maintenance periods, which are offered through a service feature called On-Time-In-Full (OTIF).

According to Mr. Sahala Fj Aritonang, the decreasing contribution of the agro sector can be seen from the Sectoral Market Size Trend at only 12% in 2020, it is necessary to evaluate the mix strategy through new innovations in the agro sector, and the decline in the last 3 years of the Komatsu market share in agro sector. The innovations that are now felt are not specific and are no longer in line with the expectations of customers in the agro sector. This was initiated due to changes in the working conditions of heavy equipment in the agro sector, especially the palm oil industry. The function of heavy equipment in the agro sector, which initially cleared land / premier equipment, has turned into a garden maintenance tool / secondary equipment which is strengthened and supported by the government with the existence of "Presidential Instruction of the Republic of Indonesia Number 6 of 2019 concerning the National Action Plan for Sustainable Oil Palm Plantations in 2019- 2024 ". This changes the customer's point of view towards purchasing heavy equipment, changes in customer views at the time of selection or comparing heavy equipment products which initially saw from the cost efficiency of "Owning and Operating Cost", namely by looking at the cost efficiency of heavy equipment during operation to the resale price, but current conditions only by looking at the orientation of the purchase price in advance & not prioritizing after-sales service.

The impact on existing product innovations but not suitable in the agro sector is as follows:

1) Product innovation "UT Command Center"

because only work on garden maintenance, product innovation for digital equipment monitoring and complaint handling for heavy equipment is deemed not very useful or

helpful for agro sector customers. Heavy equipment is no longer a priority in agro-work because it is only used during garden maintenance where the maximum work is 4 hours a day, so that there are not many complaints handling and the tools used are not required to have high durability. In the previous era, in the era of land clearing, heavy equipment was demanded to have high durability, namely 8-10 hours per day, high complaint handling & heavy equipment must have monitoring tools to achieve the optimal target of land clearing.

2) Product innovation "UT Guaranteed Product Support".

The priority needs of the agro sector now are as efficient as possible the annual costs of caring for the plants in the garden, because each customer or new plantation owner gets a profit starting in the 5-7 years after planting, (the age of harvesting new oil palms starts around 5- 7 years) & heavy equipment working hours only 4 hours a day (A little damage due to not being used optimally / rarely used). The innovation given is considered too excessive & inappropriate, namely guaranteed product innovation (inspection of machines as well as undercarriage and product support training) to get the best quality and performance of the equipment guided by owning operating costs. where this product innovation is suitable for heavy equipment that works optimally, while the main agro customer needs at this time are heavy equipment that only has the best selling price because the tools are not used optimally & require the lowest possible expenditure costs in investing in heavy equipment parts & services, without see the quality.

The above is an obstacle for UT, it is suspected that the lack of innovation developed from the marketing mix (4P) over current conditions, has caused a significant decline in market share in the agro sector from 42% in 2017 to 20% in 2020. The completion of the previous research concluded that product innovation has a significant effect on performance marketing, innovation is the process of creating new ideas and implementing them in practice. Innovation has two forms, namely "product innovation" which produces new goods or services or improvements from existing ones and "process innovation" which results in new ways of implementing a marketing strategy renewal by examining the existing marketing mix and describing each component. Marketing mix through product innovation & service innovation that has a significant effect on Performance Marketing (Affandi et al., 2019).

1.1 Objective

The aim of this research is:

1. To analyze into which extend marketing strategy effect the product innovation.
2. To analyze into which extend product innovation effect the marketing performance.
3. To analyze into which extend marketing strategy effect the marketing performance.
4. To analyze into which extend marketing strategy effect the marketing performance through product innovation.

2. Literature Review

2.1 Conceptual Frame Work

2.1.1 Marketing Mix

Based on the explanation above, the indicators used in the marketing mix consist of(Festa et al., 2016; Gordon, 2012; Syapsan et al., 2016):

- (1) Product: a product or service for consumers that consumers are willing to pay for
- (2) Promotion: a tool that helps influence the purchasing decision process.
- (3) Place: product delivery activities that can help consumers reach products.
- (4) Price: changes in the value of the product that results in revenue & customer satisfaction.

2.1.2 Product Innovation

Based on the explanation above, the indicators used in product innovation consist of (Rasyid et al., 2017; Sinapuelas et al., 2015; Syapsan et al., 2016):

- (1) Relative Advantages: the level of excellence of innovation on existing products.
- (2) Compatibility: conformity with the degree of innovation with consumer values & experiences.

(3) Divisibility: the level of innovation that can be tried gradually

(4) Communicability: the level of proficiency of the results of an innovation

2.1.3 Marketing Performance

Based on the explanation above, the indicators used in marketing performance consist of (Leonidou et al., 2013; Mintz & Currim, 2013; Sharma et al., 2016):

(1) company effectiveness: the company's ability to generate net income using its own capital.

(2) Company efficiency: the ability of the company to make a profit from the assets used.

(3) sales growth: the company's ability to show how much profit it will generate after paying the variable costs of production.

(4) profit growth: the company's ability to measure the amount of gross profit on net sales

3. Research Methodology

3.1 Data Source

Sources of data were taken to 100 business consultants & customers who handle customers in the agro sector in 20 branches of PT United Tractors who can represent the voices of agro customers in each region in Indonesia, by using online distribution of questionnaires to achieve reach & shorten time

3.1.1 Data Collection Method

In data collection, the author uses the data collection technique for fieldwork research by means of surveys, by collecting data by asking respondents through a questionnaire which includes all questions via Google Doc, which will then be analyzed the results of the questionnaire.

3.1.2 Questionnaire Structure

The questionnaire will be made with variables and indicators to determine the Marketing Mix Strategy through product innovation has an influence on marketing performance at

PT United Tractors in the Agro sector, then in the questionnaire questions will be entered to respondents regarding whether or not they have handled agro customers, then regarding the profile of business consultants & customer itself (age), then proceed to use a Likert scale from one to five, each of which has 4 indicators with a scale of 1 to 5, with the following explanation:

1. Strongly agree, given a score of 5.
2. Agree, given a score of 4.
3. Neutral, given a score of 3.
4. Disagree, given a score of 2.
5. Strongly disagree, given a score of 1.

3.2 Research Model

In this study, the authors plan a marketing strategy at PT United Tractors through product innovation which has a significant effect on improving marketing performance, especially in the agro sector.

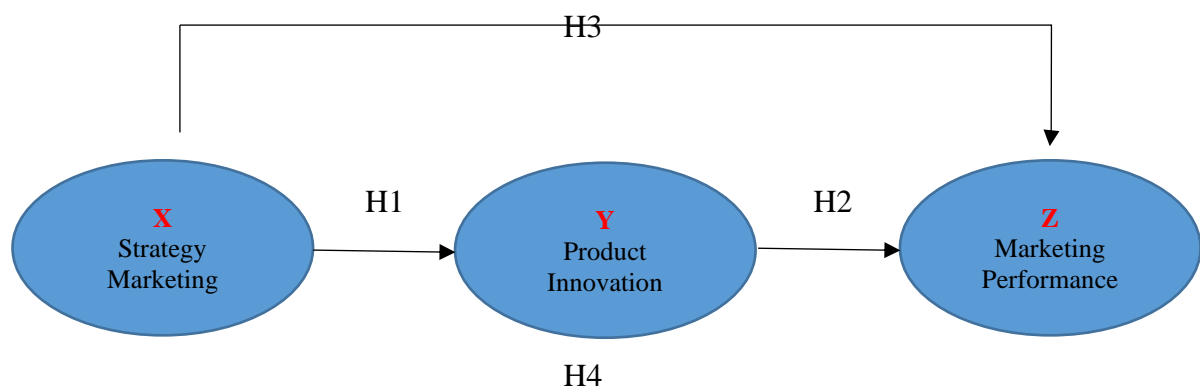


Figure 3.1: Research Model

3.3 Data Analysis Technique

3.3.1 Descriptive Statistic Analysis

Descriptive analysis is used to analyze and study the variables in this study obtained from respondents' responses (Sudari et al., 2019) to analyze the data that has been obtained, the author uses descriptive statistical analysis to get the conclusion that the marketing mix strategy through product innovation will have an impact / effect on performance. marketing. This study uses SPSS to test the validity and reliability of each variable.

3.3.2 Inferential Statistic Analysis

Inferential statistical analysis is very relevant to use for the unit sample and the concept of generalization units. The sample unit is one from which observations are selected to enter the study, and the unit of generalization is the level at which the researcher wants to make a generalization (Dolma, 2011). The aim is to draw conclusions from the sample and generalize it to a population, where the sample will accurately reflect the population. In principle, the two units must be at the same level as the research analysis unit. This study uses Smart PLS to test the model fit, Inner, Outer & correlation models between variables.

4. Results

4.1 Respondent Profiles

All respondents or samples were taken from all branches of PT United Tractors as many as 20 branches consisting of Sumatra having 6 branches (Medan, Pekanbaru, Padang, Jambi, Palembang & Bandar Lampung), in Java having 3 branches (Jakarta, Semarang & Surabaya), in Kalimantan has 6 branches (Pontianak, Sampit, Banjarmasin, Balikpapan, Samarinda & Tarakan), Sulawesi has 3 branches (Makassar, Palu & Manado) and Papua has 2 branches (Sorong & Jayapura).

4.1.1 Analysis of Respondents Characteristics

- a. Cross tabulation between experience & interval, it is known that the majority who fill out the questionnaire are respondents who have experience of 6-10 years and have an interval of use of once a month, which is 52 respondents.
- b. Cross tabulation between area and job, it is known that the majority who filled out the questionnaire were respondents who had experience in Pikul market care and were in the Sumatra area, amounting to 23 respondents.

- c. Cross tabulation between Job and Interval, it is known that the majority who fill out the questionnaire are respondents who have experience in Road & Ditch maintenance and have an interval of use of once a month, which is 36 respondents.
- d. Cross tabulation between Long time familiar (tenor) and Interval, it is known that the majority who fill out the questionnaire are respondents who have experience of Long time familiar (tenor) for 3 years and have an interval of use of once a month, which is 45 respondents.

4.2 Pre Test Validity & Reliability

In this section, we will present an analysis of the data obtained from the results of data processing derived from the questionnaires that have been distributed and filled out properly according to the criteria. Data processing was carried out using IBM SPSS Statistics version 25.

This validity and reliability test is a pre-test that the author did by distributing questionnaires to 30 respondents. Researchers in analysing survey data use descriptive statistical features. From the survey results, we will test the validity and reliability of 30 respondents to evaluate each question item. The results of this validity and reliability test are all statements in the research questionnaire are valid and reliable.

a. Validity Test

The validity test uses the Pearson product moment correlation method, for testing the validity based on the r table value (Product Moment) is used based on the number of $N = 30$, the 5% significance level value is 0.361 and the 1% significance level value is 0.463. The results of the calculated r value with r table.

b. Reliability Test

In general, Cronbach's Alpha reliability test results for all variables are 0.933 with a total of 30 items.

Based on the results of the questionnaire reliability test, it is known that the Cronbach's alpha value obtained is greater than 0.6, which means that the statements used in this questionnaire are reliable/reliable statements.

c. Normality Test

In analysing the data, the correct test can be parametric or nonparametric. Testing the normality of the data can be determined using the Kolmogorov-Smirnov and Shapiro-Wilk normality tests. Based on the results of data processing, it is known that the data results are not normal (sig score <0.05). Parametrically, the data tends to be right-dominant. That is, the data is more accurately analysed using a nonparametric test.

4.3 Descriptive Statistic Analysis

Following are the results of the complete analysis on IBM SPSS Statistics version 25, showing that most respondents rate marketing performance as having the highest score, especially for company effectiveness with an mean score of 4.37, while the comparison between company efficiency, sales growth & profit growth, it turns out that respondents prefer profit growth with an mean score of 4.36, then Company efficiency with an mean score of 4.34 and finally sales growth with an mean score of 4.31.

Marketing Mix is an important concern, especially for products with an mean score of 4.35, while the comparison between place, promotion & price turns out that respondents prefer places with an mean score of 4.31, then promotion is an mean score of 4.19 and lastly price with an mean score of 4.13.

Product innovation that became the focus of the respondents was on the divisibility & communicability which had the same value with an mean score of 4.28. while the comparison between compatibility & Relative Advantages turns out that respondents prefer compatibility with an mean score of 4.27 and Relative Advantages finally with an mean score of 3.69.

4.4. Inferential Statistic Analysis

4.4.1 Path Diagram

The path graph will cover several aspects and the analysis process is described as follows:

a. Dependent Variable

The variable consists of marketing performance, which has eight questions for 4 indicators that identify it.

b. Independent variable

The variable consists of the marketing mix; the variable has eight questions for 4 indicators that identify how much it can affect marketing performance.

c. Intervention Variables

Intervening variable can be defined as a mediating variable, in this case the variable is product innovation

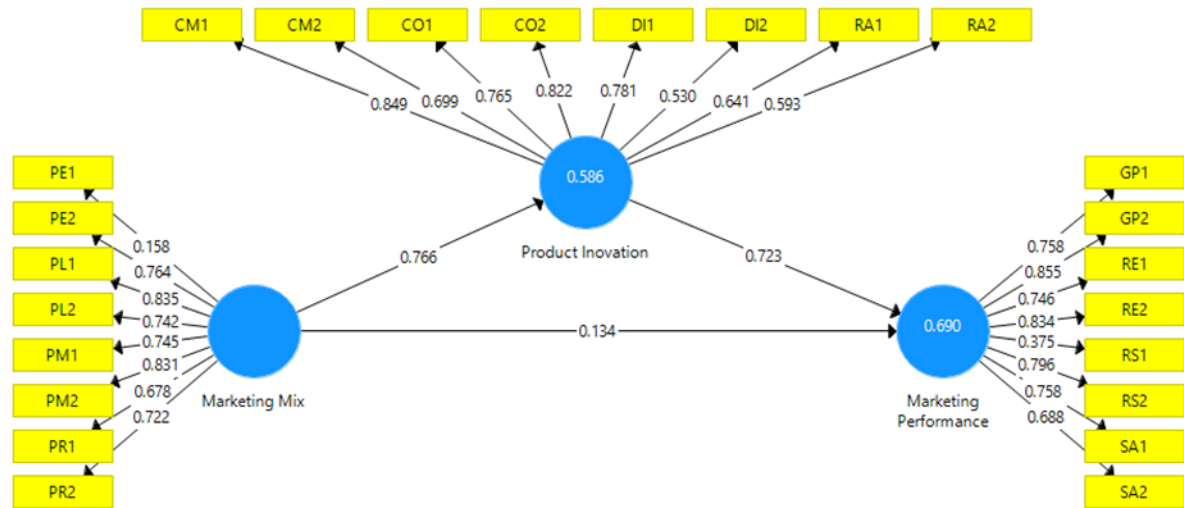


Figure 4.1 Path Diagram in Smart PLS Output

Source: *Smart PLS Result*

4.4.1.1 Outer Model

To measure the dimensional relationship of several variables, we performed outer by running bootstrap on smart PLS and where the Cronbach alpha value for each variable is between 0.6-0.9, the composite reliability value is between 0.6-0.9, the Average Variance Extracted (AVE) value is >0.5 and finally the Discriminant Validity value is not more than 1 for all variables so that the data is valid & reliable data based on smart PLS calculations.

4.4.1.2 Inner Model

	R Square	R Square Adjusted
Marketing Performance	0,690	0,684
Product Innovation	0,586	0,582

Figure 4.2: R Square

Based on the results of the study, it was found that the R value of marketing performance was at 0.684, then it tends to be categorized as Substantial and the R value of R in Product Innovation is at 0.582 so it tends to be categorized as moderate/medium.

	Marketing Mix	Marketing Performance	Product Innovation
Marketing Mix		0,024	1,417
Marketing Performance			
Product Innovation		0,698	

Figure 4.3: F Square

The values estimated for the path relationships in the structural model should be evaluated in the perspective of the strength and significance of the relationship and based on the results of the study:

- a. The value of Marketing Mix with Marketing performance has an f value of 0.0024 which means it is categorized as a weak influence of latent predictor variables (exogenous latent variables) at the structural level.
- b. The value of Marketing Mix with Product Innovation has an f value of 1.417 which means it is categorized as a strong influence of latent predictor variables (exogenous latent variables) at the structural level.
- c. The value of Product Innovation with Marketing performance has an f value of 0.698 which means it is categorized as a strong influence of latent predictor variables (exogenous latent variables) at the structural level.

4.5. Analysis & Hypothesis Testing Result

4.5.1 Analysis Result

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics O/STDEV	P Values
Marketing Mix -> Marketing Performance	0.134	0.133	0.106	1.265	0.206

Marketing Mix -> Product Innovation	0.766	0.772	0.052	14.783	0.000
Product Innovation -> Marketing Performance	0.723	0.731	0.094	7.656	0.000

Figure 4.4: Final Results

(Mean, STDEV, T-Values, P-Values)

For a significant result the T-Statistic should be above 1.65 and for a significant level it should be less than 0.05. The results of the relationship between these variables were analyzed using t values for one-sided assessment and at the level of significance. It can be seen in table 4.12 which is the result of hypothesis testing using Smart PLS.

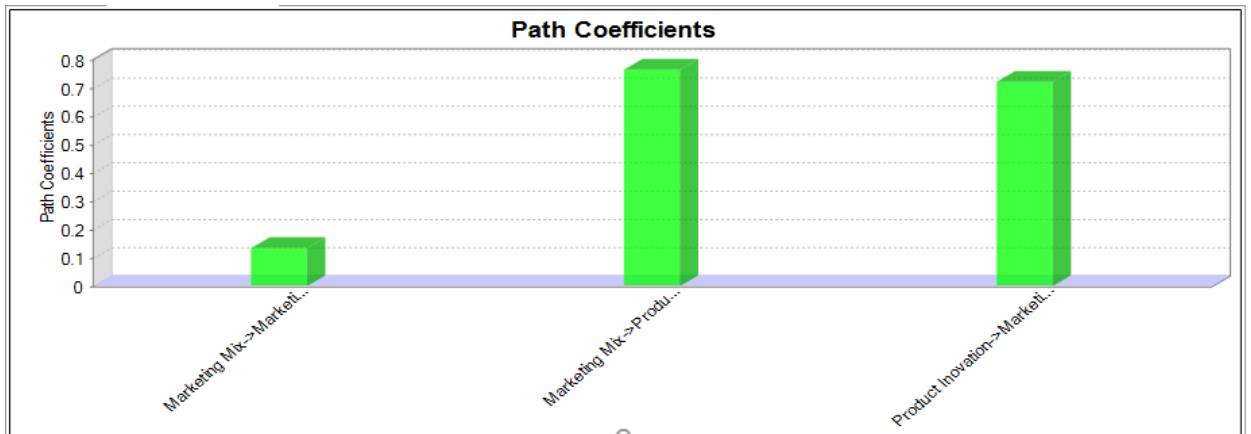


Figure 4.5 Path Coefficients in Smart PLS Output

Source: *Smart PLS Result*

In Figure 4.5 it can be seen that the relationship between marketing mix and product innovation has the highest coefficient, while the relationship between marketing mix and marketing performance has the smallest coefficient.

5. Discussion

The following are the results of testing the proposed hypothesis whether it is rejected or accepted & along with the explanation:

a. H0-1: Marketing mix has no significant effect on product innovation.

H1-1: Marketing mix has a significant effect on product innovation.

Based on result shows that the influence between the marketing mix and product innovation is a significant influence. The results showed that the P Value was 0.000 (P significant level < 0.05) and (T-statistic = 14.783) > 1.65 . In accordance with previous studies(Sinapuelas et al., 2015) stated that what drives the growth of the marketing mix is the innovation factor, especially in terms of brands, new products, greater distribution & price.

b. H0-2: Product innovation has no significant effect on marketing performance.

H1-2: Product innovation has a significant effect on marketing performance.

Based on result shows that the influence between product innovation and marketing performance is a significant influence. The results showed that the P Value was 0.000 (P significant level < 0.05) and (T-statistic = 7.656) > 1.65 . According to the previous study (Sharma et al., 2016) showed that product innovation partially mediates the positive effect on marketing performance and different market players should implement different product differentiation strategies through innovation mechanisms to get a higher level of marketing performance.

c.H0-3: Marketing mix has no significant effect on marketing performance.

H1-3: Marketing mix has a significant effect on marketing performance.

Based on result shows that the influence between the marketing mix and marketing performance is not significant. The results showed a P Value of 0.206 (Significant level P < 0.05) and (T-statistic = 1.265) < 1.65 . In accordance with a previous study (Rasyid et al., 2017) which stated that the marketing mix did not have a direct positive effect on purchasing decisions.

d. H0-4: Marketing mix has no significant effect on marketing performance through product innovation.

H1-4: Marketing mix has a significant effect on marketing performance through product innovation.

Based on result Path Diagram in Smart PLS Output shows product innovation as a mediating variable, which in this case mediation between marketing mix and marketing performance has a significant influence. The results of the research on the relationship between Marketing Mix

and Product Innovation showed a P Value of 0.000 (Significant level $P < 0.05$) and (T-statistics = 7.656) > 1.65 & the relationship between Product Innovation and Marketing Performance showed a P Value of 0.000 (Significant level of $P < 0.05$) and (T-statistic = 7.656) > 1.65 . In accordance with a previous study (Rasyid et al., 2017) stated that the marketing mix does not have a direct positive effect on marketing performance so that as a consideration for improving product purchasing decisions, innovative products need to be developed.

6. Conclusion

This research was conducted with the intention of finding answers to the formulation of the problem and the research objectives proposed in this study. The conclusions that can be drawn by the author based on the data analysis that has been carried out are as follows:

1) In the questionnaire, the majority of respondents are in the respondent profile with the following conclusions:

a. respondents who have experience of 6-10 years and have an interval of use as much as 1 month.

b. respondents who have experience in Pikul market care and are in the Sumatra area.

c. respondents who have experience with Road & ditch maintenance and have a usage interval of once a month.

d. respondents who have experience of Long time familiar (tenor) for 3 years and have a usage interval of 1 month.

2) based on Descriptive Statistical Analysis following the order of the most dominant variables to the lowest as follows:

a. marketing performance has the highest score, especially for company effectiveness.

b. Marketing Mix is an important concern, especially for products.

c. Product innovation that became the focus of the respondents was on the divisibility & communicability which had the same value.

3) Following are the results of testing the hypothesis:

a. Marketing mix has a significant effect on product innovation.

The results showed that the influence between the marketing mix and product innovation is a significant influence. This is what makes companies when changing or adding marketing strategies must always update their product innovations simultaneously because they are significantly interconnected.

b. Product innovation has a significant effect on marketing performance.

The results showed that the influence between product innovation and marketing performance was a significant influence. This is what makes customers repeat orders and can recommend other heavy equipment customers, if our innovations can be accepted by customers.

c. Marketing mix has no significant effect on marketing performance.

The results showed that the influence between Marketing mix and marketing performance was not significant. This is what makes the company realize that it is not enough with a marketing mix strategy alone that customers will buy the product, but requires a mediating variable to achieve marketing performance.

d. Marketing mix has a significant effect on marketing performance through product innovation.

The results of the study inform that product innovation is a mediating variable, in this case the mediation between the marketing mix and marketing performance has a significant influence. This is what shows the importance of updating product innovation with the wishes and circumstances of the customer, because it has a significant influence on the marketing performance itself.

6.1 Recommendation for Further Study

In order to improve marketing performance in UT companies, especially in the agro sector, the authors suggest:

a. so that subsequent studies similar to this study can conduct research on a wider and different location, population and sample to attract more diverse respondents,

b. and in the research, the analysis pays more attention to and explains well the correlation results from the formed variables.

c. The limitations of this research are the time and the respondents are only from 1 sector, so it is hoped that the next research can be developed into several sectors and compared by sector.

REFERENCES

- Affandi, A., Erlangga, H., & Sunarsi, D. (2019). *The Effect of Product Promotion and Innovation Activities on Marketing Performance in Middle Small Micro Enterprises in Cianjur*. 528–540.
- Ataman, M. B., Van Heerde, H. J., & Mela, C. F. (2010). The long-term effect of marketing strategy on brand sales. *Journal of Marketing Research*, 47(5), 866–882.
<https://doi.org/10.1509/jmkr.47.5.866>
- Christian A.D Selang. (2013). *Analisis Manajemen Pemasaran , Perencanaan, Impementasi dan Pengendalian*. 1(3), 89.
- Dangelico, R. M., & Vocalelli, D. (2017). “Green Marketing”: An analysis of definitions, strategy steps, and tools through a systematic review of the literature. *Journal of Cleaner Production*, 165, 1263–1279. <https://doi.org/10.1016/j.jclepro.2017.07.184>
- Dolma, S. (2011). The central role of the unit of analysis concept in research design. *Istanbul Universitesi Isletme Fakultesi Dergisi*, 39(1), 169–174.
- Festa, G., Cuomo, M. T., Metallo, G., & Festa, A. (2016). The (r)evolution of wine marketing mix: From the 4Ps to the 4Es. *Journal of Business Research*, 69(5), 1550–1555.
<https://doi.org/10.1016/j.jbusres.2015.10.015>
- Gordon, R. (2012). Re-thinking and re-tooling the social marketing mix. *Australasian Marketing Journal*, 20(2), 122–126. <https://doi.org/10.1016/j.ausmj.2011.10.005>
- Jaiyeoba, O. (2016). *Journal of Global Business*. 11(November), 14–22.
- Leonidou, C. N., Katsikeas, C. S., & Morgan, N. A. (2013). “Greening” the marketing mix: Do firms do it and does it pay off? *Journal of the Academy of Marketing Science*, 41(2), 151–170. <https://doi.org/10.1007/s11747-012-0317-2>

- Mintz, O., & Currim, I. S. (2013). What drives managerial Use of marketing and financial metrics and does metric use affect performance of marketing-mix activities. *Journal of Marketing*, 77(2), 17–40. <https://doi.org/10.1509/jm.11.0463>
- Rasyid, M. H. Al, Yuliati, L. N., & Maulana, A. (2017). Analysis of lifestyle, innovation products, and marketing mix of product purchase decision hen's instant omelette (case study in pt eco Nature multiindo). *Independent Journal of Management & Production*, 8(2), 519. <https://doi.org/10.14807/ijmp.v8i2.553>
- Sharma, P., Davcik, N. S., & Pillai, K. G. (2016). Product innovation as a mediator in the impact of R&D expenditure and brand equity on marketing performance. *Journal of Business Research*, 69(12), 5662–5669. <https://doi.org/10.1016/j.jbusres.2016.03.074>
- Sinapuelas, I. C. S., Wang, H. M. D., & Bohlmann, J. D. (2015). The interplay of innovation, brand, and marketing mix variables in line extensions. *Journal of the Academy of Marketing Science*, 43(5), 558–573. <https://doi.org/10.1007/s11747-015-0437-6>
- Sudari, S. A., Tarofder, A. K., Khatibi, A., & Tham, J. (2019). Measuring the critical effect of marketing mix on customer loyalty through customer satisfaction in food and beverage products. *Management Science Letters*, 9(9), 1385–1396. <https://doi.org/10.5267/j.msl.2019.5.012>
- Syapsan, Valette-Florence, P., Guizani, H., Merunka, D., Cherubini, S., Iasevoli, G., Michelini, L., Gaiardelli, P., Resta, B., Martinez, V., Pinto, R., Albores, P., Mintz, O., Currim, I. S., The, T. O., The, F. O. R., The, B. Y., Leonidou, C. N., Katsikeas, C. S., ... Amuna, Y. M. A. (2016). Organizing for marketing. *Journal of Business Research*, 1(2), 9–29. [https://doi.org/10.1016/0007-6813\(61\)90080-5](https://doi.org/10.1016/0007-6813(61)90080-5)
- Valette-Florence, P., Guizani, H., & Merunka, D. (2011). The impact of brand personality and sales promotions on brand equity. *Journal of Business Research*, 64(1), 24–28. <https://doi.org/10.1016/j.jbusres.2009.09.015>

The Role of Viral Marketing in Consumer Purchase Intention and Purchase Decision in EdTech Application

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ABSTRACT

Edtech application is an innovative educational product and service to increase students' educational outcomes by enhancing teacher-led learning in classrooms. The new invention which currently very widespread using edtech applications in Indonesia, creates many criticisms regarding the quality of edtech systems product which is considered to have low performance, weak usability, and high level of customization difficulty. This study seeks to evaluate the influence of viral marketing such as influencer on social media in purchase intent and decision from the perspective of the student-parent as an online customer.

The literature also reviewed sought to contextualize brand awareness, price, product and service quality. In a descriptive research with quantitative variables, totaling 120 respondents through an electronic survey with adoption of a structured questionnaire with responses in a Likert scale. The collected data were analyzed using SPSS[®]AMOS with Structural Equation Modeling. We found statistically positive values for viral marketing that moderates the relations of consumer purchase intention and decision. Theoretical and practical implications are also discussed in this paper. All demographics data acquired as the basis for the validation of the model proposed in this work.

Type of Paper: Empirical

Keywords: *Brand Awareness, Service Quality, Purchase Intention, Purchase Decision, Viral Marketing*

1. Introduction

The acceleration of the transformation of educational technology due to the COVID-19 pandemic has spawned various online learning program platforms to support bold learning. Many online study programs make learning more effective (Anderson, 2004). Online learning applications are developed by providing features that facilitate online learning, such as using WhatsApp, Google Classroom and many others. In addition, there are so many kinds of tutoring agencies provide free or multiple online courses at discounted prices, as implemented by Ruangguru, Zenius, Ruang Belajar and Quipper.

The purchase decision is based on rational motivation, emotional motivation, or both. Rational motivation involves judgment logic or product attributes, quality, cost, and utility. Emotional motivation involves non-objective factors such as friendliness, imitating others, and aesthetics (Ratner, 2000). There are many variables affect consumer purchasing decisions. Brand awareness plays an important role in purchasing decisions, because a company that has a good brand awareness will make its products easy for consumers to remember and can also improve consumer purchasing decisions (Wang and Yang, 2010).

Price is the amount of money spent on products or services, or the amount of value that consumers exchange for the benefits or ownership of the product (Khalifa, 2004). It is said that price has an effect on purchasing decisions too. Usually, consumers will consider the price to be issued to get a good or service and this will influence the purchase decision (Pickett-Baker and Ozaki, 2008).

Viral marketing has become one of the best marketing techniques that is growing fast in modern society (Ferguson, 2008). It is proven to work for any product or service. One of the main goals of viral marketing is to make advertisements or products and services viral or known by many people in a short time. This also defines the notion of promotion as activities that carried out by the company to convey the benefits of the product and as a tool to influence consumer purchasing activities or use the services as needed (Ahmed and Rafiq, 2002). Viral marketing has an effect on purchasing decisions too. If the viral marketing is carried out are increasing or intensively, the consumer purchasing decisions will be even higher (Prabowo, 2015). For instance, the promotion carried out by Ruangguru has been good enough by many public figures selected as brand ambassador as well as several other artists such as Tasya Kamila, Gita Gutawa, Vidi Aldiano and even Bright as an actor from Thailand. Ruangguru also often holds roadshows to schools to introduce the services it offers (Hasanah, 2018).

2. Literature Review

2.1 Brand Awareness

Brand awareness is the ability of consumers to immediately recognize and remember a brand just by looking at something, whether color, logo, image, and so on, that describes the identity of a brand (Kapferer, 1994). Brand is a term closely linked to a product or place's image and reputation in that it "captures the idea of reputation observed, reputation valued and reputation managed". At its simplest, a brand is "a product or service or organization, considered in combination with its name, its identity and its reputation" (Druga, 2019).

From the perspective of consumers or business customers, branding has several useful functions, which provide confidence in purchasing decisions; when the buyer has little or no previous experience, it can also provide security for purchases; Then reduce the search time

for purchase decisions; and provide psychological reinforcement and social acceptance of purchases (Shukla, 2009).

A strong brand or image helps keep the industry in the minds of your potential customers (Keller, 2001). If customers are satisfied with your products or services, a strong brand identity can help foster customer loyalty throughout the company (Nandan, 2005). People like to associate with "good" brands. The potential market for some products may not be as large as those of these big brands, but all companies can enjoy some recognized benefits associated with strong brand identity (Homburg et al., 2010).

2.2 Price Awareness

Price is the amount of money needed to get a combination of goods and services (Imaningsih, 2018). Price is an amount of money as a medium of exchange to obtain a product or service or it can also be said to determine the value of a product in the minds of consumers (Kotler, et. al., 2019). Based on the definition of the experts above, it can be concluded that the price is an amount of money that is used as a medium of exchange in order to determine the value of a product or service. Price indicators, there are:

- Price comparisons with other products, namely how prices compare products with competitors' products;
- The suitability of the price with the quality of the product, namely what the price is being offered is in accordance with the quality of the product obtained;
- Affordability, which is the affordability of the price offered producers to consumers (Brucks, et. al. 2000).

2.3 Product Quality

Product quality is one of the most important factors in running a business, where product quality greatly determines the level of customer satisfaction and the future of company (Matzler and Hinterhuber, 1998). Dynamic business movements make each company to be able to continue to improve its innovation in developing products offered to consumers and to continuously update the technology used by the company to develop product quality (Chen and Popovich, 2003).

Product quality is the physical condition, function and characteristics of a products, including goods and services based on expected quality levels, such as durability, reliability, accuracy, ease of operation, product maintenance, and other product attributes to meet and satisfy the needs of consumers or customers (Yang, et. al., 2004).

2.4 Service Quality

Service quality is the expected level of excellence and control over that level of excellence to meet customer desires. Service quality is a reflection of consumers' evaluative perceptions of the services received at a certain time (Brady and Cronin, 2001). The quality of service also has to be continuously improved over time by the industry because essentially the needs and expectations of customers are also dynamic, coupled with increasingly fierce competition (Kandampully and Duddy, 1999). If it can continuously maintain and improve the quality of services and services, it is expected that it will have an impact on increasing productivity.

Increased productivity will result in lower costs, and will have an impact on increasing added value for customers. The more customers who get added value from the company's services and services, it is certain that the company profits and market share will also increase (Anderson, 1994).

2.5 Consumer Purchase Intention

Purchase intentions are frequently measured and used by marketing managers as an input for decisions about new and existing products and services (Morwitz, 2014). Consumers purchase intentions are a type of behavior exhibited by customers who want to buy or choose a product based on their previous experiences with it, as well as their desire for it (Kotler and Keller, 2016). Meanwhile, intention as a motivational factor that influences a person's behavior to do something (Tubbs and Ekeberg, 1991). Another meaning that intention as an impulse, which is a strong internal stimulus that motivates action, where this drive is influenced by the stimulus and positive feelings about the product (Muruganatham and Bhakat, 2013). Foremost definition, intension as a consumer's decision about preference for brands in the choice set. Other terms said that intention as all consumer actions to obtain and use goods and services (Van der Heijden, et. al., 2003). Lastly, the definition of intention as the process by which a customer makes and uses purchased goods and services (Mitra, et. al., 1999).

2.6 Viral Marketing

Viral marketing is a marketing strategy to increase business engagement or sales by word of mouth (De Bruyn and Lilien, 2008). The mouth here that is meant in this case is the mouth of the buzzer. In general, viral marketing is a part of buzz marketing (Barber and Wallace, 2010). Viral marketing has become one of the fastest-growing areas in alternative marketing (Fong and Yazdanifard, 2014). A recommendation by a friend, family member or acquaintance carries in a higher level of credibility than an advertisement. Viral can be more powerful than the words of paid spoke persons or endorser (Dobele, et. al., 2005). Word of mouth endorsements can be supplied by consumers who like a brand and are sponsored by company to speak to others, or by company and agency employees who talk about the brand (Hughes, et. al., 2019).

Word-of-mouth or abbreviated as WOM is product information that individuals transmit to other individuals. Because people get the word from people know, WOM tends to be more reliable and trustworthy than messages from more formal marketing channels. Unlike advertising, word-of-mouth often comes with social pressure to conform to these recommendations (Cheng, et al, 2006).

2.7 Purchase Decision

Consumer behavior is a dynamic interaction between affection and cognition, behavior, and the environment where humans carry out exchange activities in their lives, so that in everyday life purchasing decisions are made based on different considerations (Kimmel, 2018). Consumer behavior can be influenced through skilled marketing because this can generate motivation and behavior, if it is supported by products or services designed as attractive as possible and in such a way as to meet customer needs (Andreasen, 2002).

Purchase decision is a problem-solving method for people to purchase goods or services to meet their needs, including identifying the desire, seeking information, and evaluating consumers' purchasing behavior, because consumers can reach prices (Crotts, 1999). Purchase decision, that is, choose two or more alternative purchase decision options, which means that

a person must have several alternative options to make a decision (Schiffman and Kanuk, 2000). The purchase decision is based on rational motivation, emotional motivation, or both. Rational motivation involves judgment logic or product attributes, quality, cost, and utility. Emotional motivation involves non-objective factors, such as friendliness, imitating others, and aesthetics (Ebert and Griffin, 2006). Buying decision making is the process of solving problems by objectives (Safitri, 2018).

2.7 Brand Awareness and Consumer Purchase Intention

Brand awareness refers to consumers consciousness about the brand and products offered by it. Consumers purchase intention and brands in a variety of ways and one of them is through marketing activities, where active consumers get engaged with the brand and enhance the brand page views which leads to greater brand awareness (Hutter et.al., 2018). The purchase intention represents the possibility that consumers will plan to purchase a certain product or service in the future (Wu, et. al., 2011), and also refers to the consumer tendency to purchase a brand routinely or in other words in subscribing (Deghani and Tumer, 2015). Brand awareness can also affect consumer purchase intention about brands within the consideration set (Wang and Yang, 2010). Consumers may employ a heuristic or decision rule to find out only familiar, well-established brands (Keller, 1993). Brand awareness is the ability recognition and recall of a brand and its differentiation from other brands in the field. So, methods that used to measure the different types of brand awareness are brand recognition, brand recall and top of mind (Tjipto and Diana, 2000). Based on this description, hypothesis 1 proposed from this study are:

H1: Brand awareness has a positive relationship with consumer purchase intention.

2.8 Price Awareness and Consumer Purchase Intention

Price perception greatly affects a consumer's decision to purchase a product. The perception of price explains information about a product and provides a deep meaning for the consumers (Kotler and Keller, 2016). Price has two main roles in the buyer's decision-making process, namely the role of the allocation of prices, namely the price function in helping buyers decide how to obtain the highest expected benefits or utility based on their purchasing power. The awareness of prices can help buyers to decide how to allocate their purchasing power to various types of goods and services. The buyer compares the prices of the various alternatives available, then decides the desired allocation of funds. Secondly, the information role of price, which is a function of price in educating consumers about product factors, such as quality (Tjiptono, 1997). In impact of price, explained that customers perceive a certain price, in which the high-low price of a product can be a significant effect on a customer intention to purchase the product (Razak, et al. 2016). Based on this description, hypothesis 2 proposed from this study are:

H2: Price awareness has a positive relationship with consumer purchase intention.

2.9 Perceived Product Quality and Consumer Purchase Intention

Perceived product quality can be defined broadly as superiority or excellence (Brucks, et. al., 2000). Product quality is the overall characteristics of a product or service on the ability to satisfy stated or implied needs (Kotler, 2005). Product quality is defined as a comprehensive customer evaluation of the good performance of goods and services. In this case, two factors that make up the quality of a product are also mentioned. First, the product must be able to

achieve a level of quality appropriate to its intended use (Shaharudin, et. al., 2013). These really integrated with consumer purchase intention, because in terms good and bad or bad to measure a product are not quite right. It is more appropriate to use the terms true and false, or appropriate and unsuitable. Second, consumers will have expectations about how the product should function. These expectations are quality standards that will be compared with the function or quality of the product that consumers actually feel is actually the perception of consumers' intentions on the quality of the product (Wu, et. al., 2011). Based on this description, hypothesis 3 proposed from this study are:

H3: Perceived product quality has a positive relationship with consumer purchase intention.

2.10 Perceived Service Quality and Consumer Purchase Intention

Service is one of the internal factors that greatly determines the success of a business in serving consumers (Smith, 2005). Providing good service has become the responsibility of the company. Without good service, the company may not be able to get many customers in its business, because in the current era of globalization, business competition is getting tougher. The provision of good quality service can be one way to attract consumers' attention so that the business can continue to grow. Service quality is an activity that includes speed in serving consumers, willingness to meet consumer needs and delivery of goods or products properly (Kotler, 2003). Service quality focuses on efforts to meet the needs and desires of consumers as well as the accuracy of its delivery to match consumer expectations (Tjiptono, 2004). Based on this description, hypothesis 4 proposed from this study are:

H4: Perceived service quality has a positive relationship with consumer purchase intention.

2.11 Viral Marketing, Consumer Purchase Intention and Purchase Decision

Viral marketing is the internet version of word-of-mouth, which has a bearing on creating an e-mail or marketing method so pervasive that consumers are willing to pass it on and pass it on to their friends (Amstrong and Kotler, 2012). There is a strong influence between viral marketing on consumer purchasing decisions at the end (Asriani, 2017). Meanwhile, in this research stated that the use of viral marketing to spread social marketing is quite effective in reaching the community because in its application, the process of disseminating information using social media is very fast and does not recognize time and distance and can save costs (Watts, et. al., 2007). Based on this description, hypothesis 5 proposed from this study are:

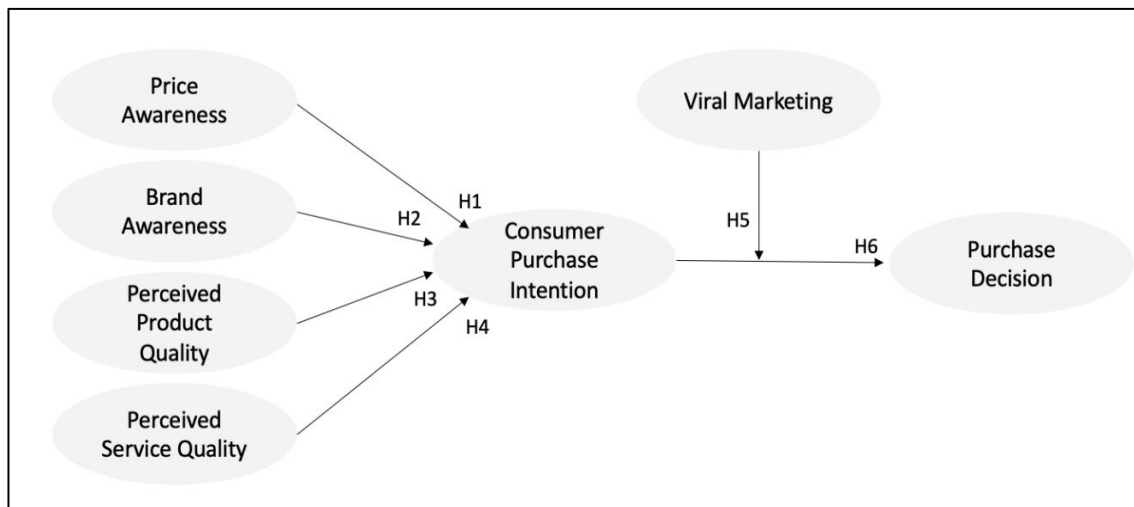
H5: Viral marketing positively moderates the relations of consumer purchase intention and purchase decision.

2.12 Consumer Purchase Intention and Purchase Decision

Consumer purchase intention is often called perception or interest that arises in making a purchase of a product (Kim and Lennon, 2013). Purchase interest is part of a component of consumer behavior in consuming attitudes (Darley, et. al., 2010). Consumer purchase intention is the stage of a respondent's tendency to act before a buying decision is actually made (Mowen and Minor, 2002). The factors that influence buying intention relate to feelings and emotions, if people feels happy and satisfied in buying goods or services then it will strengthen buying interest, dissatisfaction usually eliminates interest (Ladhari, 2009).

H6: Consumer purchase intention has a positive relationship with purchase decision.

2.13 Research Framework



Picture 2.1 Research Framework

Source: Primary Data Processed (2020)

3. Research Methodology

3.1 Scope of Study

In this research, the type of study applied is the descriptive study. Also, on this research is conducted in Indonesia, however with the focus in several provinces area, especially in Banten (Tangerang), Jakarta, and West Java (Bekasi, Depok, Bogor and Bandung area). Therefore, several other potential samples outside the city were neglected, but this might be not representative. This also is not to generalized Indonesian on consumer purchasing decision. The sample size is limited to 120 members; in hence the result of the study cannot be taken as universal later for taking the questionnaires on survey. Findings of the survey are based on the assumption that the respondents have given correct information. Since the respondents had to fill the questionnaire might be busy with their hectic schedule, many people were reluctant to answer.

The questions are decided in advance and the questionnaire is then carried out with a number of respondents. Because everyone answers the same questions in the same order, the results are said to be comparable (Gillham, 2008). The researcher decides in advance the wording, order and focus of the questions and often the range of possible answers too. The fact that the questionnaire can be carried out by other researchers so that the results can be checked means that questionnaires are reliable (Zohrabi, 2013).

Analysis using SEM is indeed very complex because SEM is a multivariate analysis with many variables. However, by using AMOS, SEM analysis becomes interesting and challenging. AMOS provides a canvas in its program so that researchers can put their models in the form of images on the canvas. Analysis is made easier because with one click, the model image that is poured into the canvas is immediately analyzed completely. This paper

will present the SEM analysis procedure through AMOS which is equipped with some explanation about the basics and using of SEM.

3.2 Variable Operationalization

Variable operationalization is the process of determining the size of a variable in order to obtain the correct value for the variables under study. Other meaning, variable operationalization is intended to simplify column headings in the data entry process and entering also tabulating data (Kinnear and Gray, 2006). This data coding can help to create questions in the questionnaire as well.

Table 3.1 Notations Used to Represent Constructs, Dimensions and Indicators

No	Variable	Indicator Code	Correlation	Information
1.	Price Awareness → (PA)	Affordable Price → (PA1)	PA1 → CPI	Respondents consider affordable price as influence factor to purchase intention.
		Discounted Price → (PA2)	PA2 → CPI	Respondents consider discounted price as influence factor to purchase intention.
		Competitor Price → (PA3)	PA3 → CPI	Respondents consider competitor price as influence factor to purchase intention.
		Price Suitability → (PA4)	PA4 → CPI	Respondents consider price suitability as influence factor to purchase intention.
2.	Perceived Product Quality (PPQ)	Form → (PPQ1)	PPQ1 → CPI	Respondents consider form of product as influence factor to purchase intention.
		Features → (PPQ2)	PPQ2 → CPI	Respondents consider features of product as influence factor to purchase intention.
		Performance → (PPQ3)	PPQ3 → CPI	Respondents consider performance of product as influence factor to purchase intention.
		Durability → (PPQ4)	PPQ4 → CPI	Respondents consider durability of product as influence factor to purchase intention.
3.	Perceived Service Quality (PSQ)	Tangibility → (PSQ1)	PSQ1 → CPI	Respondents consider tangibility of service as influence factor to purchase intention.
		Reliability → (PSQ2)	PSQ2 → CPI	Respondents consider reliability of service as influence factor to purchase intention.
		Responsiveness → (PSQ3)	PSQ3 → CPI	Respondents consider responsiveness of service as influence factor to purchase intention.
		Assurance → (PSQ4)	PSQ4 → CPI	Respondents consider assurance of service as influence factor top purchase intention
		Empathy → (PSQ5)	PSQ5 → CPI	Respondents consider empathy of service as influence factor to purchase intention.
4.	Brand Awareness	Advertising Recognition → (BA1)	BA1 → CPI	Respondents consider advertising recognition as influence factor to purchase intention.

		Personal Selling → (BA2)	BA2 → CPI	Respondents consider personal selling as influence factor to purchase intention.
		Sale Promotion → (BA3)	BA3 → CPI	Respondents consider sale promotion as influence factor to purchase intention.
		Public Relations → (BA4)	BA4 → CPI	Respondents consider public relations as influence factor to purchase intention.
		Social Influence → (BA5)	BA5 → CPI	Respondents consider social influence as influence factor to purchase intention.
		Customer Experiences → (BA6)	BA6 → CPI	Respondents consider customer experiences as influence factor to purchase intention.
5.	Viral Marketing	Content → (VM1)	VM1 → PD	Respondents consider content as influence factor to purchase decision.
		Emotions → (VM2)	VM2 → PD	Respondents consider emotions as influence factor to purchase decision.
		Images → (VM3)	VM3 → PD	Respondents consider images as influence factor to purchase decision.
		Influencer → (VM4)	VM4 → PD	Respondents consider influencer as influence factor to purchase decision.
		Level of Activation → (VM5)	VM5 → PD	Respondents consider level of activation as influence factor to purchase decision.
		Motivations → (VM6)	VM6 → PD	Respondents consider motivations as influence factor to purchase decision.
6.	Purchase Decision	Problem Recognition → (PD1)	CPI → PD1	Consumer purchase intention is considered problem recognition as influence factor to purchase decision.
		Search Information → (PD2)	CPI → PD2	Consumer purchase intention is considered search information recognition as influence factor to purchase decision.
		Evaluation of Alternatives → (PD3)	CPI → PD3	Consumer purchase intention is considered evaluation of alternatives as influence factor to purchase decision.
		Choice → (PD4)	CPI → PD4	Consumer purchase intention is considered choice as influence factor to purchase decision.
		Transaction → (PD5)	CPI → PD5	Consumer purchase intention is considered transaction as influence factor to purchase decision.
		Post Purchase → (PD6)	CPI → PD6	Consumer purchase intention is considered post purchase as influence factor to purchase decision.

4. Results

4.1 Validity Test

Validity test is a test used to show the extent to which the measuring instrument used in a measure is what is being measured (Kimberlin and Winterstein, 2008). states that the validity test is used to measure the validity or validity of a questionnaire. So, because the CR value is > 1.96 and the P value is < 0.05 , it can be concluded that the independent variable can reflect the dependent variable (test validity fulfilled). This means also the validity of a research study refers to how well the results among the study participants represent true findings among similar individuals outside the study.

Table 4.1 Notations Used to Represent Constructs, Dimensions and Indicators

Indicator	Estimate	S.E.	C.R.	P	Label
CPI <--- BA	,244	,059	4,095	***	par_38
CPI <--- PA	,188	,062	3,024	,002	par_39
CPI <--- PPQ	,335	,065	5,154	***	par_40
CPI <--- PSQ	,335	,073	4,604	***	par_41
PD <--- CPI	,645	,138	4,683	***	par_42
PD <--- VM	,317	,145	2,179	,029	par_48
BA6 <--- BA	1,000				
BA5 <--- BA	,995	,062	16,119	***	par_1
BA4 <--- BA	,888	,059	14,961	***	par_2
BA3 <--- BA	,977	,060	16,319	***	par_3
BA2 <--- BA	1,032	,061	16,962	***	par_4
BA1 <--- BA	,948	,061	15,569	***	par_5
PA4 <--- PA	1,024	,068	15,064	***	par_6
PA3 <--- PA	,951	,069	13,765	***	par_7
PA2 <--- PA	,895	,067	13,414	***	par_8
PA1 <--- PA	1,056	,070	14,998	***	par_9
PPQ6 <--- PPQ	1,000				
PPQ5 <--- PPQ	,995	,056	17,687	***	par_10
PPQ4 <--- PPQ	,919	,058	15,937	***	par_11
PPQ3 <--- PPQ	,915	,057	15,941	***	par_12
PPQ2 <--- PPQ	1,038	,056	18,541	***	par_13
PPQ1 <--- PPQ	1,056	,054	19,521	***	par_14
PSQ5 <--- PSQ	1,000				

Indicator	Estimate	S.E.	C.R.	P	Label
PSQ4 <--- PSQ	,940	,057	16,355	***	par_15
PSQ3 <--- PSQ	,974	,058	16,692	***	par_16
PSQ2 <--- PSQ	,986	,057	17,434	***	par_17
PSQ1 <--- PSQ	,968	,058	16,723	***	par_18
PSQ6 <--- PSQ	1,014	,057	17,693	***	par_19
PSQ7 <--- PSQ	,991	,058	16,950	***	par_20
PSQ8 <--- PSQ	,864	,054	15,935	***	par_21
PSQ9 <--- PSQ	,912	,057	15,914	***	par_22
PSQ10 <--- PSQ	,948	,055	17,198	***	par_23
PSQ11 <--- PSQ	,855	,053	16,160	***	par_24
PSQ12 <--- PSQ	,943	,055	17,196	***	par_25
PD1 <--- PD	1,000				
PD2 <--- PD	1,042	,065	16,143	***	par_26
PD3 <--- PD	,960	,063	15,122	***	par_27
PD4 <--- PD	,995	,066	14,959	***	par_28
PD5 <--- PD	,945	,062	15,113	***	par_29
PD6 <--- PD	,969	,063	15,316	***	par_30
PD7 <--- PD	,954	,063	15,195	***	par_31
PCI3 <--- CPI	1,000				
PCI2 <--- CPI	,880	,066	13,345	***	par_43
PCI1 <--- CPI	,959	,073	13,195	***	par_44
VM1 <--- VM	1,000				
VM2 <--- VM	,982	,074	13,257	***	par_45
VM3 <--- VM	1,056	,074	14,250	***	par_46
VM4 <--- VM	1,010	,072	13,950	***	par_47
VM5 <--- VM	,969	,070	13,794	***	par_49

4.2 Hypothesis Test Results

The following is the Loading Factor generated by the structural model, where if the calculated T value is greater than the T table value, it is significant:

Table 4.2 Recapitulations of Hypothesis Result

Hypothesis	Variable Relationship	Coef.	t count	t _{critical}	Remarks
H1	BA > CPI	0.42	2.06	±1.96	Accepted
H2	PA > CPI	0.74	9.04	±1.96	Accepted
H3	PPQ > CPI	1.64	14.85	±1.96	Accepted
H4	PSQ > CPI	-1.92	-9.95	±1.96	Accepted
H5	CPI > PD	0.15	1.19	±1.96	Denied
H6	CPI X VM > PD	9.7	12.42	±1.96	Accepted

From the overall analysis that has been carried out, conclusions can be drawn to the results of the study as shown in the table below:

Table 4.3 Recapitulations of Hypothesis Result with Construct Reliability Test

No	Proposed Relationship	CR	P	Remarks
1.	Brand awareness has a positive relationship with consumer purchase intention.	4,095	***	Because the value of CR > 1.96 and P < 0.05, it can be concluded that BA has an effect on CPI
2.	Price awareness has a positive relationship with consumer purchase intention.	3,024	0.002	Because the value of CR > 1.96 and P < 0.05, it can be concluded that PA has an effect on CPI
3.	Perceived product quality has a positive relationship with consumer purchase intention.	5,154	***	Because the value of CR > 1.96 and P < 0.05, it can be concluded that PPQ has an effect on CPI
4.	Perceived service quality has a positive relationship with consumer purchase intention.	4,604	***	Because the value of CR > 1.96 and P < 0.05, it can be concluded that PSQ has an effect on CPI
5.	Consumer purchase intention has a positive relationship with Purchase Decision.	4,683	***	Because the value of CR > 1.96 and P < 0.05, it can be concluded that CPI has an effect on PD
6.	Viral marketing has a positive relationship with Consumer Purchase Intention and Purchase Decision.	2,179	0,029	Because the value of CR > 1.96 and P < 0.05, it can be concluded that VM has an effect on CPI and PD.

The table above is a hypothesis test from the results of statistical calculations, with the following conclusions:

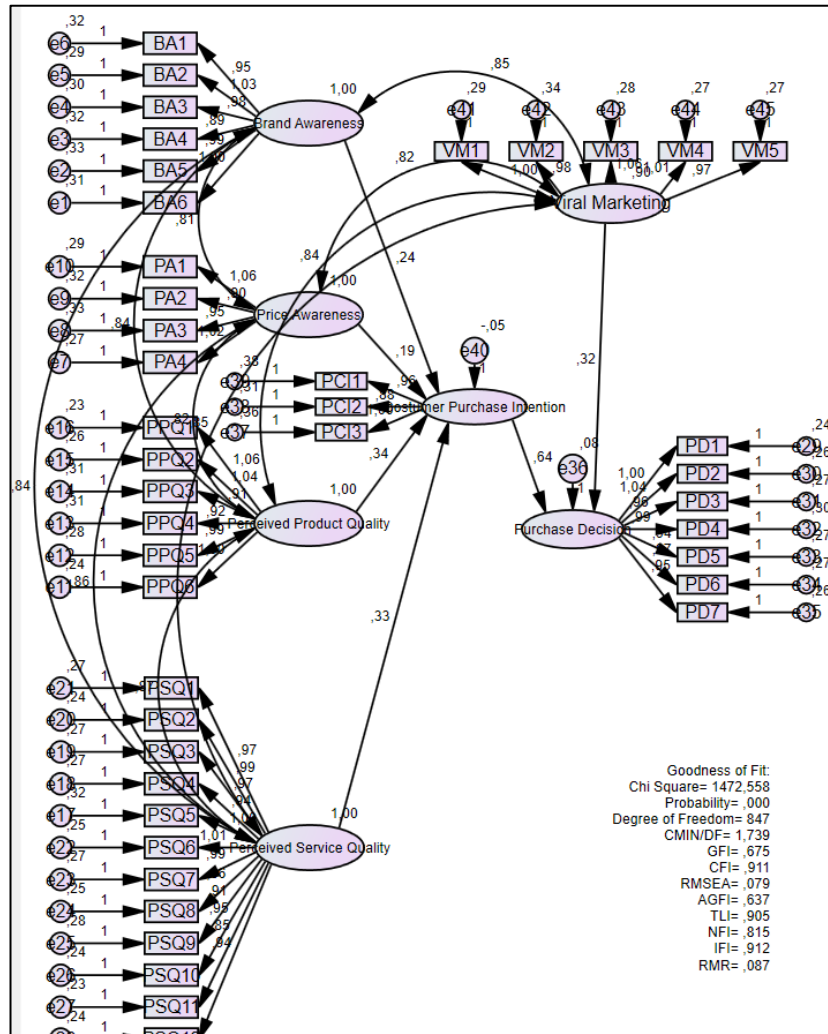
- There is a substantial impact of Brand Awareness on Purchase Intention
It can be observed from the table that the t count value is 2.06. Because the value of t count (2.06) is greater than the value of t table (±1.96) at an error rate of 5% it was decided to accept H1 so that the first hypothesis is accepted. So, based on the test results it can be concluded that Brand Awareness has a significant effect on Purchase Intention.
- There is a noticeable difference of Price Awareness on Purchase Intention
It can be observed from the table that the t count is 9.04. Because the value of t count (9.04) is greater than the value of t table (±1.96) at an error rate of 5% it was decided to accept H2

so that the second hypothesis is accepted. So, based on the test results it can be concluded that Price Awareness has a significant effect on Purchase Intention.

- There is a noticeable difference of Perceived Product Quality on Purchase Intention
It can be observed from the table that the t count is 14.85. Because the value of t count (14.85) is greater than the value of t table (± 1.96) at an error rate of 5% it was decided to accept H3 so that the third hypothesis was accepted. So, based on the test results it can be concluded that Perceived Product Quality has a significant effect on Purchase Intention.
- There is a substantial impact of Perceived Service Quality on Purchase Intention
It can be observed from the table that the t count value is 9.95. Because the value of t count (14.85) is greater than the value of t table (± 1.96) at an error rate of 5% it was decided to accept H4 so that the fourth hypothesis is accepted. So, based on the test results it can be concluded that Perceived Service Quality has a significant effect on Purchase Intention.
- There is a significant Purchase Intention effect on Purchase Decision
It can be observed from the table that the t count value is 1.19. Because the value of t count (1.19) is smaller than the value of t table (± 1.96) at an error rate of 5% it was decided to reject H5 so that the fifth hypothesis was rejected. So based on the test results, it can be concluded that Purchase Intention has no significant effect on Purchase Decision.
- There is a substantial impact of Purchase Intention on Purchase Decision mediated by Viral Marketing
It can be observed from the table that the t count value is 12.42. Because the value of t count (12,42) is greater than the value of t table ($\pm 1,96$) at an error rate of 5% it was decided to accept H6 so that the sixth hypothesis was accepted. So based on the test results, it can be concluded that Purchase Intention has a significant effect on Purchase Decisions mediated by Viral Marketing.

4.2 Goodness-of-Fit Test

This test is a set of statistical techniques that allow the simultaneous testing of a series of relationships, yet this test without moderating variable. Here are the results of the structural model test:



The goodness of fit model testing is carried out in seven stages, namely 2 (df), goodness-of-fit index (GFI), comparative fit index (CFI), root mean square error of approximation (RMSEA), adjusted goodness of-fit index (AGFI), Tucker Lewis Index (TLI), normalized fit index (NFI), Incremental Fit Index (IFI), and root mean square residual (RMR) with predetermined measurement value criteria. Earned value with a significance of 5%, and by using Microsoft excel the result is that chi square is $1472.558 = 1472.56$.

The results of the evaluation of the fit model and the estimated parameter values from the structural equation model will be described (Mueller and Hancock, 2018). The empirical model generated from the theoretical model in this study requires a full model test. After conducting confirmatory factor analysis for each exogenous and endogenous variable, it is necessary to estimate the full structural model. The estimation analysis of the structural model describes the relationship between latent variables and can be done if the measurement model has been analyzed through confirmatory factor analysis. This is because each indicator can be used to define a latent construct.

Table 4.3 Goodness Fit Indices

Research Structural Model			
Index	Value	Output Result	Remarks
Chi Square (cmin)	< Chi Square table	1472.558	Different means

CMIN/DF	< 2	1,739	Good (fulfilled)
GFI	> 0,9	0,675	Marginal (good enough)
CFI	> 0,9	0,911	Good (fulfilled)
RMSEA	< 0,8	0,079	Marginal (good enough)
AGFI	> 0,9	0,637	Marginal (good enough)
TLI	> 0,9	0,905	Good (fulfilled)
NFI	> 0,9	0.815	Marginal (good enough)
IFI	> 0,9	0.912	Good (fulfilled)
RMR	< 0.8	0.087	Marginal (good enough)

Based on the structural model analysis done by SEM-AMOS 20, the study shows high values (≥ 0.90) of NFI/TLI, CFI, IFI, marginal value (> 0.9) of GFI and low values (< 0.8) of RMSEA, RMR, and CMIN/DF (< 2.0). It indicates that the study's structural model is reasonably good. Table 4.13 summarizes the Goodness Fit indices. The hypotheses testing results are summarized in table shows the result of the structural model analysis. From the results of the table above, it can be concluded that the overall structural model is sufficient to produce the expected level of estimation.

5. Discussion

As the result have shown, all of them have supported hypotheses, even though the analysis has determined the model to have good fit.

5.1 Brand Awareness and Consumer Purchase Intention

Based on the results of the structural equation model on the inner model test, the results show that price awareness has a positive effect on consumer purchase intentions. Based on these results indicate that the higher the value of price awareness affects the purchase intention of consumers. This means that the first hypothesis in this study is accepted.

Brand awareness is a way of categorizing the strength of a brand into consumer memory (Ye and Van, 2004). In other words, seeing whether the product is already known in the consumer's memory or not and at which level of brand awareness. Brand awareness can affect the purchase intention of a product, meaning that the higher the level of brand awareness, the level of consumer purchase intention will increase (Purnomo, 2018). However, brand awareness is not able to influence the purchase decision of consumers (Azzari and Pelissari, 2021; Moisescu, 2009).

5.2 Price Awareness and Consumer Purchase Intention

The result of analysis show that perceived price has significant effect towards intention to buy (Yeo, et. al, 2017). The result was the convenience to search information about product make consumer easily find the price product information before make purchasing. Consumers tend to buy the product which has a lower price with better quality (Olila, 2011). The results of this study are relevant and really support the statement which states that price perceptions have a positive influence on online purchase intentions (Hermawan, 2017) and have similarities that price perceptions have a positive influence on consumers' purchase intentions (Indraswari and Pramudana, 2014). Also, in other research found that price perception had a significant effect on purchase intention (Xavier, et. al., 2012). This opinion is also expressed by that price perception has an influence on consumers' purchase intentions (Munnukka, 2008). However, there are some of former subscribers in edtech application who do not pay attention to the

dynamic of the price. It can be indicated that, not all Ed-tech users see price as a benchmark in purchasing a product or service, but there are also buyers who do not care how much the price is as long as what they want and what they own. The results of this study are not in line, that states the price awareness has no effect on purchase intention (Ivoni et. al., 2015).

5.3 Perceived Product Quality and Consumer Purchase Intention

For an edtech industry, the procurement of resources is an investment that needs to be considered. This case done for efficiency of procurement and maintenance of resources. Which no exception for the online learning systems that require development, installation, and maintenance that able to develop perceived product quality by consumers (Herring and Roy, 2007; Zeithaml, et. al., 1990). Investment in systems such Ed-tech application certainly needs to be done carefully and selectively to get a quality e-learning system (Bates and Bates, 2005). Some findings stated that purchase intention is strongly influenced by confidence and perceived product customers (Calvo-Porrall and Levy-Mangin, 2017). Then, product quality, brand advertising and name had the highest impact on consumer purchase intention (Mirabi and Samiey, 2015). Otherwise, perceived product quality is not influenced by purchase intention (Chang and Chen, 2008). However, less attention is being placed for studies that link between the perceived product quality with other marketing variables such as product involvement, consumer satisfaction and purchase intentions (Tsiotsou, 2006). In addition, there were past studies that discovered indirect influence between perceived product quality and purchase intentions through mediating variable of customer satisfaction (Cronin and Taylor, 1992; Sweeney, et. al., 1999; Llusar et al., 2001).

5.4 Perceived Service Quality and Consumer Purchase Intention

The effect of service quality on consumer purchase intention. The results showed that the service quality variable had a significant influence on repurchase interest on Ed-tech subscriptions. These results provide empirical evidence that the service quality of Ed-tech applications indicated by providing convenience in terms of e-learning process, empathy for the needs of each members and the ease of conducting customer experiences will have an influence on the formation of repurchase interest. From the results of this study, it supports research which states that the service quality variable is very influential on purchasing decisions (Arslan and Zaman, 2015). In addition, the same results were also found in research which stated that service quality variables had an effect on purchasing decisions (Stanley and Wisner, 2001). Other results state that perceived valued, including service, customer knowledge, celebrity endorsement has significant relationship with purchase intention (Younus, et. al., 2015). Perceived service quality influence purchase intention (Qalati, et. al., 2021). Service is one of the factors that pay more attention to consumers in determining purchasing decisions (Zhou, et. al., 2009). Good service will create a sense of comfort for consumers to make repeat purchases in the Ed-tech application. Yet, not just sure to make repeat purchases, even convince others to make purchases with recommended applications.

5.5 Viral Marketing, Consumer Purchase Intention and Purchase Decision

This result is in line with the theory which states that viral marketing is an internet version of marketing in the form of word of mouth that encourages consumers to share products and services developed by the company to others online (Kotler, 2005). In reality, consumers tend to always make purchases of goods that are viral on social media. Viral marketing affects purchasing decisions due to external and internal factors that influence purchasing decisions (Schiffman and Kanuk, 2000). Consumers with a strong interdependent self-construal express more positive attitudes toward social media posts and smiling endorser positively influences attitudes toward the post, sharing behavior, word-of-mouth and purchase intention (Hoffman,et. al., 2021). This study is also in line with the results of research, each of which states that viral marketing has a significant effect on buying decisions (Glennardo, 2016). The results of the study state that there is a fairly strong influence between viral marketing on purchasing decisions (Asriani, 2017). That the use of viral marketing to spread social marketing

is effective enough to reach the public because in its application the process of disseminating information using social media, which is very fast and does not know time and distance and can save costs (Scott, 2009). These results are in line with microeconomic theory, in that this theory explains that purchasing decisions are the result of conscious rational economic calculations (Bourdieu, 2005).

5.6 Consumer Purchase Intention and Purchase Decision

Purchase intention usually is related to the behavior, perceptions and attitudes of consumers (Pena-Garcia, et. al., 2020). Purchase behavior is a key point for consumers to access and evaluate the specific product (Lin, 2008). Purchase intention is an effective tool to predict buying process (Shim, et. al., 2001). Buying intention is the tendency of consumers to buy a product or take actions related to purchases as measured by the level of possibility of consumers to make purchases (Ajzen, 2018). A consumer role in buying is sometimes a very strong driving factor for purchasing decision makers (Silvera, et. al., 2008). Purchase decisions made by consumers go through several stages, namely: the need recognition stage, the information search stage, the alternative evaluation stage, the purchase decision, and the last stage of behavior after purchase (Setiadi, 2008). Consumer buying intention in online learning application, this will greatly affect where the industry will retain existing consumers, and will have an impact on consumers to make purchases repeatedly and these consumers can recommend to other consumers about the advantages of Ed-tech applications.

Many different factors can influence the outcomes of purchasing decisions (Pires, et. al, 2004). Some of these factors are specific to the buying situation like what exactly consumers are buying and for what occasion (Ehrenberg, 2000). Other factors are specific to each person: an individual's background, preferences, personality, motivations, and economic status (Ranganathan and Ganapathy, 2002). Impulsive purchases occur when the individual has lack of self-control over what people buys. The situation can be controlled if the person has a long-term guidance (Lehmann, et. al., 2019). The result shown that people who has intention to buy has smaller possibility to buy purchase again or subscribe to the Ed-tech application. The education industry such e-learning program should analyze what factors are the most important to attract consumers intention to buy that will leading to their purchasing due to the uncertainty of online transaction to any kind of Ed-tech applications.

6. Conclusion

The intention to buy has a great impact on the purchase decision. It means that people destined to buy and / or subscribe to consumer members in ed-tech's requests consider the purchase of the product. The industry will analyze if the consumer can affect the intentions that can affect intentions and assume their actions. Especially for how to find market segmentation based on brands and prices, the company helps make a good strategy for sale. This analysis can be done by giving a questionnaire to potential consumers to other countries that can compete in the ed-tech industry.

This study has potential limitations. It is recommended to conduct more detailed international studies to compensate for these limitations. Future research should incorporate longitudinal analysis, which may add considerably to research understanding of the consumers purchase decision and also to find the expectation of the user experiences (UX). Thus, helps also to understand what makes a consumer to buy a service and product, nor to the purchaser only. Yet, it is important to assess the kind products and services liked by involving consumers who are directed to person's subjectivity of perceptions of utility, ease of use, and efficiency. Furthermore, the research could investigate the attributes that make up the user experience and viral marketing in any kind of Ed-tech applications.

References

Ahmed, P. K., & Rafiq, M. (2002). *Internal marketing: Tools and concepts for*

- customer-focused management*. Routledge.
- Ajzen, I. (2018). Consumer attitudes and behavior. In *Handbook of consumer psychology* (pp. 529-552). Routledge.
- Anderson, E. W., Fornell, C., & Lehmann, D. R. (1994). Customer satisfaction, market share, and profitability: Findings from Sweden. *Journal of marketing*, 58(3), 53-66.
- Anderson, T. (2004). Towards a theory of online learning. *Theory and practice of online learning*, 2, 109-119.
- Andreasen, A. R. (2002). Marketing social marketing in the social change marketplace. *Journal of Public Policy & Marketing*, 21(1), 3-13.
- Armstrong, G., Kotler, P. and He, Z., 2005. Marketing: an introduction.
- Arslan, M., & Zaman, R. (2015). *Impact of Brand Image and Service Quality on Consumer Purchase Intentions. A Study of Retail Stores in Pakistan*. GRIN Verlag.
- Asriani, D. (2017). Pengaruh Viral marketing terhadap Keputusan Pembelian. *Jurnal Manajemen Ide Dan Inspirasi*, 3.
- Azzari, V., & Pelissari, A. (2021). Does Brand Awareness Influences Purchase Intention? The Mediation Role of Brand Equity Dimensions. *BBR. Brazilian Business Review*, 17, 669-685.
- Barber, P., & Wallace, L. (2010). *Building a buzz: libraries & word-of-mouth marketing*. American Library Association.
- Bates, A. W., & Bates, T. (2005). *Technology, e-learning and distance education*. Psychology Press.
- Beach, L.R. and Connolly, T., (2005). The psychology of decision making: People in organizations. Sage Publications.
- Bolton, R. N., Kannan, P. K., & Bramlett, M. D. (2000). Implications of loyalty program membership and service experiences for customer retention and value. *Journal of the academy of marketing science*, 28(1), 95-108.
- Bourdieu, P. (2005). *The social structures of the economy*. Polity.
- Brady, M. K., & Cronin Jr, J. J. (2001). Some new thoughts on conceptualizing perceived service quality: a hierarchical approach. *Journal of marketing*, 65(3), 34-49.
- Brucks, M., Zeithaml, V.A. and Naylor, G., (2000). Price and brand name as indicators of quality dimensions for consumer durables. *Journal of the academy of marketing science*, 28(3), pp.359-374.
- Calvo-Porrà, C., & Lévy-Mangin, J. P. (2017). Store brands' purchase intention: Examining the role of perceived quality. *European Research on Management and Business Economics*, 23(2), 90-95.
- Chang, H. H., & Chen, S. W. (2008). The impact of online store environment cues on purchase intention: Trust and perceived risk as a mediator. *Online information review*.
- Chen, I. J., & Popovich, K. (2003). Understanding customer relationship management (CRM). *Business process management journal*.
- Cheng, S., Lam, T., & Hsu, C. H. (2006). Negative word-of-mouth communication intention: An application of the theory of planned behavior. *Journal of Hospitality & Tourism Research*, 30(1), 95-116.
- Cronin Jr, J. J., & Taylor, S. A. (1992). Measuring service quality: a reexamination and extension. *Journal of marketing*, 56(3), 55-68.
- Crotts, J. (1999). Consumer decision making and prepurchase information search. *Consumer behavior in travel and tourism*, 11(3), p149-168.
- Darley, W. K., Blankson, C., & Luethge, D. J. (2010). Toward an integrated framework for online consumer behavior and decision making process: A review. *Psychology & marketing*, 27(2), 94-116.
- De Bruyn, A., & Lilien, G. L. (2008). A multi-stage model of word-of-mouth influence through viral marketing. *International journal of research in marketing*, 25(3), 151-163.
- Dobele, A., Toleman, D., & Beverland, M. (2005). Controlled infection! Spreading the brand message through viral marketing. *Business Horizons*, 48(2), 143-149.
- Ebert, R.J. and Griffin, R.W., (2006). Bisnis. Alih Bahasa Rd. Soemarnagara,

- Jakarta: Erlangga.
- Ehrenberg, A. S. (2000). Repeat buying. *Journal of Empirical Generalisations in Marketing Science*, 5(2).
- Ferguson, R. (2008). Word of mouth and viral marketing: taking the temperature of the hottest trends in marketing. *Journal of consumer marketing*.
- Fong, K., & Yazdanifard, R. (2014). The review of the two latest marketing techniques; viral marketing and guerrilla marketing which influence online consumer behavior. *Global Journal of Management and Business Research*.
- Gillham, B. (2008). *Developing a questionnaire*. A&C Black.
- Glennardo, Y. (2016). Viral marketing sebagai media pemasaran sosial dalam mendongkrak kesadaran masyarakat untuk berperan aktif dan bergabung dengan organisasi non profit/niarlaba. *Competence: Journal of Management Studies*, 10(2).
- Hermawan, H. (2017). Sikap konsumen terhadap belanja online. *WACANA: Jurnal Ilmiah Ilmu Komunikasi*, 16(1), 136-147.
- Herring, H., & Roy, R. (2007). Technological innovation, energy efficient design and the rebound effect. *Technovation*, 27(4), 194-203.
- Homburg, C., Klarmann, M. and Schmitt, J., (2010). Brand awareness in business markets: When is it related to firm performance?. *International Journal of Research in Marketing*, 27(3), pp.201-212.
- Hughes, C., Swaminathan, V., & Brooks, G. (2019). Driving brand engagement through online social influencers: An empirical investigation of sponsored blogging campaigns. *Journal of Marketing*, 83(5), 78-96.
- Huntley, J. K. (2006). Conceptualization and measurement of relationship quality: Linking relationship quality to actual sales and recommendation intention. *Industrial marketing management*, 35(6), 703-714.
- Hutter, K., Hautz, J., Denhardt, S., & Füller, J. (2013). The impact of user interactions in social media on brand awareness and purchase intention: the case of MINI on Facebook. *Journal of Product & Brand Management*.
- Imaningsih, E.S., (2018). The model of product quality, promotion, price, and purchase decisions. *Jurnal Ekonomi*, 23(2).
- Indraswari, N. M. M., & Pramudana, K. A. S. (2014). Pengaruh kredibilitas celebrity endorser dan kewajaran harga terhadap niat beli konsumen wanita pada Online Shop produk pakaian. *E-Jurnal Manajemen*, 3(4).
- Kandampully, J., & Duddy, R. (1999). Competitive advantage through anticipation, innovation and relationships. *Management Decision*.
- Kapferer, J. N. (1994). *Strategic brand management: New approaches to creating and evaluating brand equity*. Simon and Schuster.
- Keller, K.L., (1993). Conceptualizing, measuring, and managing customer-based brand equity. *Journal of marketing*, 57(1), pp.1-22.
- Keller, K.L., (2001). Building customer-based brand equity: A blueprint for creating strong brands (pp. 3-27). Cambridge, MA: Marketing Science Institute.
- Keller, K.L., 2003. Brand synthesis: The multidimensionality of brand knowledge. *Journal of consumer research*, 29(4), pp.595-600.
- Khalifa, A. S. (2004). Customer value: a review of recent literature and an integrative configuration. *Management decision*.
- Kim, J., & Lennon, S. J. (2013). Effects of reputation and website quality on online consumers' emotion, perceived risk and purchase intention. *Journal of Research in Interactive Marketing*.
- Kimmel, A. J. (2018). *Psychological foundations of marketing: the keys to consumer behavior*. Routledge.
- Kinnear, P., & Gray, C. (2006). *SPSS 12 made simple*. Psychology press.
- Ladhari, R. (2009). Service quality, emotional satisfaction, and behavioural intentions. *Managing Service Quality: An International Journal*.
- Lehmann, T. A., Krug, J., & Falaster, C. D. (2019). Consumer purchase decision: factors that influence impulsive purchasing. *Revista Brasileira de Marketing*, 18(4), 196-219.
- Matzler, K., & Hinterhuber, H. H. (1998). How to make product development

- projects more successful by integrating Kano's model of customer satisfaction into quality function deployment. *Technovation*, 18(1), 25-38.
- Mirabi, V. R., & Samiey, E. (2015). Perceived brand value and its impact on purchase intention. *Asian Journal of Research in Business Economics and Management*, 5(3), 165-177.
- Mitra, K., Reiss, M. C., & Capella, L. M. (1999). An examination of perceived risk, information search and behavioral intentions in search, experience and credence services. *Journal of Services Marketing*.
- Moisescu, O. I. (2009). The Importance of Brand Awareness in Consumers' Buying Decision and Perceived Risk Assessment. *Management & Marketing-Craiova*, (1), 103-110.
- Morwitz, V. (2014). Consumers' purchase intentions and their behavior. *Foundations and Trends® in Marketing*, 7(3), 181-230.
- Mowen, J. C., & Minor, M. (2002). Perilaku konsumen. *Jakarta: Erlangga*, 90.
- Mueller, R. O., & Hancock, G. R. (2018). *Structural equation modeling* (pp. 445-456). Routledge.
- Munnukka, J. (2008). Customers' purchase intentions as a reflection of price perception. *Journal of Product & Brand Management*.
- Muruganantham, G., & Bhakat, R. S. (2013). A review of impulse buying behavior. *International Journal of Marketing Studies*, 5(3), 149.
- Nandan, S., (2005). An exploration of the brand identity–brand image linkage: A communications perspective. *Journal of brand management*, 12(4), pp.264-278.
- Pires, G., Stanton, J., & Eckford, A. (2004). Influences on the perceived risk of purchasing online. *Journal of Consumer Behaviour: An International Research Review*, 4(2), 118-131.
- Prabowo, H. A. (2015). Winning Competition through the Management of Word of Mouth Viral Marketing, and Brand Equity on Private Universities. *Mediterranean Journal of Social Sciences*, 6(5 S5), 118-118.
- Purnomo, T. (2018). Pengaruh Kesadaran Merek dan Citra Merek Terhadap Niat Beli Pada Konsumen Herbalife Di Surabaya. *Agora*, 6(1).
- Qalati, S. A., Vela, E. G., Li, W., Dakhan, S. A., Hong Thuy, T. T., & Merani, S. H. (2021). Effects of perceived service quality, website quality, and reputation on purchase intention: The mediating and moderating roles of trust and perceived risk in online shopping. *Cogent Business & Management*, 8(1), 1869363.
- Ranganathan, C., & Ganapathy, S. (2002). Key dimensions of business-to-consumer web sites. *Information & management*, 39(6), 457-465.
- Ratner, C. (2000). A cultural-psychological analysis of emotions. *Culture & Psychology*, 6(1), 5-39.
- Reichstein, T., & Bruschi, I. (2019). The decision-making process in viral marketing—A review and suggestions for further research. *Psychology & Marketing*, 36(11), 1062-1081.
- Safitri, I., (2018). The Influence of Product Price on Consumers' Purchasing Decisions. *Review of Integrative Business and Economics Research*, 7, pp.328-337.
- Schiffman, L.G. and Kanuk, L.L., (2000). *Consumer behavior*, 7th. NY: Prentice Hall, pp.15-36.
- Scott, D. M. (2009). *The new rules of marketing and PR: how to use social media, blogs, news releases, online video, and viral marketing to reach buyers directly*. John Wiley & Sons.
- Shim, S., Eastlick, M. A., Lotz, S. L., & Warrington, P. (2001). An online prepurchase intentions model: the role of intention to search: best overall paper award—The Sixth Triennial AMS/ACRA Retailing Conference, 2000☆. *Journal of retailing*, 77(3), 397-416.
- Shukla, P., (2009). Impact of contextual factors, brand loyalty and brand switching on purchase decisions. *Journal of Consumer Marketing*.
- Silvera, D. H., Lavack, A. M., & Kropp, F. (2008). Impulse buying: the role of affect, social influence, and subjective wellbeing. *Journal of Consumer Marketing*.
- Smith, A. D. (2005). Exploring the inherent benefits of RFID and automated self-

- serve checkouts in a B2C environment. *International Journal of Business Information Systems*, 1(1-2), 149-181.
- Stanley, L. L., & Wisner, J. D. (2001). Service quality along the supply chain: implications for purchasing. *Journal of operations management*, 19(3), 287-306.
- Sweeney, J. C., Soutar, G. N., & Johnson, L. W. (1999). The role of perceived risk in the quality-value relationship: A study in a retail environment. *Journal of retailing*, 75(1), 77-105.
- Tjiptono, F. and Diana, A., (2016). Pemasaran.
- Tsiotsou, R. (2006). The role of perceived product quality and overall satisfaction on purchase intentions. *International journal of consumer studies*, 30(2), 207-217.
- Tubbs, M. E., & Ekeberg, S. E. (1991). The role of intentions in work motivation: Implications for goal-setting theory and research. *Academy of management Review*, 16(1), 180-199.
- Van der Heijden, H., Verhagen, T., & Creemers, M. (2003). Understanding online purchase intentions: contributions from technology and trust perspectives. *European journal of information systems*, 12(1), 41-48.
- Wang, X., & Yang, Z. (2010). The effect of brand credibility on consumers' brand purchase intention in emerging economies: The moderating role of brand awareness and brand image. *Journal of Global Marketing*, 23(3), 177-188.
- Watts, D. J., Peretti, J., & Frumin, M. (2007). *Viral marketing for the real world* (pp. 22-23). Boston: Harvard Business School Pub.
- Wu, P. C., Yeh, G. Y. Y., & Hsiao, C. R. (2011). The effect of store image and service quality on brand image and purchase intention for private label brands. *Australasian Marketing Journal (AMJ)*, 19(1), 30-39.
- Xavier, M. J., Thamizhvanan, A., & Saminadan, S. (2012). Lessons from the Annachis of Tamil Nadu.
- Yang, Z., Jun, M., & Peterson, R. T. (2004). Measuring customer perceived online service quality. *International Journal of operations & production Management*.
- Yeo, V. C. S., Goh, S. K., & Rezaei, S. (2017). Consumer experiences, attitude and behavioral intention toward online food delivery (OFD) services. *Journal of Retailing and Consumer Services*, 35, 150-162.
- Younus, S., Rasheed, F., & Zia, A. (2015). Identifying the factors affecting customer purchase intention. *Global Journal of Management and Business Research*.
- Zeithaml, V. A., Parasuraman, A., Berry, L. L., & Berry, L. L. (1990). *Delivering quality service: Balancing customer perceptions and expectations*. Simon and Schuster.
- Zhou, T., Lu, Y., & Wang, B. (2009). The relative importance of website design quality and service quality in determining consumers' online repurchase behavior. *Information Systems Management*, 26(4), 327-337.
- Zohrabi, M. (2013). Mixed Method Research: Instruments, Validity, Reliability and Reporting Findings. *Theory & practice in language studies*, 3(2).

Health and Environment Consciousness toward Purchase Frequency of Organic Food in Indonesia

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ABSTRACT

Organic food in Indonesia shows great promise despite having problems as Indonesia domestic consumption of organic food is still considered low which reflected on the data where 97% of organic food market share held by Europe, North America, and China. The market constraint and interest need to be examined to understand Indonesian organic food consumers. This study investigates the effect of health and environmental consciousness on purchase intention as mediation toward purchase frequency for organic food consumers. Also, perceived price and product availability relationship toward purchase intention and frequency are examined. The result of this study based on 289 millennials organic food consumers, it is suggested that both health and environmental consciousness influence the purchase frequency by mediation of purchase intention. It is also noted that organic food perceived price has positive relationship on both purchase intention and purchase frequency. While product availability influence purchase frequency indirectly through mediation of purchase intention.

Type of Paper: Empirical

Keywords: Organic Food, Health Consciousness, Environmental Consciousness, Purchase Intention, Purchase Frequency, Perceived Price, Product Availability

1. Introduction

Consumers believed that organic food is healthier than regular food (David and Ardiansyah, 2017). FAO (2019) indicated that organic food has increased significantly by 4.7% based on revenue in the year 2016-2017 globally. In Asia alone, the growth reached 9.9% with the most significant increment. However, this growth does not reflect the current market share of global organic food. China, North America and Europe hold the largest organic food demand which is up to 97% of global demand (Willer and Lernoud, 2019). The published studies about organic food consumption and consumers recorded in Indonesian Librarian Association in 2020 are only 19 articles. Which means there are limited studies conducted in developing countries such as Indonesia. There is also still insufficient information regarding Indonesia's domestic demand

for organic food. However, local demand has been increasing and expected to continue since during the COVID-19 pandemic alone, demand for organics has increased by up to 300%.

Various studies have found the drivers of organic food consumption, which are; (i) health consciousness (Kapuge, 2016), (ii) social consciousness (Molinillo, 2020), (iii) perceived knowledge, (iv) trust (Teng and Wang, 2015), (v) environmental consciousness (Irianto, 2015), and others. As healthiness is the most common attribute associated with organic products, health consciousness of organic food consumers popularly examined (Rizzo et al., 2020). Meanwhile Hong (2009) conceptualized that health consciousness of an individual is comprised by self- health awareness, personal responsibility, and health motivation as opposed to engage actual health behaviours or relying on the tendency to focus attention on one's health. By then, the health behaviour such as healthy eating become by product of health conscious which include organic food.

Other studies also have tried to examine the relationship between environment consciousness and organic food consumption. Organic food is regarded as environmentally friendly due to their growth and treatment are done naturally without substances that harm the environment (Forman and Silverstein, 2012). Wang, Pham, and Dang, (2020) stating that consumers who care more about environmental issues tend to purchase more green products includes organic food. It is also found that environmental consciousness affect young consumers' purchase of organic food intention (Ayub, Nik Muhammad Naziman, and Samat, 2020). However, according to Xu et al. (2020) the environmental consciousness does not have direct relationship with purchase intention. It requires the mediation from perceived behavioral control. Also, Niessen and Hamm (2008) stating that there is huge gap on the purchase intention toward the actual purchase. Thus, further study requires to clarify environmental consciousness toward purchase intention relationship and examine the purchase intention with the actual purchase of organic food.

In contrary with purchase drivers, there are some barriers that hinder the purchase of organic food. David and Firman (2020) mentioning the most common barriers of organic food purchase come from the availability of the organic food itself and the price. The higher price of organic food than conventional one observed to influence the purchase intention of organic food (Kusumaningsih, 2019). As many studies mentioned focusing on actual price as economical value, the perception of the consumers on the price comes more on the consumers' self which able to predict better on ones purchase decision (Oh, 2000). Thus, looking on this factor will

be more relevant to predict purchase intention and the actual one. Additionally, based on David and Firman (2020) organic food is sometimes only sold in certain places in Indonesia, which means the availability of organic food is still considered low. It is stated by Wijaya and Purwoko (2018) that availability becomes the largest barrier to purchase organic food. In contrary, it is observed that the buying intention of organic food does not affected by price and availability (Effendi et al., 2015). The inconsistency of the finding requires clarification availability of organic food toward both purchase intention and actual purchase frequency.

Moreover, the research specifically for millennials regarding organic food consumption is still limited, even though they hold the highest organic food consumption (Molinillo, 2020; Organic Trade Association, 2016). Millennials are observed to have higher purchasing power and more concerns toward the environment compared with other generations (Ivanova et al., 2019; Valentine and Powers, 2013). As one of the most populated countries, Indonesia also included in the top 5 world's largest Millennial populations. As the largest consumers generation, therefore it is required understand the organic food purchase of millennials under influence of health and environmental consciousness toward purchase intention with perceived price and availability as additional factor. By then, strategies to increase the organic consumption in Indonesia can be developed.

2. Literature Review

2.1 Consciousness in Cognitive Science

Consciousness is not merely a portion of mental activity; rather, it is a reflection of mental activity, or a perception of mental activity (which is itself unconscious). According to this proposition, mental activity does not consist in a continuous causal chain, some links of which are conscious and others of which are not; rather, the proposition is that mental activity consists in a continuous causal chain that is unconscious in its essence, and that consciousness represents this process in an “incomplete and untrustworthy” fashion (Solms, 1997; Searle, 1995). Schwartz (2004) mention that affect is the main sensory modality of consciousness's internal surface. Affect is described as the part of perceptual awareness that is experienced as pleasure and unpleasure, which we conceive as the qualitative modality whereby the quantitative processes happening deep inside the mental apparatus are represented in consciousness (Freud, 1940; Brenner, 1974). Other psychologies have a distinct conceptualization of emotion. They differentiate between a variety of so-called fundamental

emotions, including curiosity, fear, anger, distress, and dominance. These may be considered submodalities of affect (Panksepp, 1985)

2.1.1 Health Consciousness

According to Pu et al. (2020), the health consciousness in this study is referring to the knowledge of the consumers regarding health status change and the degree of focus on conditions for wellness. The more a person has health consciousness, the more likely he has healthy habits. It has the characteristic to physical, stress, and health hazard factors (Pu et al., 2020). In this instance, health is an item that stimulates good behaviors in the highly involved/health aware person, but has the opposite impact on the less involved/health conscious one. Additionally, individuals who are highly health conscious will act more in accordance with their internal attitudes toward their health and will be more sensitive to the behavioral consequences of acting in accordance with those attitudes than individuals who are less health conscious, who will be more susceptible to external influences (Gould, 1990).

Some studies have been conducted to observe the relationship between health consciousness with the health behaviour including food purchase behaviour. Health consciousness observed to have impact on the consumer intention to consume functional food (Chen, 2011). Hsu, Chang, & Lin (2016) observing the organic food consumers demand based on the consumers perspective. It is found that health consciousness, along with other construct, able to give a positive and significant impact on the purchase intention on organic food. Interestingly, a study has found that the health consciousness able to impact on the purchase intention of organic food. Also, it is found that organic food purchase is caused by health reasons (Chinnici et al., 2002; Hitchins and Greenhalgh, 1997). Thus, the study advances to following hypothesis:

H1: Health consciousness has positive correlation toward purchase intention.

2.1.2. Environmental Consciousness

Environmental consciousness is defined to the degree of problems awareness related with environment and their support to solve it or willingly contributing personally to the solution (Dunlap and Jones, 2002). On the other hand, Zelezny and Schultz (2000) stated that environmental consciousness is a belief system component refers to specific psychological factors related to individuals' tendency to engage in pro-environmental behaviours. Sharma and Bansal (2013) have stating antecedents of environmental consciousness. Those variables

considered as antecedents are the socio-demographic, psychographic, media, and political views. General socio-demographic and psychographic characteristic includes; age, gender, family, income, culture, social class and lifestyle are investigated.

As environmental consciousness is related with psychology, it affecting many behaviours of consumers. It is stated that the influencing the attitude and purchasing of natural beauty products on young females in addition with health consciousness factor (Kim and Seock, 2009). Additionally, it gives impact to the green purchasing behaviour on young consumers in Hong Kong. Moreover, Wang, Pham and Dang, (2020) stated that consumers who care more to environment issues tend to purchase more green products, which includes organic food. Thus, the study advances to following hypothesis:

H2: Environmental consciousness has positive correlation toward purchase intention.

2.2. Purchase Decision

Each behavior-act, in going off and becoming what it is, reflects or suggests some characteristics of the environment. And this is because the continuation of its departure may be shown to be dependent on the presence of such characteristics in the surroundings (Alexander, 1975). Behavior is motivated by organic requirements, and in going-off, it presupposes that the surroundings characteristics and relationships will support an adequate response to those needs (Tolman, 1927). As psychological processes such as motivation and perception have huge deal in final purchase decision, understanding the processes is required. There are five stages of a person to buy an item; problem recognition, search of information, evaluation of alternatives, purchase decision, and finally the post purchase behaviour (Mitchell & Boustani, 1994; Christiana, 2009; Butler and Peppard, 1998).

2.2.1. Purchase Intention

Fundamentally, purchase intention is defined as what individuals think they will buy (Blackwell, Miniard and Engel, 2001). Purchase intention found affected by various factors such as brand image (Pandey & Srivastava, 2016), price (Wind and Rangaswamy, 2001), and demography (Park et al., 2008). It is stated that higher actual buying rate will be done by consumers who have intention to purchase certain product than one who not. It becoming the developing demand especially for organic food (Brown, 2003). Also, study have found that the past consumption or purchase frequency become one of a good way to predict the future

consumer behaviour. People will acquire high interests as a result of previous frequent activity, resulting in inertia, and will then tend to repeat the previous behaviour (Sonmez and Graefe, 1998; Ouellette and Wood, 1998). Thus, the study advances to following hypothesis:

H3: Purchase intention has positive correlation toward purchase frequency.

2.3. Marketing Strategy

Marketing strategy places a strong emphasis on achieving long-term competitive and customer advantage. As such, it has a high degree of overlap with business strategy and may be seen as an important component of and lens through which business strategy can be viewed. As one of the marketing strategy, the marketing mix is a fundamental idea in marketing theory. Today's most often utilized marketing mix is made of seven P's: Product, Place, Promotion, Price, Participants, Process, and Physical Evidence (Rafiq and Ahmed, 1995).

2.3.1. Perceived Price toward Purchase Behaviour

Price is one of the most sensitive elements in the marketing mix and directly produce income. Small changes in price will gives high reaction of the consumers, either positive or negative. Pricing perception is another critical topic to grasp in order to comprehend how customers perceive prices in relation to their internal price standard or competing prices (Oh, 2000). Perceived pricing was defined in this research as consumers' relative assessment of price and was utilized to capture customers' assessment of price. Thus, it was predicted that very low perceived prices would be adversely related with perceived quality (Oh, 2003). When the price is high, customers will expecting a high quality product or services or else it can give sense of being exploited (Conway & Andaleeb, 2006). Some studies (Pearson, Henryks and Moffitt, 2007; Pearson et al., 2013) also finds that price becoming both incentive and barriers. Consumers perceived that high price indicating quality superiority compared to non-organic food. Thus, the study advances to following hypothesis:

H4: Perceived price has negative/positive correlation toward purchase intention.

H5: Perceived price has negative/positive correlation toward purchase frequency.

2.3.2. Product Availability

Demeritt (2002) study has found that product availability play role in organic choice in the US behind health/nutrition, taste, food safety and environment. In simple manner, when the product is unavailable, it cannot be sold. Therefore, marketers spend both efforts and monetary resources significantly to keep their product available on shelves continuously (Steinhard & Kamins, 2013). It is consider that product availability becomes the centre item to trigger sales (Hausman and Siekpe, 2009). However, marketers also uses the unavailability of products as part of strategic plan in order to make perception of excessive demand. So, it encourages the consumer to purchase before others do (Amaldoss and Jain, 2010). Also as mentioned previously, organic food consumers find the availability become number one problem in consuming organic food (Suharjo, Ahmady and Ahmady, 2016). Thus, the study advances to following hypothesis:

H6: Availability has positive correlation toward purchase intention.

H7: Availability has positive correlation toward purchase frequency.

3. Research Methodology

The research model and the relationship of the constructs of the research is illustrated in Figure 1.

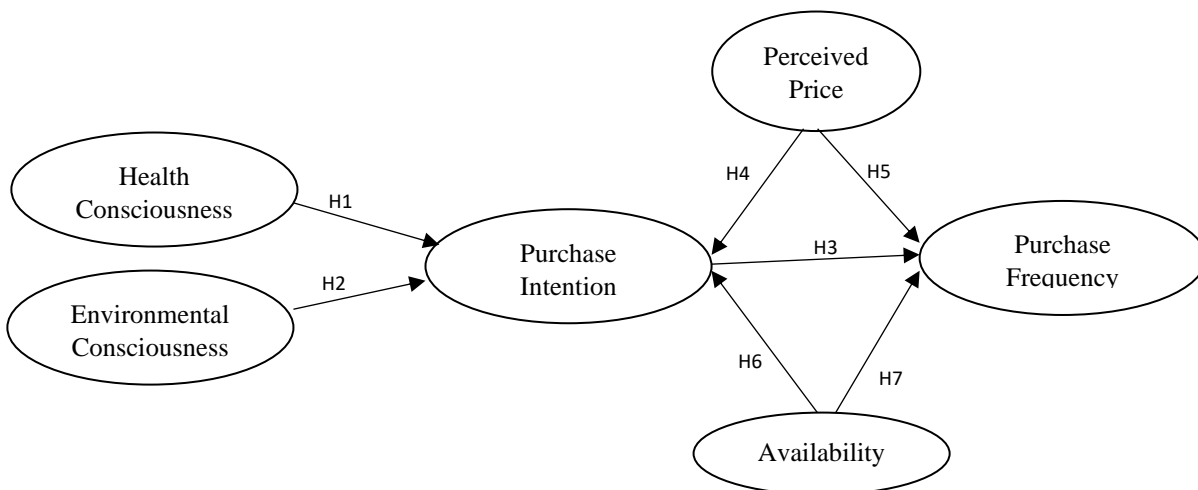


Figure 1. Research Model

This study examining the organic food purchase, mainly in Indonesian consumers, by integrating health and environmental consciousness which are internal factors, influencing the purchase frequency by mediated with the purchase intention. In addition, perceived price and

availability of the organic food will influence both the purchase intention and purchase frequency.

3.1 Types of Study

This research uses positivism approach, since the relationship of the constructs are according to rational and logical synthesis. This research also considered as deductive approach as hypothesis constructed from existing theory for guiding data collection and analysis. Primary data will be obtained using questionnaires distributed to the samples. It uses quantitative approach with cross-sectional study in order to explain relationship between variables.

3.2 Population and Sample

The population is the millennials (20-40 years old) organic food consumers in Jabodetabek. The sample taken is from non-probable sampling method where the samples are screened to specific age range (20-40 years old) who lives in Jabodetabek region and have consumed organic food within 6 months period. To reach the target, snowball sampling will be used. It involves the primary sample to nominate other potential samples to be able to participate in the research. There is total 324 respondent, but only 289 eligible data. Moreover, for the Pre-Test, the sample are 27 respondents.

3.3.Types of Data and Collection Method

Primary data will be obtained quantitatively using questionnaires. Additionally, secondary data will be gathered through journals, books, and other literary reports.

3.4.Data Analysis Technique

The raw data obtained will has been partially sorted since the questionnaire will be in google form format which able to process the data. It will be the transferred to Excel and SPSS software and screened out the outliers.

Then it will be tested on its validity and reliability to ensure the measurement is measuring the construct. It is consists of the constructs using previous studies as the reference of content validity; face validity using back translation by taking account of Indonesian environment and culture; and construct validity analysed using SEM to test the hypothesis of this research. The purpose is to test how well the measurement result fits with the theories. The reliability test conducted using SPSS software and analysed using the reliability test available in the software. The result will be judged with the Cronbach's alpha value where it should be minimum 0.60.

Furthermore, the model fit are tested using SEM Lisrel 8.8 to provide information of the Hypothesis that will be used and will be accepted.

4. Results

4.1 Profile of Respondent

The result of the questionnaire shows quite well distributed between male (49%) and female (51%), respondent are mostly in the age group of 20-25 years old, and majorly live in Tangerang and Jakarta. Their latest education level are dominated by high school (41%) and bachelor (44%), with mostly 4 people in their house and average monthly expense of 1-3 million Rupiah.

4.2 Descriptive Statistic

Table 1. Descriptive statistic and correlation test

Variables	Mean	Std. Deviation	Min	Max	Correlation Test					
					HC	EC	PI	AV	PR	PF
Health Consciousness	4.232	0.608	2.5	5	1					
Environmental Consciousness	4.249	0.617	2	5	.304**	1				
Purchase Intention	3.739	0.803	1.5	5	.358**	.310**	1			
Availability	3.715	0.808	1.5	5	.192**	.137*	.483**	1		
Perceived price	3.568	0.821	1	5	.258**	.258**	.619**	.456**	1	
Purchase Frequency	1.401	0.640	0	3	.214**	0.091	.472**	.322**	.403**	1

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

The questionnaire result shows that the item in health consciousness (HC8: I only worry about my health when I get sick) and availability (AV3: Buying organic food would require extra effort) reducing the validity and reliability test result based on both SPSS 25th Version and SEM Lisrel 8.8 analysis. Thus, these items are dropped in order to remove error and gain better fit in the model. Result shows from table 1 that most of the respondents having a high health consciousness which is induced more from their health motivation compared with other dimension. The environmental consciousness become the highest construct compared with other dimension with only slight difference with the health consciousness. In the purchase intention construct, the mean scores are quite high. The highest one is they feel glad to purchase organic food. When it comes to availability, it can be seen that the organic food availability around the respondents, which is around Jabodetabek region, is still relatively high. This

indicating that organic food is not a scarce item in the region. Compared with another independent variable, perceived price construct is the lowest among the other construct. It can be caused by the actual price of organic food is indeed higher than the conventional food thus reduces the positive perception regarding the price. As the dependent variable, purchase frequency has a bit different of measurement. The mean lies between the answer frequency of occasionally and often. It means that the respondents in average buy organic food between once a month to around once per 2 weeks.

Based on the table 1, the data indicates that the majority of the variables are significantly correlated ($P < 0.01$) using Spearman's correlation test. The results shows that the health consciousness is correlated with environmental consciousness, purchase intention and purchase frequency, but also with organic food availability and perceived price. Environmental consciousness has correlation with purchase intention but also with organic food availability and perceived price but not with the purchase frequency. The purchase intention is correlated with availability, perceived price and purchase frequency. Availability of organic food also have relation with the perceived price and purchase frequency. Lastly, perceived price also has the correlation with the purchase frequency.

Although the variables are statistically correlated, they are not extremely so ($\rho > 0.9$), since = 1 indicates that the variables are strongly positively correlated, while = 0 indicates that the variables have no relationship at all (Zeltzer, 2020). This indicates that the variables are related, and the strength of their relation may be determined by the correlation value.

4.3. Measurement Model

The measurement model analysis result of the constructs is shown in the table 2. It is shown that the validity and reliability of the constructs are met which can be shown in the T-Values, SFL, CR, and VE based on the cut-off value. The constructs overall model fit also satisfied as it met the requirements.

Table 2. Measurement Model

Construct	HC	EC	PI	PR	AV	PF
CR (Min. 0.70)	0.94693	0.9056	0.8924	0.8386	0.7711	0.8126
VE (Min. 0.5)	0.85726	0.7627	0.6246	0.5689	0.5306	0.5936
Cronbach's Alpha (Min. 0.70)	0.712	0.835	0.89	0.767	0.835	0.805
χ^2 / df	0	0	2.364	0	0	0.40765

P-Value	1	1	0.03838	1	1	0.815
RMSEA	Perfect Fit	Perfect Fit	0.68	Perfect Fit	Perfect Fit	0
GFI	Perfect Fit	Perfect Fit	0.98	Perfect Fit	Perfect Fit	1
SRMR	Perfect Fit	Perfect Fit	0.02	Perfect Fit	Perfect Fit	0.0057
CFI	Perfect Fit	Perfect Fit	0.99	Perfect Fit	Perfect Fit	1
NNFI	Perfect Fit	Perfect Fit	0.99	Perfect Fit	Perfect Fit	1
Conclusion	Valid & Reliable	Valid & Reliable	Valid & Reliable	Valid & Reliable	Valid & Reliable	Valid & Reliable

4.4. Structural Model and Hypothesis testing

The structural model fit measuring the relationship between the constructs in the model depicted in Figure 2. The hypothesis testing result is presented in Table 3 and the value of SFL and T-values in figure 2. It is shown that all hypothesis is accepted except the H7, where availability relationship toward price frequency is not significant.

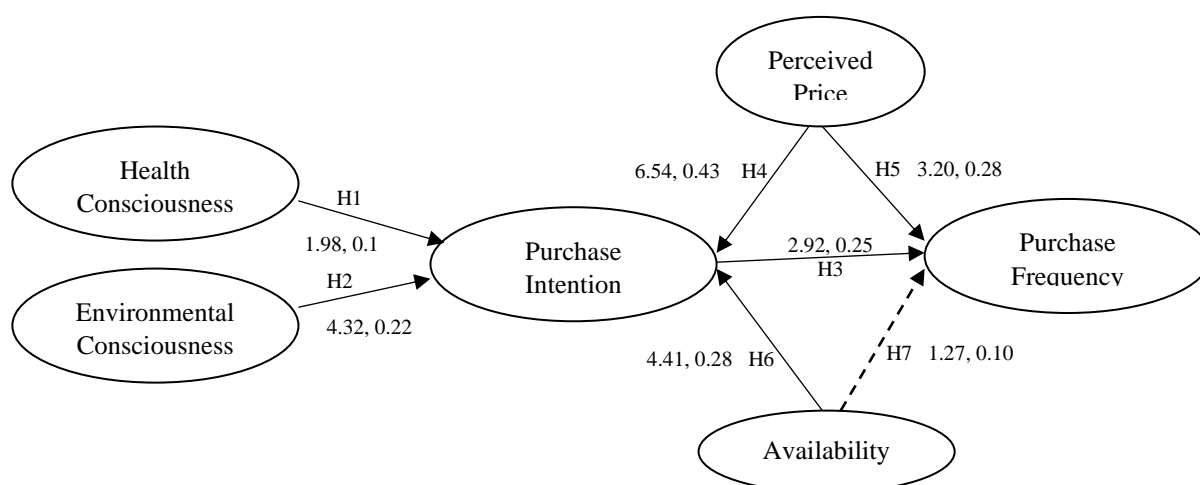


Figure 2. The Relationship of the Constructs, based on the Hypotheses Supported. The Values Indicate T-value and Structural Coefficient Respectively

Table 3. Hypothesis testing result

No	Hypothesized Relationship	Structural Coefficient	T-value	Hypothesis Test Result
1	Health consciousness has a positive relationship toward purchase intention	0.10	1.98	Supported

2	Environmental consciousness has a positive relationship toward purchase intention	0.22	4.32	Supported
3	Purchase intention has a positive relationship toward purchase frequency	0.25	2.92	Supported
4	Price has a positive relationship toward purchase intention	0.43	6.54	Supported
5	Price has a positive relationship toward purchase frequency	0.28	3.20	Supported
6	Availability has a positive relationship toward purchase intention	0.28	4.41	Supported
7	Availability has a positive relationship toward purchase frequency	0.10	1.27	Not Supported

The result of overall model fit analysis is presented in table 4. It shows that the model fulfils all of the good fit indicator thus, indicating the overall model is good fit.

Table 1. Overall Model Fit Result

Item	Overall Model Fit	Threshold	Fit Conclusion
χ^2 / df	2.039	≤ 3	Good Fit
RMSEA	0.061	≤ 0.08	Good Fit
GFI	0.90	≥ 0.90	Good Fit
SRMR	0.059	≤ 0.08	Good Fit
CFI	0.98	≥ 0.90	Good Fit
NNFI	0.97	≥ 0.90	Good Fit
Conclusion			Good Fit

5. Discussion

As it shown from table 4.15, there are 6 supported hypotheses and 1 not supported hypothesis despite the fact that the study showed the model to be good fit.

5.1 Health Consciousness, Environmental Consciousness, Purchase Intention, and Purchase Frequency [H1: Supported, H2: Supported, H3: Supported]

The first hypothesis, positive relationship between health consciousness and purchase intention is supported as theorized previously. This is because the respondents who represent as the organic food consumers in this study exhibit a high degree of self-attention to their own health which reflected on their thought and somatic feeling (Gould, 1990). As mentioned in the grand theory, ones consciousness will affect their behaviour through the proxy of organic requirement or unsatisfactory needs. Thus, this high degree of consciousness induces their decision-making on their life choice, which is the purchase intention of organic foods. This founding is a mirror of other empirical studies which shows the health consciousness role in positively influencing the purchase intention of consumers (Yadav and Pathak, 2016; Nagaraj, 2020; Irianto, 2015).

Similarly with the health consciousness, the environmental consciousness also act as the driving force of intention to purchase organic food via their thoughts and somatic feeling. Consumers who understand and care about health and environmental issues are aware that their consumption behaviour has a significant effect on their health and environment (Kim and Seock, 2009). It means that the environmental value offered by the organic food is also important which is one of the well-known reasons is the absence of undesirable substance such as, pesticides, contaminants, insecticide, herbicide, and artificial ingredients on organic food products (Barański et al. 2014).

As it seem from the model, it is shown that the purchase intention have a significantly positive impact toward the purchase frequency of organic food. Additionally, this study also measures the purchase frequency based on how often they spend most of their budget on organic food which implies not only the repeatability of purchase but how big they spend. This shows that people with the intention of buying organic food will then be driven to actually purchasing it. As mentioned by Brown (2003), higher actual buying rate is done by the consumers who have the intention to purchase compared with the one who not. In addition Cheng *et al.* (2011) stating that this consumer behaviour intention will in result with purchase frequency which also will act as inertia to predict the future behaviour intention.

5.2. Perceived price, Purchase Intention, and Purchase Frequency [H4: Supported, H5: Supported]

From the result, it is shown that a perceived price influencing the purchase intention positively. Even though the price of organic food is higher, when the respondent have a perception regarding these high price is reasonable with the value it offers, they will still holds intention

to purchase the organic food (Lim et al., 2014). As mentioned previously, the high price act as indication of superiority in the quality. This quality superior become an attraction to the consumers which reflected in the higher purchase intention. The perceived price also significantly influencing the purchase frequency both direct and indirectly via purchase intention. As mentioned above, the purchase intention is positively influencing the purchase frequency.

5.3. Product Availability, Purchase Intention, and Purchase Frequency [H6: Supported, H7: Not Supported]

From the result, it shows that the availability influences the purchase intention of organic food. Normally, the state of product available create a conveniency to the prospective consumers thus creating the purchase intention to arose. In contrary, low in availability able to supress the purchase intention of the consumers although they might have high motivation to buy organic food. It is because the consumer will require extra effort in order to obtain the product in the future (Vermeir and Verbeke, 2006). While for the impact of availability toward purchasing frequency, it shown that there is no significant effect. This means that the availability will able to impact on the purchase frequency when the consumers having the intention to purchase first. Other reasons for this outcome can be attributed to the high cost of organic food products, which means that despite the availability of organic food, consumers do not prefer to purchase them (Sharaf and Perumal, 2018). Numerous studies have indicated that the availability of organic food has a significant impact on consumers' decision to purchase organic food products, and some have indicated that consumers have difficulty locating organic food products (Suharjo, Ahmady and Ahmady, 2016; David and Firman 2020; Wijaya and Purwoko, 2018). However, in the Indonesian urban region context, it can be seen that the organic movement has impacted the market, and those products are now more available.

5.4. Overall research model

The model implies that: (i) the health consciousness and environmental consciousness positively impact on the purchase intention by providing driving force through their thoughts and somatic feelings as it help the consumers to understand the value offered by the organic food for their health and environment; (ii) the perceived price and availability also positively impact on the purchase intention as price is considered reasonable as superiority in quality while availability inducing conveniency for consumers; and (iii) the purchase intention and

perceived price influencing the purchase frequency as they instigate actual buying through state of mind transferred into behaviour with help of belief in reasonable price.

6. Conclusion

The degree of health and environmental consciousness have relationship to the purchase frequency of organic food. It is indicating that the health and environmental consciousness influence the purchase intention as mediation for influencing actual organic food purchase. Additionally, the perceived price influences the purchase frequency directly and indirectly via purchase intention. While availability affect the purchase frequency through mediation of purchase intention in organic food consumer sector.

References

- Barański, M., Średnicka-Tober, D., Volakakis, N., Seal, C., Sanderson, R., Stewart, G. B., ... Leifert, C. (2014). Higher antioxidant and lower cadmium concentrations and lower incidence of pesticide residues in organically grown crops: A systematic literature review and meta-analyses. *British Journal of Nutrition*. <https://doi.org/10.1017/S0007114514001366>
- Brown, C. (2003). Consumers' preferences for locally produced food: A study in southeast Missouri. *American Journal of Alternative Agriculture*, 18(4), 213–224.
- Chen, M. F. (2011). The joint moderating effect of health consciousness and healthy lifestyle on consumers' willingness to use functional foods in Taiwan. *Appetite*. <https://doi.org/10.1016/j.appet.2011.05.305>
- David, W., & Ardiansyah. (2017). Perceptions of young consumers toward organic food in Indonesia. *International Journal of Agricultural Resources, Governance and Ecology*. <https://doi.org/10.1504/IJARGE.2017.088373>
- Demeritt, L. (2002). All things organic 2002: A look at the organic consumer. *The Hartman Group, Bellevue, WA*.
- Eka, N. R., Alkautsar, S., David, D. W., Noviyara, S., Arixstia, R. T., Putri, A. I. T., ... Sasongko, T. H. (2020). Statistik Pertanian Organik Indonesia (SPOI) 2019. In *Aliansi Organik Indonesia*.
- Irianto, H. (2015). Consumers' attitude and intention towards organic food purchase: An extension of theory of planned behavior in gender perspective. *International Journal of Management, Economics and Social Sciences (IJMESS)*.
- Ivanova, O., Flores-Zamora, J., Khelladi, I., & Ivanaj, S. (2019). The generational cohort effect in the context of responsible consumption. *Management Decision*, 57(5), 1162–1183. <https://doi.org/10.1108/MD-12-2016-0915>
- Kim, S., & Seock, Y. K. (2009). Impacts of health and environmental consciousness on young female consumers' attitude towards and purchase of natural beauty products. *International Journal of Consumer Studies*. <https://doi.org/10.1111/j.1470-6431.2009.00817.x>

- Molinillo, S., Vidal-Branco, M., & Japutra, A. (2020). Understanding the drivers of organic foods purchasing of millennials: Evidence from Brazil and Spain. *Journal of Retailing and Consumer Services*. <https://doi.org/10.1016/j.jretconser.2019.101926>
- Pandey, S., & Srivastava, S. (2016). Antecedents of customer purchase intention. *IOSR Journal of Business and Management*, 18(10), 55–82.
- Park, H., Rabolt, N. J., & Jeon, K. S. (2008). Purchasing global luxury brands among young Korean consumers. *Journal of Fashion Marketing and Management: An International Journal*.
- Pearson, D., Henryks, J., Sultan, P., & Anisimova, T. (2013). Organic food: Exploring purchase frequency to explain consumer behavior. *Journal of Organic Systems*, 8(2), 50–63.
- Pu, B., Zhang, L., Tang, Z., & Qiu, Y. (2020). The relationship between health consciousness and home-based exercise in china during the covid-19 pandemic. *International Journal of Environmental Research and Public Health*. <https://doi.org/10.3390/ijerph17165693>
- Steinhart, Y., Mazursky, D., & Kamins, M. A. (2013). The process by which product availability triggers purchase. *Marketing Letters*, 24(3), 217–228.
- Suharjo, B., Ahmady, M., & Ahmady, M. R. (2016). Indonesian Consumers' Attitudes towards Organic Products. *Advances in Economics and Business*. <https://doi.org/10.13189/aeb.2016.040303>
- Teng, C.-C., & Wang, Y.-M. (2015). Decisional factors driving organic food consumption. *British Food Journal*.
- Valentine, D. B., & Powers, T. L. (2013). Generation Y values and lifestyle segments. *Journal of Consumer Marketing*.
- Wang, J., Pham, T. L., & Dang, V. T. (2020). Environmental consciousness and organic food purchase intention: A moderated mediation model of perceived food quality and price sensitivity. *International Journal of Environmental Research and Public Health*. <https://doi.org/10.3390/ijerph17030850>
- Wijaya, T., & Purwoko, P. (2018). Exploration of Motives and Barriers on Indonesian Organic Products Consumption. *Global Journal of Health Science*, 10(9), 1–66.
- Willer, H., & Lernoud, J. (2019). *The world of organic agriculture. Statistics and emerging trends 2019*. Research Institute of Organic Agriculture FiBL and IFOAM Organics International.

Appendix B. Questionnaire

Construct	Dimension	Questionnaire Items	
Health Consciousness	Self-Health Awareness	I'm very self-conscious about my health.	
		I'm generally attentive to my inner feelings about my health.	
		I reflect about my health a lot	
			I'm concerned about my health all the time.
	Personal Responsibility	I notice how I feel physically as I go through the day.	
		I take responsibility for the state of my health.	
		Good health takes active participation on my part.	
		I only worry about my health when I get sick. (R)	
	Health Motivation	Living life without disease and illness is very important to me.	
		My health depends on how well I take care of myself.	
		Living life in the best possible health is very important to me.	
	Environmental Consciousness	N/A	1. I always advise others to keep the environment clean.
2. I get annoyed when someone contaminates the environment.			
3. I respect all efforts to maintain and preserve the environment.			
4. I appreciate living in a healthy and clean environment.			
5. I respect rules and regulations to maintain and preserve the environment.			
6. I always admire those who rationalize energy consumption.			
7. I am aware of the impact of population explosion on the environment.			
8. I realize that natural resources are scarce, thus must be used wisely.			
9. I believe that man and nature have to be in harmony for survival.			
10. I understand that the environment is for us and future generations, thus must be well maintained and preserved.			
Purchase Intention	N/A	1. I am glad to buy organic foods.	

		2. I expect to consume organic foods.
		3. I would buy organic food products.
		4. I plan to consume organic foods.
		5. I intend to purchase organic foods produce within the next fortnight.
Availability	N/A	Organic food are generally available in the shops where I usually purchase foods
		In general, for me to buy organic food instead of conventional ones would be easy
		Buying organic food would require extra effort I
		If I want to, I could easily buy organic food instead of conventional ones
Perceived Price	N/A	1.Organic food price is reasonable
		2.Organic food is value for money
		3.organic food price is affordable
		4.I am willing to pay for organic food
Purchase Frequency	N/A	How often you buy organic food? a. Have never bought b. Occasionally (around once per month) c. Often (around once per fortnight) d. Regularly – Atlest once per week
		I spend the whole monthly groceries budget for organic food a. Never b. Occasionally c. Often d. Always
		When I go to the supermarket, I buy organic food. a. Never b. Occasionally c. Often d. Always

**DIGITAL TRANSFORMATION RELATIONSHIP
TO THE DIGITAL MATURITY LEVEL
IN HEAVY EQUIPMENT GROUP COMPANY IN INDONESIA**

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ABSTRACT

In line with the evolution of the Industrial Revolution 4.0, where it's believed this will make a shift in the business and social landscape. In addition to encouraging the opening of new markets, the industrial revolution 4.0 in this digital era also promises long-term benefits in the form of efficiency and productivity. The process for consumers to obtain goods and services will be more effective and efficient. Therefore, companies must take advantage of new and evolving technologies to achieve higher levels of production efficiency and consumption, and expansion into new markets. AHEMCE Group (Astra Heavy Equipment, Mining, Contractor & Energy) is aware of the challenges that must be faced in the Industry 4.0 era. Especially in the Construction Machinery & Mining Contracting sector, where the level of competition is very tight, it is hoped that the use of digital technology is expected to improve operational excellence to deliver more the added value to customers. One of the very important indicators that can describe a company's readiness to face digitalization is Digital Maturity which in the future will also be the basis for determining the digital strategy that is part of a company's digital Transformation road map. Research problem find that there is Still low capability & awareness of Organizations related to Digital Transformation, there is still no uniform understanding of Digital Transformation, Not All Company in AHEMCE Group have Digital Transformation Activity , so this research will try To identify relationship between Digital Leadership, Technology Disruption and Digital Transformation activity that impact to Digital Maturity Level in heavy equipment group company in Indonesia.

Type of Paper: Empirical

Keywords: Industry 4.0; Digital Leadership; Technology Disruption; Digital Transformation; Digital Maturity

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1. Introduction

In line with the evolution of the Industrial Revolution 4.0, where it is believed this will make a shift in the business and social landscape. In addition to encouraging the opening of new markets, the industrial revolution 4.0 in this digital era also promises long-term benefits in the form of efficiency and productivity. The process for consumers to obtain goods and services will be more effective and efficient. Therefore, companies must take advantage of new and evolving technologies to achieve higher levels of production efficiency and consumption, and expansion into new markets. In addition, the company needs workers with new skills, which may not exist before. Some areas of employment will experience rapid growth opportunities, while others may be declining.

Based on the survey results from the World Economic Forum Economic (*Future of Jobs Survey 2018*) it was found that there are 4 technologies that will become a trend this year 2018-2022, that is : cloud technology, artificial intelligence, high-speed mobile internet & big data analytics. The four technologies are believed to have a huge impact on the company's business going forward.

One of the very important indicators that can describe a company's readiness to face digitalization is Digital Maturity which in the future will also be the basis for determining the digital strategy that is part of a company's digital Transformation road map.

According to Kieser, H. (2017) Related to the relationship between Digital Leadership, Innovation & Organizational Learning on the digital maturity of a company, it was found that Leadership and learning culture greatly affect the digital maturity of a company in aspects of digital organization and culture. Likewise, based on Mouhamadou Sow (2018) Regarding the relationship between Leadership and Digital Transformation, it was found that leadership style greatly influences how a company carries out digital transformation and the involvement of its employees in the digital transformation. Likewise, according to Andrew Beecher, A (2021) regarding the influence of digital technology on Digital Transformation in Kenya Airways, it was found that digital technology is a very effective tool to trigger the occurrence of Digital Transformation activity in a company. This is also reinforced by Hie, BP (2019) related to the relationship between Transforming Organization Culture and Digital Transformation Governance on the level of Digital Maturity in Banks in Indonesia, it was found that transforming organizational culture and digital transformation governance simultaneously have

a positive and significant effect on digital maturity. The digital transformation governance partially has more dominant influence on digital maturity compared to transforming organizational culture.

AHEMCE Group (Astra Heavy Equipment, Mining, Contractor & Energy) is aware of the challenges that must be faced in the Industry 4.0 era. Especially in the Construction Machinery & Mining Contracting sector, where the level of competition is very tight, it is hoped that the use of digital technology is expected to improve operational excellence to deliver more the added value to customers.

Many of research & journals discuss Digital Transformation & Digital Maturity, but no one has specifically discussed about what factors influence Digital Transformation in Heavy Equipment Company group. So this can lead to an error in how heavy equipment companies make Digital Transformation and its impact on Digital Maturity Level.

1.1 Research Problem & Research Question

As one example of a case we take from one of the existing subsidiaries in AHEMCE Group is data from PT Universal Tekno Reksajaya (UTR) which is engaged in the field of Repair of heavy equipment components called Remanufacturing. From the data it is found that only about 50% of business processes have been digitized into the SAP & Non SAP System, while the rest are still stored in the form of individual work documents, such as Microsoft Office. At the end of 2020, in line with the Digitalization Program announced by UTR Management in accordance with the Strategic Direction & Strategic Implementation UTR 2021, then in this case Digital Transformation becomes something that must be done immediately by UTR if it does not want its business to be disrupted by competitors & customer behavior that changed. Therefore, Pre Assessment has also been done in the UTR Organization to find out how aware & ready UTR to face Digital Transformation. From the results of the internal assessment it is concluded that UTR includes companies that are quite involved in experimenting with some important elements to win digital transformation strategies, although there is already a place to innovate, but the activity is still basic and limited, still often silos, less focused and lack of digital leadership.

The predictive statement of relationship between variable of this research are:

1. Question #1: How The Relationship between Digital Leadership to Digital Transformation activity in Heavy Equipment Company group
2. Question #2: How The Relationship between Technology Disruption to Digital Transformation activity in Heavy Equipment Company Group
3. Question #3: How much influence Digital Transformation Activity to Digital Maturity in Heavy Equipment Company group
4. Question #4: Is there Directly relationship between Digital Leadership to Digital Maturity in Heavy Equipment Company group
5. Question #5: Is there Directly relationship between Technology Disruption to Digital Maturity in Heavy Equipment Company group.

2. Literature Review

2.1. Industry 4.0

To find out what Industry 4.0 is, then there are some references that can be taken from several sources:

- PWC 2016 Global Industry 4.0 Survey

The term Industry 4.0 is used to describe the 4th Industrial Revolution, another related term is "Industrial Internet" or "Digital Factory". Where Industry 3.0 focuses on the automation of individual machines or processes, Industry 4.0 aims to digitize & integrate end-to-end processes of all physical assets into a digital ecosystem. One of the goals of Industry 4.0 is that data can be generated, analyzed & communicated very quickly & precisely through the use of various new technologies to generate added value. Industry 4.0 drive by : Digitization and integration of vertical and horizontal value chains; Digitization of product and service offerings; Digital business models and customer access.

- Deloitte 2014 Industry 4.0 Challenges and solutions for the digital transformation and use of exponential technologies

The term industry 4.0 refers to a further developmental stage in the organization and management of the entire value chain process involved in manufacturing industry. Another term for this process is the 'fourth industrial revolution. The widespread adoption by manufacturing industry and traditional production operations of information and communications technology (ICT) is increasingly blurring the boundaries between the real

world and the virtual world in what are known as cyber-physical production systems (CPPSs). CPPSs are online networks of social machines that are organized in a similar way to social networks. Simply put, they link IT with mechanical and electronic components that then communicate with each other via a network.

The following are the Four main characteristics of Industry 4.0 that show how much capacity the traditional manufacturing and manufacturing industries have to change: Vertical networking of smart production systems; Horizontal integration via a new generation of global value chain networks; Through-engineering across the entire value chain and The impact of exponential technologies

2.2 Digital Transformation

There are already many references that discuss what Digital Transformation is, what is the difference with IT Improvement, Digitization & Digitalization.

In this case I divide into 2 categories of sources, namely those that come from Practitioner & the other one comes from academics (Journal) :

- Sales Force : Digital transformation is the process of using the latest digital technology that aims to create or change business processes, corporate culture and customer experience to meet business needs and market requirements.. “Every digital transformation is going to begin and end with the customer, and I can see that in the minds of every CEO I talk to” Marc Benioff, Chairman and Co-CEO, Salesforce”
- Red Hat : Digital transformation is when an organization tries to adopt some innovative new ways of doing business using existing technological advances. Basically this is a process of using digital technology that has the potential to improve or replace existing processes, including in this case a change in work culture. Digital transformation is not a finished product that can be purchased and directly applied, but will affect the information technology used in every industry
- Citrix : Digital Transformation is a strategy for how organizations adopt available digital technology. It aims to improve processes and productivity, improve customer experience, improve employee experience, better business risk management, and also improve cost

control. Digital transformation includes all tools, solutions and processes. An effective strategy is unique to each organization.

- *(Daniel Schallmo 2018)* The digital transformation framework is in all segments of the value-added chain and the application of new technologies that include networks between sellers and customers. Thus, digital transformation must involve the exchange of data between value-added chains that can be analyzed and then produced an information that can be followed up by each party. This information should be used as a basis for decision making. To improve company performance, digital transformation involves all elements of the company, business models, business processes, relationships between section, products, etc
- *(Melissa Liborio Zapata 2020)* Digital transformation is a complex process that considers several factors such as technology, investment of resources, economy and others that require choosing the right strategy to achieve success
- *(Torsten Gollhardt 2020)* Digital transformation, consists of three aspects. The first aspect is technology, where digital transformation is the adoption of emerging technologies. The second aspect is organization, where digital transformation drives organizational change and business model changes. The third aspect is social, digital transformation as a social aspect of the implementation of new technology.

2.3 Digital Maturity

Some understanding of what Digital Maturity is can be seen from some of the references below:

- *(Alberto Dominguez 2017)* The term “digital maturity” is closely related to digital transformation. In this case we can say that the ultimate goal of Digital Transformation carried out by a company is Digital Maturity, where companies that have achieved high Digital Maturity have benefited in the form of an increase in Operational Excellence and also an increase in customer
- *(MIT Sloan Management Review, Gerald C. Kane 2017)* Digital maturity is a gradual process over time within an organization. This is similar to a child not always knowing what they will be like when they grow up, just as an organization may not fully know what they will be like when it reaches digital maturity. This is because the maturation process is a natural process and will not occur automatically, but through several stages of the process. Digital

maturity can be thought of as a process is a process by which a company grows and develops on how to respond appropriately to the ever-growing digital competitive environment

- (Torsten Gollhardt 2018) The maturity model consists of a sequence of maturity levels of each object class. In this case the objects formed as discrete stages or a representative of the anticipated and desired evolutionary path, and usually this object is an organization or process. This maturity model can cover three different functions, namely the current conditions (descriptive), the desired conditions and how to achieve them (prescriptive) and the last is the comparison of conditions with similar industries (comparative). A maturity model is designed descriptively, but can develop into a prescriptive or comparative after being implemented.

Usually to find out how ready an organization / company to cope with the development of technology, then create an assessment scale called Digital Maturity Level, where to know the Digital Maturity Level, then a tool called Digital Maturity Model or Digital Maturity Level Assessment is needed.

3. Research Methodology

3.1 Type of Study

This study uses Conclusive Research which is applied to produce practical findings to be used in drawing conclusions or making decisions. In this type of research, the research objectives and the data needed need to be clearly defined (Malhotra, 2012). More specifically, here the researcher will use Descriptive research

3.2 Unit Analysis/Unit Observation

Unit of Analysis	Data Collection	Unit of Observation
Organization	Questionnaire Interview	Individual

In this study, the unit of analysis focused on AHEMCE Group on the business pillar of Heavy Equipment Construction Machinery & Mining Contractor which consists of: PT United Tractors (UT), PT Universal Tekno Reksajaya (UTR), PT Komatsu Reman Asia (KRA), PT Pama Persada Nusantara (PAMA), PT Bina Pertiwi (BP).

3.3 Sampling Design

Due to the limited time of the research, this research will take a sampling of all employees at 6 company above, and focus on the Officer level until Division Head.

This research is using non-probability sampling which is judgmental sampling. Judgmental sampling is a form of convenience sampling in which the population elements are selected based on the researcher’s judgment (Malhotra, 2012)

Unit of Analysis	Data Collection	Unit of Observation	Sample Size
Organization	Questionnaire Interview	Individual	175

This research will implement and estimate the sample size is based on the number of variables which has 9 variables therefore 175 respondents as a sample size will be implemented.

3.5 Data Sources and Collection Method

This research using primary data and secondary data and this research using both quantitative research and qualitative research.

Hypothesis	Type of Research	Data Collection Method
H1. There is influence of Digital Leadership to Digital Transformation activity in Heavy Equipment Company	Conclusive & Descriptive Research	Questionnaire Interview
H2. There is influence of Technology Trend to Digital Transformation activity in Heavy Equipment Company	Conclusive & Descriptive Research	Questionnaire Interview
H3. There is influence of Digital Transformation Activity to Digital Maturity level in Heavy Equipment Company	Conclusive & Descriptive Research	Questionnaire Interview
H4. . There is directly Influence of Digital Leadership to Digital Maturity level in Heavy Equipment Company	Conclusive & Descriptive Research	Questionnaire Interview
H5. There is directly Influence of Technology Disruption to Digital Maturity level in Heavy Equipment Company	Conclusive & Descriptive Research	Questionnaire Interview

This research will be use a survey with questionnaires, the questionnaire structures used consists of several important parts:

- The Introduction Part
 - a. Digital Leadership survey (For Employee) : The questionnaire is intended to measure employee opinion related to Leadership condition that affect to Digital Transformation in their Organization
 - b. Technology Disruption Survey : The questionnaire is intended to measure employee opinion related to technology trend that affect to Digital Transformation in their Organization
 - c. Digital Transformation Survey : The questionnaire is intended to measure employee opinion related to digital transformation activity that affect to Digital Maturity in their Organization
 - d. Digital Maturity : The questionnaire is intended to measure employee opinion related to Digital Maturity that affected by Digital Transformation Activity in their Organization
- Screening Part : The screening question consist of Company Name, Position, Work Location
- Respondent Profiles Part : The respondent profile consists of Gender, Age, Work Duration, educational background
- Main Variables Part

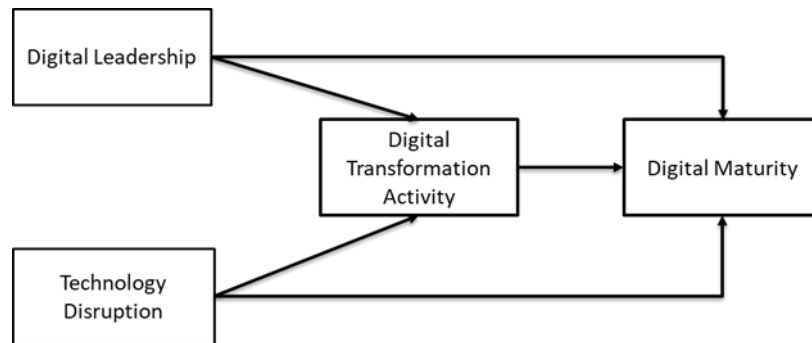
The questionnaire variable consist of

- a. Digital Leadership survey: Six (6) question
- b. Technology Disruption survey : Six (6) question
- c. Digital Transformation Activity survey : Five (5) question
- d. Digital Maturity : Seven (7) question about Customer Experience; Seven (7) question about Operational Excellence, Seven (7) question about Business Model

3.6 Research Model

The research model of this study can help in problem-setting, identify relevant factors, and then provide connections that make it easier to map the frame of the problem as

seen in figure 3.1



The differentiator of this study with previous study in term of variable used or research model is that this study used 2 independent variables, and 2 dependent variable.

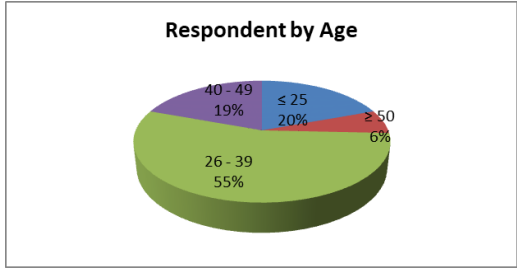
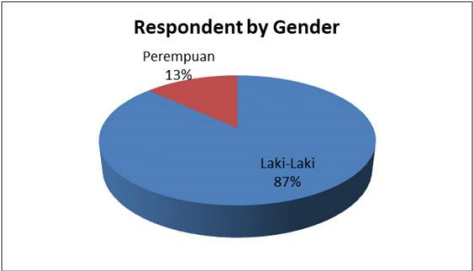
- Independent variables (X): Digital Leadership (X1), consist of 6 indicators & Technology Disruption (X2), consist of 6 indicators.
- Dependent variable (Y): Digital Transformation (Y1), consist of 5 indicators. Digital Maturity (Y2), consist of 3 Indicators (Customer Experience 7 Sub Indicators, Operational Excellence 7 Sub Indicators & Business Model 8 Sub Indicators)

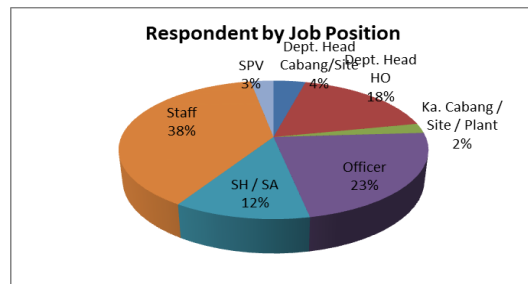
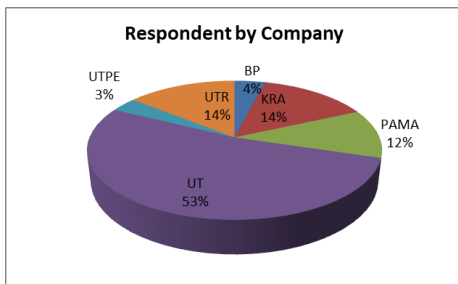
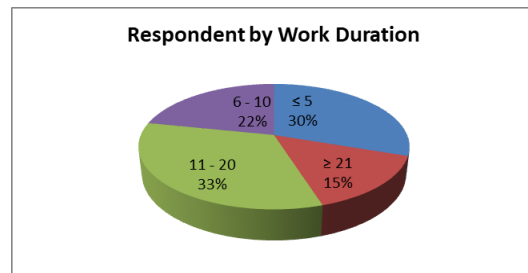
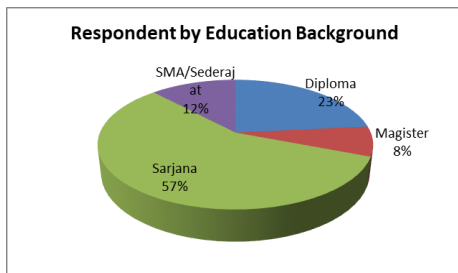
3.7 Variable Operationalization

- Values X1 : Digital Leadership: is the opinion of employees about how leaders in the organization face the development of digital technology & what commitments have been given to the organization in order to face competition in today's digital era.
- Values X2 : Technology Disruption: is an employee's opinion on how digital technology trends impact their organization & how the Organization sees existing technological developments, whether as opportunities or as threats.
- Values X3/Y1 : Digital Transformation is an employee's opinion about how the organization is ready to carry out Digital Transformation & whether the digital transformation carried out in the organization is going well or not.
- Values Y2 : Digital Maturity: is the opinion of employees about how mature their organization is in the current digital era, by looking at what has been implemented in terms of using new technology to improve customer experience, using new technology to improve operational excellence & using new technology to create new business models

Variable	Indicator	Code
Digital Leadership	Executives and middle management aligned in terms of what the organizational vision is and what needs to be implemented to realize it	DL1
	Our company's leadership fully supports and actively drives the digital vision and evolution of our business.	DL2
	Our organization's leadership use digital tools (like data analytics or dashboards) to support decision-making	DL3
	I am confident in my leadership's understanding of relevant digital trends and emerging technologies	DL4
	Our organization's leadership has sufficient skills and experience to lead our organization's digital strategy	DL5
	My manager encourages me to innovate with digital technologies.	DL6
Technology Disruption	I know what my organization is doing with respect to digital technologies	TD1
	Digital technologies have the potential to fundamentally transform the way people in our organization work	TD2
	My organization views digital technologies as an opportunity	TD3
	My organization views digital technologies as a threat	TD4
	I am satisfied with my organization's current reaction to digital trends	TD5
	I am confident in my organization's readiness to respond to digital trends	TD6
Digital Transformation Activity	We have the resources we need for our digital transformation, including talent, funding and research.	DT1
	Our company has a clear digital roadmap, with buy-in and transformation efforts aligned across all department and divisions.	DT2
	Our company clearly communicates our digital vision and roadmap both internally and externally.	DT3
	Our company always updates the progress of implementing the Digital Road Map regularly using internal communication media (Email, Podcast, WA Group, etc)	DT4
	Digital Roadmap in our company has been implemented and is running well	DT5
Digital Maturity (Using New Digital Technology in improving)	Our Company Applying analytics based Segmentation	DMCE1
	Our Company Using socially-informed knowledge	DMCE2
	Our Company using Digitally-enhanced selling modes	DMCE3
	Our Company Applying predictive marketing	DMCE4

Customers Experience)	Our Company Applying streamlined customer processes	DMCE5
	Our Company Using Digital Customer Service	DMCE6
	Our Company using Digital self-service for Customer	DMCE7
Digital Maturity (Using New Digital Technology in improving Operational Excellence)	Our Company make Performance improvement by digital technology	DMOE1
	Our Company make New features of processes by digital technology	DMOE2
	Our Company make Workers can work anytime anywhere	DMOE3
	Our Company make Broader and faster communication	DMOE4
	Our Company make Digitally assisted community knowledge sharing	DMOE5
	Our Company make Digitally assisted operational transparency	DMOE6
	Our Company using Data-driven decision making	DMOE7
Digital Maturity (Using New Digital Technology in changing Business Model)	Our Company make Digitally augmentation of products/services	DMBM1
	Our Company make Transitioning physical to digital	DMBM2
	Our Company make Digital wrapping of products/services	DMBM3
	Our Company make New digital products	DMBM4
	Our Company Reshaping organizational boundaries	DMBM5
	Our Company make Digitally enabled enterprise integration	DMBM6
	Our Company doing Redistribution of decision authority	DMBM7
	Our Company make Shared digital service	DMBM8





4. Results

4.1 Digital Maturity Level

One of the objectives of this research is to measure the digital maturity level in each company & also the AHMCE Group which focuses on companies engaged in Heavy Equipment Construction Machinery and Mining Contractors. Based on Hie, BP (2019) The model used to assess the Digital Maturity Level consists of 3 main aspects, namely: 1. Use of new digital technology to improve customer experience (Customer Understanding, Top Line Growth, Customer Touch Point), 2. Use of technology new digital technologies to improve Operational Excellence (Process Digitization, Worker Enablement, Performance Management), 3. Use of new digital technologies to change business models (Digitally Modified Business, New Digital Business, Digital Globalization).

For the weighting of these 3 aspects, the researcher uses weights that are adjusted to what aspects are most suitable for the industrial sector of the AHMCE group

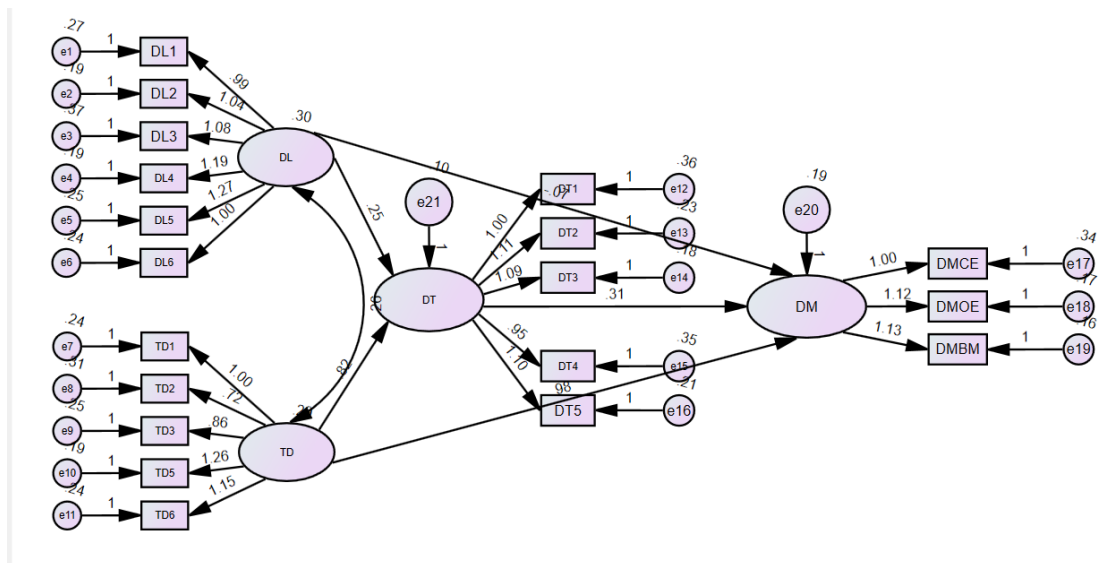
Digital Maturity Level				
Traditional	Emerging	Engaged	Competitive	Mature
0.0-1.0	1.1 -2.0	2.1-3.0	3.1-4.0	4.1-5.0

Factor	40%	40%	20%	Total Score
Company Name	DMCE	DMOE	DMBM	DM
PT United Tractors	4.09	4.17	4.09	4.12
PT Pama Persada Nusantara	3.58	4.39	4.07	4.00
PT Universal Tekno Reksajaya	3.07	3.56	3.50	3.35
PT Komatsu Reman Asia	3.50	3.81	3.70	3.67
PT Bina Pertiwi	3.66	4.14	4.03	3.93
PT United Tractors Pandu Engineering	4.35	4.61	4.40	4.46
AHEMCE Group	3.71	4.11	3.96	3.92

From table 4.2, it can be seen that there are 4 companies at the Competitive Level, namely: PT Pama Persada Nusantara, PT Universal Tekno Reksajaya, PT Komatsu Reman Asia & PT Bina Pertiwi, while there are 2 companies that are at the mature level, namely: PT United Tractors & PT United Tractors Pandu Engineering. PT United Tractors is at the Nature level because this company has indeed carried out Digital Transformation since 2017 and until now many Digital Initiatives have been successfully implemented. Likewise for PT United Tractors Pandu Engineering which has also carried out Digital Transformation since 2019 and until now many Digital Initiatives have been successfully implemented.

From table 4.2, it is also found that the majority of the weaknesses of the Digital Maturity Level in some companies are in the Aspect of the Use of new digital technology to improve Customer Experience & The majority of the strengths of the Digital Maturity Level in some companies is in the Aspect of the use of new digital technology to improve Operational Excellence. This is because the business model in AHMECE Group is Business to Business, so they focus on Internal first to improve the company's operations and then the output is used to provide added value to improve customer experience

4.4. Structural Equation Model (SEM)



4.5. Hypothesis Analysis

- H1 There is influence of Digital Leadership to Digital Transformation activity in Heavy Equipment Company

The estimated parameter value of the standardized regression weight coefficient between digital leadership and Digital Transformation Activity is 0.248, testing the relationship between the two variables shows a probability value of 0.159 ($p > 0.05$) thus H1 is not supported because there is a Low Positive Correlation between digital leadership and Digital Transformation. Activities. so it can be concluded that digital leadership is Low Positive Correlation to Digital Transformation Activity.

- H2. There is influence of Technology Disruption to Digital Transformation activity in Heavy Equipment Company

The estimated parameter value of the standardized regression weight coefficient between technology disruption and Digital Transformation Activity is 0.825, testing the relationship between the two variables shows a probability value of 0.000 ($p < 0.05$) thus H1 is supported because there is a Very High Positive Correlation between technology disruption and Digital Transformation. Activities. so it can be concluded that technology disruption is very high positive correlation to digital transformation activity, so that the higher the ability to deal with technology disruption, the more influence the acceleration of digital transformation is carried out.

- H3. There is influence of Digital Transformation Activity to Digital Maturity level in Heavy Equipment Company

The estimated parameter value of the standardized regression weight coefficient between the Digital Transformation Activity and the Digital Maturity Level is 0.307. The test of the relationship between the two variables shows a probability value of 0.093 ($p > 0.05$), thus H1 is supported because there is a Low Positive Correlation between the digital Transformation Activity. against the Digital Maturity Level. so it can be concluded that digital Transformation Activity Low Positive Correlation to Digital Maturity Level

- H4. There is directly Influence of Digital Leadership to Digital Maturity level in Heavy Equipment Company

The parameter estimated value of the standardized regression weight coefficient between Digital Transformation Activity and Digital Maturity Level is -0.066. The test of the relationship between the two variables shows a probability value of 0.773 ($p > 0.05$), thus H1 is not supported because there is little if any correlation between Digital Leadership and Digital Leadership. Digital Maturity Level. so it can be concluded that Digital Leadership Little if any correlation to Digital Maturity Level. H5. There is directly Influence of Technology Disruption to Digital Maturity level in Heavy Equipment Company

- H5. There is directly Influence of Technology Disruption to Digital Maturity level in Heavy Equipment Company

The parameter estimation of the standardized regression weight coefficient between technology disruption and Digital Transformation Activity is obtained at 0.983, testing the relationship between the two variables shows a probability value of 0.002 ($p < 0.05$) thus H1 is supported because there is a Very High Positive Correlation between technology disruption and Digital Maturity. Levels. so it can be concluded that technology disruption is very high positive correlation to digital maturity level, so the higher the ability to deal with technology disruption, the more influence the company's maturity in facing the digital era.

5. Discussion

- Digital leadership is Low Positive Correlation to Digital Transformation Activity & Digital Maturity Level

This can happen because in companies that engaged in the Heavy Equipment industry, there are 4 main factors that drive digital transformation, namely the Technology Trend, Competitor Benchmarking, Customer Voice and also Internal Process. So the leader or Top Management in this case will see how much encouragement from these five factors, where the most dominant is usually the factor from the customer voice who really wants an improvement from the Customer Experience they feel during transactions with the company & this is usually compared to competitors which could be earlier in doing digital transformation.

- Technology disruption is very high positive correlation to digital transformation activity & Digital Maturity Level

As stated in the previous point, the Technogy Trend is one of the main factors for Digital Transformation in companies engaged in Heavy Equipment Construction & mining contractors. And this is indeed evident from the results of research stating that. Usually this Technology Trend will be a reference for what digital technology will be implemented in the company to be able to answer Customer Requirements and also Internal Process requirements. Because not all digital technology is right for all types of companies. Several factors are also taken into consideration in choosing what technology to use, from the sustainability side of the technology, costs for implementation and the suitability of the technology to the Digital Initiatives that will be implemented.

- Digital Transformation Activity have Low Positive Correlation to Digital Maturity Level

Although the correlation is not very big, we cannot deny that if a company runs its Digital Transformation activity well, this will also have an impact on increasing the digital maturity level in the company. Although this is indeed influenced by the success of the Digital Transformation being carried out and whether the Digital Initiatives that are part of the digital transformation are appropriate to the needs of the company.

6. Conclusion

This research measure The relationship between digital leadership, Technology Disruption with Digital Transformation that impact to Digital Maturity Level in Organization, focuses on 6 company in AHEMCE & also can measure Digital Maturity Level for that company. From five hypotheses, three of them were accepted and two hypotheses were rejected.

From The Maturity Level Result, it can be seen that there are 4 companies at the Competitive Level, namely: PT Pama Persada Nusantara, PT Universal Tekno Reksajaya, PT Komatsu Reman Asia & PT Bina Pertiwi, while there are 2 companies that are at the mature level, namely: PT United Tractors & PT United Tractors Pandu Engineering. PT United Tractors is at the Nature level because this company has indeed carried out Digital Transformation since 2017 and until now many Digital Initiatives have been successfully implemented. Likewise for PT United Tractors Pandu Engineering which has also carried out Digital Transformation since 2019 and until now many Digital Initiatives have been successfully implemented.

It is also found that the majority of the weaknesses of the Digital Maturity Level in some companies are in the Aspect of the Use of new digital technology to improve Customer Experience & The majority of the strengths of the Digital Maturity Level in some companies is in the Aspect of the use of new digital technology to improve Operational Excellence. This is because the business model in AHMECE Group is Business to Business, so they focus on Internal first to improve the company's operations and then the output is used to provide added value to improve customer experience.

References

- Abbu, H. et al. (2020) 'DIGITAL LEADERSHIP - Character and Competency Differentiates Digitally Mature Organizations', Proceedings - 2020 IEEE International Conference on Engineering, Technology and Innovation, ICE/ITMC 2020, (June). doi: 10.1109/ICE/ITMC49519.2020.9198576.
- Aslanova, I. V. and Kulichkina, A. I. (2020) 'Digital Maturity: Definition and Model', 138(Mtde), pp. 443–449. doi: 10.2991/aebmr.k.200502.073.
- Azevedo, A. and Santiago, S. B. (2019) 'Design of an assessment industry 4.0 maturity model: An application to manufacturing company', Proceedings of the International Conference on Industrial Engineering and Operations Management, (2013), pp. 208–217.
- Becker, W. and Schmid, O. (2020) 'The right digital strategy for your business: an empirical analysis of the design and implementation of digital strategies in SMEs and LSEs', Business Research, 13(3), pp. 985–1005. doi: 10.1007/s40685-020-00124-y.

- Canetta, L., Barni, A. and Montini, E. (2018) 'Development of a Digitalization Maturity Model for the Manufacturing Sector', 2018 IEEE International Conference on Engineering, Technology and Innovation, ICE/ITMC 2018 - Proceedings, pp. 1–7. doi: 10.1109/ICE.2018.8436292.
- Chanias, S. and Hess, T. (2016) 'Company ' S Status in the Digital Transformation'.
- Golinska, P. and Kuebler, F. (2014) 'The method for assessment of the sustainability maturity in remanufacturing companies', *Procedia CIRP*, 15, pp. 201–206. doi: 10.1016/j.procir.2014.06.018.
- Hamidi, S. R. et al. (2018) 'SMEs maturity model assessment of IR4.0 digital transformation', *Advances in Intelligent Systems and Computing*, 739, pp. 721–732. doi: 10.1007/978-981-10-8612-0_75.
- Hie, B. P. (2019) 'Impact of Transforming Organizational Culture and Digital Transformation Governance Toward Digital Maturity in Indonesian Bank', *International Review of Management and Marketing*, 9(6), pp. 51–57. doi: 10.32479/irmm.8785.
- Issa, A. et al. (2018) 'Industrie 4.0 roadmap: Framework for digital transformation based on the concepts of capability maturity and alignment', *Procedia CIRP*, 72, pp. 973–978. doi: 10.1016/j.procir.2018.03.151.
- Kerin, M. and Pham, D. T. (2020) Smart remanufacturing: a review and research framework, *Journal of Manufacturing Technology Management*. doi: 10.1108/JMTM-06-2019-0205.
- Kieser, H. (2017) 'The influence of a leadership style on the innovation process of an organisation', *Gordon institute of business science*, (November), pp. 1–26.
- Liere-Netheler, K., Packmohr, S. and Vogelsang, K. (2018) 'Drivers of Digital Transformation in Manufacturing', *Proceedings of the 51st Hawaii International Conference on System Sciences*, (May). doi: 10.24251/hicss.2018.493.
- Milošević, M. et al. (2020) 'Digital Transformation of Manufacturing Towards Industry 4.0 Concept', *IOP Conference Series: Materials Science and Engineering*, 749(1). doi: 10.1088/1757-899X/749/1/012019.
- Mittal, S., Romero, D. and Wuest, T. (2018) 'Towards a smart manufacturing toolkit for SMEs', *IFIP Advances in Information and Communication Technology*, 540(August), pp. 476–487. doi: 10.1007/978-3-030-01614-2_44.
- Nowicka, K. (2020) 'Customer Experience as the Driving Force for Supply Chains Digital Transformation', *European Journal of Economics and Business Studies*, 6(1), p. 6. doi: 10.26417/ejes.v6i1.p6-15.
- Pirola, F., Cimini, C. and Pinto, R. (2019) 'Digital readiness assessment of Italian SMEs: a case-study research', *Journal of Manufacturing Technology Management*, 31(5), pp. 1045–1083. doi: 10.1108/JMTM-09-2018-0305.
- Prakasa, Y., Raharjo, K. and Wiratama, I. D. (2020) 'Transformational Leadership and Digital Maturity: The Mediating Role of Organizational Culture', 154(AICoBPA 2019), pp. 224–229.
- Schallmo, D., Lang, K. and Williams, C. A. (2020) 'An Approach for a Digital Maturity Model for SMEs based on Their Requirements', (June), pp. 0–16.

- Schallmo, D., Williams, C. A. and Lohse, J. (2018) 'Clarifying digital strategy – detailed literature review of existing approaches', The XXIX ISPIM Innovation Conference – Innovation, The Name of the Game, (July), pp. 1–21. Available at: <https://www.researchgate.net/publication/326260281>.
- Schumacher, A., Erol, S. and Sihm, W. (2016) 'A Maturity Model for Assessing Industry 4.0 Readiness and Maturity of Manufacturing Enterprises', *Procedia CIRP*, 52, pp. 161–166. doi: 10.1016/j.procir.2016.07.040.
- Schumacher, A., Nemeth, T. and Sihm, W. (2019a) 'Roadmapping towards industrial digitalization based on an Industry 4.0 maturity model for manufacturing enterprises', *Procedia CIRP*, 79(July 2018), pp. 409–414. doi: 10.1016/j.procir.2019.02.110.
- Sow, M. and Aborbie, S. (2018) 'Impact of Leadership on Digital Transformation', *Business and Economic Research*, 8(3), p. 139. doi: 10.5296/ber.v8i3.13368.
- Williams, C. et al. (2019) 'Digital Maturity Models for Small and Medium-sized Enterprises: A Systematic Literature Review', *ISPIM Conference Proceedings*, (June), pp. 1–15.

Consumer Behavioural Strategy: How It Affect Firm Performance in Food & Beverage Industry

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ABSTRACT

Purpose – This study is to examine the relationships of commodity value, substitution effect, situational constraint, social cause and emotional attachment towards consumer purchase intent; and the impact of such consumer purchase intent on the firm's strategy execution and performance in the food & beverage industry during the Covid-19 pandemic.

Design/methodology/approach – The empirical quantitative study was drawn from the online questionnaires from consumers who dine in the restaurants located at the shopping malls in Jakarta, Indonesia. These consumers allowed us to examine the linkages in the research model from the perspective of consumer behavior strategy.

Findings – Substitution effect has stronger adverse association towards consumer purchase intent, while consumer purchase intent has a positive relationship with strategy execution. Understanding such relationships enable firms to align the strategy from consumers and firm centric perspectives.

Research limitations/implications – A cross-sectional study may not provide causality among the constructs in the research model, and the findings were drawn from a limited geographical coverage of the restaurants located at the shopping malls in Jakarta region.

Practical implications – Understanding consumer purchase intent enables top management in food & beverage industry to have an adaptive strategy execution.

Originality/value – The proposed model enables firms to understand consumer behavior, and leverage resources and capabilities through firm's strategy execution to be adaptive in response to disruptive environment such as Covid-19 pandemic to ensure a sustained firm performance.

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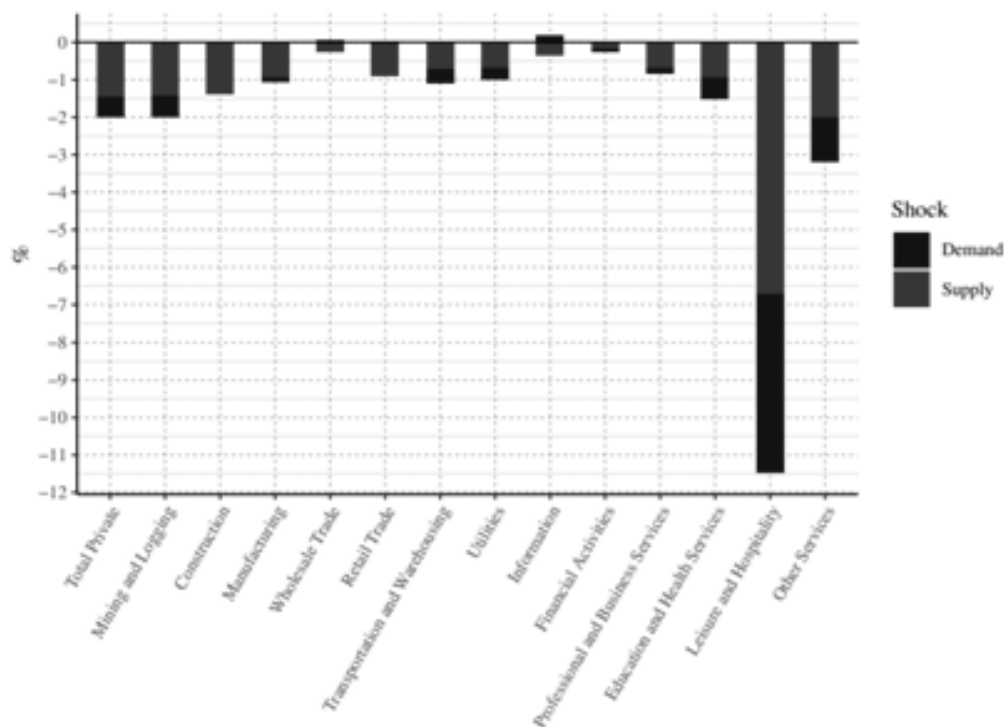
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Type of Paper: Empirical/ Review

Keywords: Commodity value, substitution effect, emotional attachment, situational constraint, social cause, consumer purchase intent, strategy execution, and firm performance.

1. Introduction

Covid-19 pandemic has changed consumer behavior towards their purchase behavioral across the globe. This was due to the disruptive forces of the Covid-19 pandemic towards supply and demand, especially in the food and beverage industry (Sheth, 2020). Such disruption, influences consumer purchase intent, which it eventually impact the firm performance. Moreover, key industries such as tourism, food and beverage, and catering industries are industries that have become the “epicenter” of the Covid-19 pandemic resulting in severe contraction of the global economy (Shen et al., 2020).



(Source: Brinca, P., Duarte, J.B., Faria e Castro, M., 2020)

Figure 1.1: Shock Decomposition of the Growth of Hours Worked by Sector, March 2020

Figure 1.1 shows the most affected sectors due to the lockdown period during the Covid-19 pandemic were leisure and hospitality (including food and beverage industry). (Brinca, Duarte, & Faria-e-Castro, 2020).

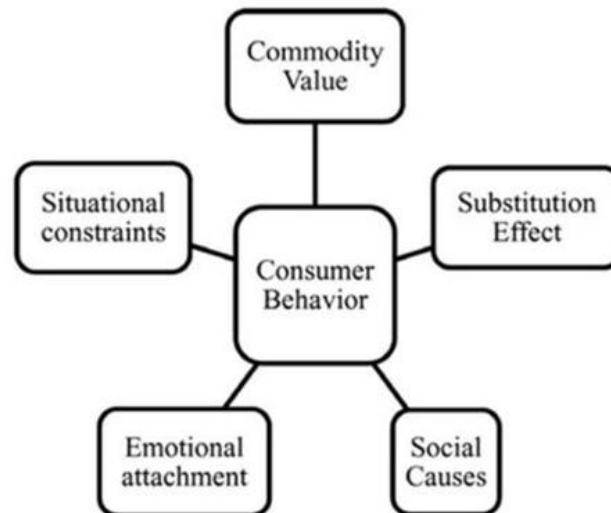
Despite the fact of such adverse impact on food and beverage industry, Hidayat et al. (2020) indicated that food and beverage industry has still experienced growth and increase competition. Therefore, they suggested that a better understanding of consumer purchase intent and other variables shaping such growth and competition in the food and beverage warrants further analysis. Global Industry Outlook Report from Euromonitor International and GRS Research & Strategy (2021), showed that food & beverage industry (even during the Covid-19 pandemic) still showing growth for 2011 to 2021 accross all regions in the world as shown in Figure 1.2 below:

	Asia Pacific	Australasia	Europe	Latin America	Middle East & North Africa	North America	Sub-Saharan Africa
Total F&B 2011-2016 Growth	3.0%	1.0%	0.5%	0.1%	3.0%	0.4%	3.5%
Total F&B 2016-2021 Growth	3.6%	2.0%	1.2%	2.6%	3.5%	0.9%	4.1%
Fastest growing retail channel 2017-2018	Internet retailing (34%)	Internet retailing (10%)	Internet retailing (7%)	F/D/T Specialists (11%)	Internet retailing (27%)	Internet retailing (9%)	Internet retailing (34.2%)

Source: Euromonitor International analysis from Passport

Figure 1.2: Total Food & Beverage Industry Growth Around the World 2011-2021

The change in consumer behaviour due to the Covid-19 pandemic needs to be further examined to understand consumer behaviour, in particular their purchase intent in order to ensure that those customers could be turned into repeat customers. Understanding of purchase intent would enable firms to have strategy that transform such purchase intent into actual purchase ensuring repeat customers resulting in enhancing firm performance. Dey (2015) stated that, firm performance improvement can be achieved by utilising theories on consumer behaviour behaviour on possible factors in determining consumer behaviour, as shown in Figure 1.3 below:



(Source: Dey, P. 2015)

Figure 1.3: Dimensions of Consumer Behaviour

According to Dey (2015), consumer will consider about the commodity value of the product or service, and in the same time will be impacted by substitution effect that might be raise related to the availability of product or services, and also the situational constraint that might surrounding the customer. Consumer’s emotional attachment and social cause also can be background for consumer behaviour that might affect their purchase intention. But, since the study not spesifically research on food and beverage industry and done in pre-pandemic period, thus our research would try to clarify or further examine this issue, whether is still applicable on the current pandemic situation.

From firm centric perspectives, Powell (2017) found that it is important to optimizing firm performance by creating competitive advantage using appropriate strategy execution based on consumer behaviour analysis.

Hence, this study will verify and confirm the relationship from consumer behaviour perspective (spesifically consumer purchase intent), its relating factors (which are commodity value, substitution effect, social causes, emotional attachment and situational constraints). Also to examine the relationship between the outcomes of purchase intention toward strategy execution and eventually towards firm performance in food & beverage industry.

The paper is structured as follows. First, the review of literature on the variables or constructs used in this study – commodity value, substitution effect, situational constraint, emotional attachment, social cause, consumer purchase intent, strategy execution, and firm performance as well as the hypotheses on their relationships will be presented. Subsequently follow the research method description and discussion of the study conducted in Jakarta area, Indonesia covering 112 restaurants in 49 shopping malls with sample of 256 respondents who dined in the respective restaurants. Finally, the conclusion, managerial implications, research limitations and implications for further studies are provided.

2. Literature Review

2.1 Commodity Value, Substitution Effect, Emotional Attachment, Situational Constraint, Social Cause and Consumer Purchase Intent

Commodity Value (CV), which according to Lynn (1991) and Yu et. al (2019) can be seen from the perspective of commodity principle, value principle, and unavailability concepts, already proven to resulting in form of strong influence and was a significant predictor when forming a positive attitude and making a purchase decision.

First, from the commodity principle, "Commodities" are any things—messages, experiences, or objects— that must: (i) be useful to a person; (ii) be transferable from one person to another; (iii) have the potential to be possessed, otherwise things which are beyond the reach of a person are not commodities for him or her (Lynn, 1991).

Second, from the value principle, "Values" can be equated with "utility" or "desirability", since commodities have a positive utility, any enhancement of a commodity's value (or potency) will increase its perceived utility and will make the commodity more desirable and sought after (Brock, 1968, p.246 in Lynn,1991).

Third, from the unavailability concepts, "Unavailability" refers to scarcity and limits on availability of the commodities, such as (a) limits on the supply or the number of suppliers (b) costs of acquiring of keeping or of providing a commodity (c) limiting possession of a commodity (d) delays in providing a commodity (Brock, 1968, p.246 in Lynn,1991).

Moreover, Howard Fromkin (1973) & Richard Snyder (1980), have taken into a separate theory about the need for uniqueness. They said that people need to feel moderately unique when they use the products or in other words; have some value that different with others.

From those commodity theory perspectives, we can see that scarcity and uniqueness of commodity could enhance the value or desirability of that commodity from the customer's perception. Hence, it could be inferred as customer value or the perceived value of the customer towards such commodity.

Consumer perceived value of a commodity have been studied in behavioural landscape within the field of marketing, and have been widely studied to discover its capability to contribute in gaining improved better understanding of the purchase decision making process of consumers (Zauner et al.,2015 in Abou Ali et al., 2021). Zeithaml (1988) in Abou Ali et al. (2021) defined perceived value as the overall assessment of the utility of a product based on the perceptions of what is received and what is given. Further, Wu et al. (2014) in Abou Ali et al. (2021) study showed that consumers' perceived value positively affects purchase intention whereas cost attributes negatively affect purchase intention, so the more the perceived value, the higher is the intention to purchase the goods and services.

According to Martinez (2003) in Bititci et al. (2004), value can be seen from two perspectives, which are (i) Internal Value (from firm or shareholder point of view), where value equals to wealth; and (ii) External Value (from consumer point of view), where value equals to satisfaction. Hence, value can be resulted from satisfaction and fulfilment of consumer expectation, at the same time also generating wealth for firms.

Substitution Effect (SE), is defined as the variation in the quantity demanded that results from a very small variation in the price of the corresponding or of a related good, in such a way that the utility or real income remains constant. In this way, the SE offers a real indicator (utility or real income constant) that is very useful in measuring the substitution phenomenon in the demanded quantity as a function of the price change (Nadal et al.,2017).

Moreover, Komleh (2018) also shows that commodity intrinsic value, such as product scarcity and availability can influence the price and have relationship with the demand of the consumer, thus change of price has a possibility creating a substitute effect at the

consumer perspective that will impact consumer purchase intent of a product. And as consequences of substitute effect, consumer can change their intent to purchase or substitute the products or services with other products or services.

Dragone & Vanin (2020) also said that substitution effects are always negative (contra effect) related to consumer behaviour, particularly consumer purchase intent. Higher level of substitution effect on certain products or services, will creating more choices, from consumer perspective. Thus, will decrease the consumer purchase intention those products or services, the intention could move to another option available.

Moreover, Zeelenberg and Pieters (2004) in Hamilton et al. (2014), stated that substitution effect could potentially make consumer purchase intent diverted to another product as substitute to the initial product. Hence, substitution effect could potentially have adverse effect on the consumer purchase intention.

Emotional Attachment (EA), according to Thomson et al. (2005) in Patwardhan and Balasubramanian (2013), consists of three dimensions – connection, affection, and passion. Other study also stated that the strength of emotional attachment to an object may be associated with investment in the object, that is, the willingness to promote a relationship between a consumer and a product that he or she develops an emotional attachment (van Lange et al., 1997 in Thomson et al., 2005). To this extent, a valid measure of emotional attachment should predict consumers' investment in a brand, such as their willingness to pay a price premium to obtain it.

Further, Whan Park et al. (2006) found that (i) “attachment” is a more appropriate construct than “attitude” to show consumer intention; (ii) strong linkages and automatic retrieval of thoughts and feelings between consumers purchase intention and the products or services is an outcome of emotional attachment; (iii) consumer who are attached to a product or service is also likely to be affected and involved with it. Hence, consumer purchase intention should be strong for products or services for which consumers are emotionally attached.

According to Albert et al. (2008) in Vlachos et al. (2009), Oliver (1999) in Grisaffe & Nguyen (2010) and Patwardhan and Balasubramanian (2013), when the affective bond between consumers and products or services is especially strong, then it will create the

ultimate loyalty of a consumer and will ensure the repurchase of the products or services, because they feel more comfort, secure and safe when they have trust, dependability and response consistency on certain products or services.

According to Sathyanarayan et al. (2021), the emotional attachment of consumers with a product or service can influence their attitude through brand loyalty, price preferences, and the possibility that the consumer will act as a brand ambassador. Moreover, Gilal et al. (2021) established that there is strong positive link between brand emotional attachment and purchase intention among young consumers and more promising for low- than high-involvement products in emerging markets. Past study by Carroll and Ahuvia (2006) in Vlachos et al. (201) also stated that consumers who are emotionally attached to the firm will be more committed to repurchase from the firm and more likely to positively recommend the firm to others.

Situational Constraint (STC), is defined by Bhandari & Pan (2020) as constraint that can be come from external or environmental factors and internal factors of the consumer. Peters & O'Connor (1980) in Peters (1982) however, were stated that situational constraint would produce negative affective reactions and will affect "different" consumer in different way.

Dhar, Huber & Khan (2007) in Stankevich (2017) also talked about shopping momentum, as one of external situational constraint example, that occurs when an initial purchase provides a psychological impulse that enhances the purchase of a second, unrelated product.

For instance, when in a lockdown situation, consumer initially wants to purchase grocery, he or she will also purchase medicines if they see everybody buy medicines at the store.

Further, Wu (2019), also talked about internal situational constraint, with respect to situational constraint theory, can be come from own consumer preferences. Motive underlying the situational constraint such as no better things to do under the circumstance or other people behaviour, is likely to drive consumer behaviour rather than a desire for an aesthetic and intellectual experience. To illustrate, imagine that you see a consumer read a newspaper on a park alone. In this case, the consumer's behaviour is constrained by the situation that he/she is in (more than if he/she on the park alone).

We can also see from attribution theory, proposed by Kelley (1973), Bhandari & Pan (2020), stated that the situational constraint may be seen as possible cause for consumer feedback. If there are situation or condition which have strong relationship or relevancies with consumer personal health, relationship, religion or family responsibilities, then this condition could influence consumer behaviour or creating consumer feedback in both positive and negative way.

Social Cause (SC), according to Zdravkovic et al. (2008), from the consumer perspective, will trigger consumer positive attitudes toward product or services, that could result in brand image, loyalty, perceived value and quality. As consequences, above factors will raising consumer awareness, normative believe and trust, and that will be leading to both increased sales and brand loyalty, both of which could potentially generate a sustainable competitive advantage.

From the firm perspective, Kavoliune et al. (2020) confirmed the importance of social cause construct in connection with consumer intentions to purchase products or services. Moreover, Lad (2020) also suggests that in order to creating more effective and optimum effects on consumer, firms should improve their marketing strategy, by using social cause ads in story form, so that when consumers watching or listening the ads, they should be interested and not irritated. This strategy will result in positive impact on consumer behaviour and will affect purchase intent as the consequences.

Another study by Barone, Miyazaki, and Taylor (2000) in Nan et al. (2007) also demonstrate that consumers prefer a firm that shows a motivation to support a social cause compare to firm that only focus on generating sales.

Hence, based on the above theoretical development on commodity value, substitution effect, emotional attachment, situational constraint, social cause and consumer purchase intent, this study advances the following hypothesis:

Hypothesis 1. *CV has a positive relationship with CPI.*

Hypothesis 2. *SE has a negative relationship with CPI.*

Hypothesis 3. *EA has a positive relationship with CPI.*

Hypothesis 4. *STC has a positive relationship with CPI.*

Hypothesis 5. *SC has a positive relationship with CPI.*

2.2 Consumer Purchase Intent, Strategy Execution and Firm Performance

Consumer Purchase Intent (CPI), is defined by Fandos & Flavian (2006) in Pandey et al. (2016), as the implied promises to one self to buy the product again whenever one makes next trip to a market, and serves as an early indication of the sales of the final products. And according to Lu et al., (2014), Gupta and Zeithaml (2006), and Verboncu & Zalman (2005) in Taouab (2019), from the perspective of customer perception, also can defined as a willingness and kind of decision-making from consumer's, that studies the reason on actual purchase, to buy a certain product or service at certain place, time and quantity, which can resulted to sales and profit increment and business performance improvement, which could lead to competitiveness, efficiency, and effectiveness to the firms as a factors that shape or affect the firm performance. Martins et al. (2019) p.379 in Buyukdag et. al (2020) also stated that increase in purchase intention reflects an increase in the probability of real purchase. Although purchase intention not yet an actual purchase, but another several studies as stated by Martinez and Kim (2012) in Dapas et.al (2019), showed that the purchase intention is the stage of the respondent's tendency to act before actually making a purchase.

Strategy Execution (STE), is defined by Fandos & Flavian (2006) in Pandey et al. (2016) and Yang (2019) as the process (which consists of three elements; (i) ability; (ii) people; (iii) process), that should be perceived as a set of integrated factors, which consist of many intangible factors, including wide and two-way communication, including firms and customers, and so at the end strategic execution will resulted in consumer satisfaction, consumer loyalty, trust, brand image, and also perceived value & quality, and could be the antecedents of the consumer purchase intention. According to Sohn et. al (2012), from a strategy-execution standpoint, the firm can help itself by creating connection between consumers needs and point of view to firm's activity; and delivering the message with appropriate communication strategy to the target consumer.

We can see that strategy execution of a firm can be focusing on consumer needs and point of view, and the other side, consumer purchase intent can be also created as a perceived value from consumer standpoint, if firm already have an optimum strategy execution. Past study by Srivastava (2013), Higgins et al. (2006), Hrebiniak and Joyce (1984) in Parnell

(2008) also showed that effective strategy execution and strategic diffusion are related but distinct processes, and both are linked to high & strong firm performance for several decades.

Firm Performance (FP), is defined by Jones (2018) as the performance consequences for firms of highly ethical relationships with stakeholders, characterized by high levels of trust, cooperation, and information sharing. According to Verboncu and Zalman (2005) in Taouab (2019), firm performance is a particular result obtained in management, economics, and marketing that gives characteristics of competitiveness, efficiency, and effectiveness to the structural and components of the firm. Moreover, Atkinson et al. (1997) and Gimbert et al. (2010) in Taouab (2019) stated that firm performance system also must be able to assess whether each stakeholder group (including consumer) is supporting the company to achieve its main objectives and the decision-making process, defined concise set of measures (financial or non-financial) by collecting, processing, and analyzing quantified data of performance information. At more specific levels, consumer centric especially consumer behaviour perspectives have a very significant role in determining the firm performance.

Study by Boisvert et. al, (2020) stated that, in this day and age of challenging competitive environments, most firms in the marketplace must grab every opportunity offered to them to consolidate their competitive advantage by meeting the implicit and explicit needs of the consumer, because of its ultimate impact on purchasing behaviours. Study by Chen et. al (2020) stated that there are limitations of financial indicators and data, as it measures firm performance only through some financial indicators and data, which only reflect to the past performance of firm, but they cannot predict the future development of the firm. Hence, firm need to combine financial indicators with non-financial indicators to evaluate firm performance is increasingly valued by the theoretical and practical circles. It is generally believed that the inclusion of nonfinancial indicators in the evaluation system can make up for the shortcomings and deficiencies of financial indicators, thus making performance evaluation more scientific and reasonable, and the scope of application more extensive.

Based this inference on the relationship between CPI, STE and FP, this study advances the following hypothesis:

Hypothesis 6. *CPI has a positive relationship with STE.*

Hypothesis 7. *STE has a positive relationship with FP.*

Hypothesis 8. *CPI has a positive relationship with FP.*

Figure 2.1 illustrates the proposed research model in this study examining the role of consumer purchase intent - commodity value, substitution effect, emotional attachment, situational constraint, social cause in affecting the strategy execution and firm performance in food & beverage industry at the current pandemic situation:

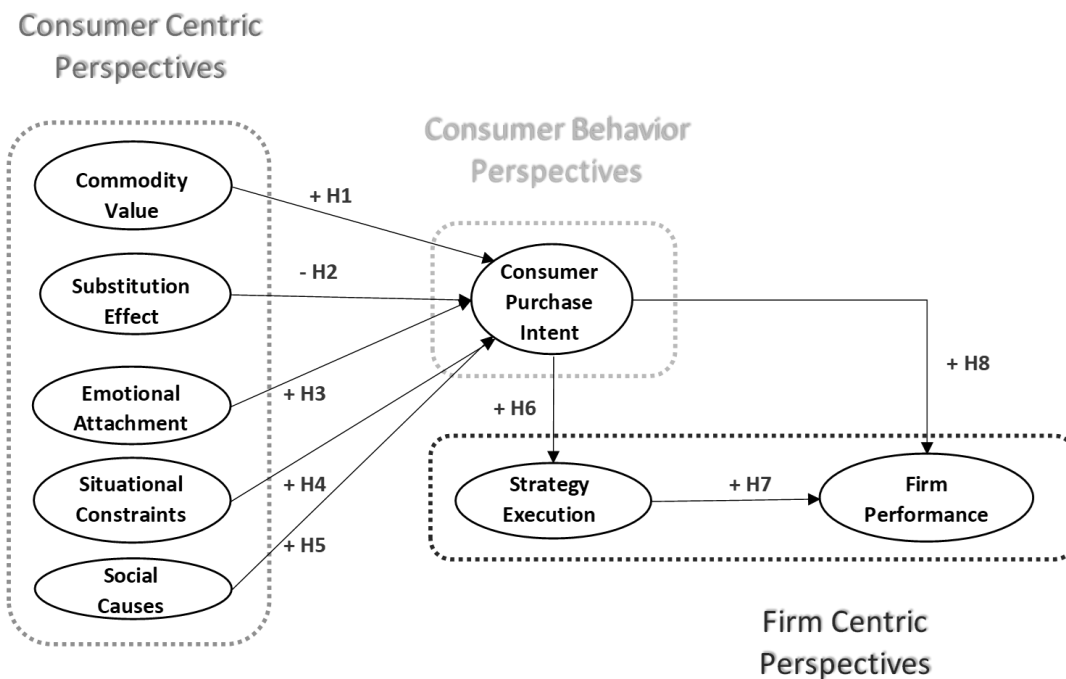


Figure 2.1 The Proposed Research Model

3. Research Methodology

3.1 Sampling

Data collections - Data were collected and distributed through online questionnaire with Google Forms (from March to May 2021), which distributed through Whatsapp with snowball sampling. The data analysis was performed using SEM Lisrel 8.8 to test

the goodness of fit of the model, construct validity and reliability; whereas an SPSS v.25 program was used to the descriptive analysis.

The targeted 300 respondents are those who eats at this study's unit of analysis which are restaurants that located within shopping mall in Jakarta area. Empirical data were collected from a total of 256 respondents out of the targeted 300 respondents (85% response rate) who had dine-in experience in 112 restaurants that are operating in 49 shopping malls in 5 Jakarta municipalities.

Descriptive statistics – After further screening using SPSS Statistic software, 10 respondents who marked to be outliers according to their Mahalonobis Distance are removed. The final respondents, as mentioned before is 246 peoples. The respondents are mostly in the age group of 26-35 (37% of total respondents), with the other age groups being quite balanced at around 30% for 36-45 and 19% for 17-25. Most of the respondents are male (53%), and most have received a bachelor's degree (65%), followed by master degree (13%) and high school or equivalent (11%). Regarding to respondent's main activity, most of them are office employee (56%), followed by business owner (19%) and student (9%).

3.2 *Measurement*

The questionnaires are using newly created measurements based on constructs that adapted by using elements, theories and relevancies from past studies. All of the questionnaires are in Likert 5-point scale, ranging from 1 using English (and performed back translates in accordance to (Brislin, 1970) recommendations).

3.2.1 Independent variables

Commodity Value (CV) – CV is measured with 6 items across the two dimensions of CV, namely external value (CV_EXT) with 3 items and internal value (CV_INT) with 3 items. The CV measurement was adapted from Gachukia, M.K. (2018), Shee et al., (2019), Min, F. (2019), Mango et al., (2014), Eghan, D. (2017), and Abirami A. & P. Malaiarasan. (2014). Sample

items for CV_EXT include: “I am proud to dine in this restaurant because it is a middle class up restaurant“; for CV_INT: “I like to dine here because of the food safety and hygiene”.

Substitution Effect (SE) – SE is measured with 5 items. The SE measurement was adapted from Song et al., (2018), Karagiannis et al., (1997), Reimann et al., (2015) and Cupak et al., (2014). Sample items for SE include: “I would like to eat more portion and frequent if the food is difficult to find in other places“.

Emotional Attachment (EA) – EA is measured with 5 items. The EA measurement was adapted from Han et al., (2020) and Levy et al., (2016). Sample items for EA include: “I always like to dine here because all waiters are always ready and pay attention to all consumers“.

Situational Constraint (STC) – STC is measured with 9 items across the two dimensions of STC, namely external constraint (STC_EXT) with 3 items and internal constraint (STC_INT) with 6 items. The STC measurement was adapted from Hazen, M. D., (1974), Nascimento-Schulze, C. M. (1981), Miller et al., (2003), Ferguson et al., (2011), and Learning, M., & Cookbook, R (2016). Sample items for STC_EXT include: “I always avoid to order food with ingredients which is prohibited by government“; for STC_INT: “I always order food with ingredients which can improves our health”.

Social Cause (SC) – SC is measured with 5 items across the two dimensions of SC, namely social cause from consumer perspective (SC_CONS) with 3 items and social cause from firm perspective (SC_FIRM) with 2 items. The SC measurement was adapted from Miller et al., (2017) and Zdravkovic et al., (2008). Sample items for SC_CONS include: “I like to dine here because all of my friends like to dine here because of its good design and ambience“; for SC_FIRM: “I like to dine here because it often has collaboration with social organization to help others”.

Consumer Purchase Intent (CPI) – CPI is measured with 5 items. The CPI measurement was adapted from Morwitz (2014) and Yeo et al., (2020). Sample items for CPI include: “I probably will come back to dine here at least in a month“.

Strategy Execution (STE) – STE is measured with 8 items across the two dimensions of STE, namely people focus strategy execution (STE_PPL) with 3 items and process focus strategy execution (STE_PRO) with 5 items. The STE measurement was adapted from De Oliveira et al., (2018), Srivastava and Sushil (2013,2014).

Sample items for STE_PPL include: “I like to dine here because of the number of workers and way of work are efficient and effective“; for STE_PRO: “I like to dine here because the order taking uses effective and efficient effective system or application”.

3.2.2 Dependent variables

Firm Performance (FP) – FP is measured with 7 items. The FP measurement was adapted from Taouab (2019) and Jones (2018). Sample items for FP include: “How do you rate the food quality in this restaurant?“.

3.2.3 Control variables

This study uses demographic data such as gender, age group, education level, and main activity/occupation as a control variable. These variables have been shown to affect the behaviour of each individual (Hernandez et al., 2011, Schüz B., 2017, Upadhyay et al., 2007)

The measurement instruments for all variables are presented in table 3.2.3:

Table 3.2.3
Research Instruments

Constructs/ Variables	Observed Variables	Sources
Commodity Value	IV 6 items	Gachukia, M.K. (2018), Shee et al., (2019), Min, F., (2019), Mango et al., (2014), Eghan, D., (2017), Abirami A. & P. Malaiarasan. (2014)
Substitution Effect	IV 5 items	Song et al., (2018), Karagiannis et al., (1997), Reimann et al., (2015), Cupak et al., (2014)
Emotional Attachment	IV 5 items	Han et al., (2020), Levy et al., (2016)
Situational Constraint	IV 9 items	Hazen, M. D., (1974), Nascimento-Schulze, C. M. (1981), Miller et al., (2003), Ferguson et al., (2011), Learning, M., & Cookbook, R (2016)
Social Cause	IV 5 items	Miller et al., (2017), Zdravkovic et al., (2008)
Consumer Purchase Intent	IV 5 items	Morwitz (2014), Yeo et al., (2020)
Strategy Execution	IV 8 items	De Oliveira et al., (2018), Srivastava and Sushil (2013,2014)
Firm Performance	DV 7 items	Taouab (2019), Jones (2018)
TOTAL	50 items	

Notes: IV - Independent Variables, DV - Dependent Variables

4. Results

Before testing the hypotheses of the study, we computed several regression diagnostics and checked the variance inflation factors (VIFs) to exclude multicollinearity. All correlations among the constructs or variables in this study are less than 0.70 (see table 4.1). Therefore, multicollinearity does not pose a threat to the analyses. Furthermore, the variance inflation factor (VIF) analysis (all VIFs \leq 2.8, Tolerance \geq 0.35) on the independent variables also suggests an absence of multicollinearity.

Table 4.1
Descriptive Statistics & Correlations Matrix

No	Variable	Mean	S.D.	Min	Max	1	2	3	4	5	6	7	8
1	CV	3,96	0,72	2,00	5,00	1							
2	SE	4,08	0,70	1,50	5,00	594**	1						
3	EA	3,59	0,95	1,50	5,00	624**	483**	1					
4	STC	3,71	0,98	1,00	5,00	483**	364**	609**	1				
5	SC	3,57	1,02	1,00	5,00	536**	514**	688**	614**	1			
6	STE	3,92	0,81	1,50	5,00	611**	526**	698**	502**	692**	1		
7	CPI	3,74	0,92	1,00	5,00	608**	437**	692**	532**	661**	627**	1	
8	FP	3,27	0,88	1,00	5,00	395**	397**	492**	312**	519**	472**	404**	1

** . Correlation is significant at the 0.01 level (2-tailed).

Result indicates that the respondents highly considering more toward substitution effect of the products or services and very sensitives to the effects as the result of changes in products or service availability, price and portion changes, or habit and financial condition changes (highest mean of 4.1).

The respondents'as consumers also concerned to commodity value,since they see the firm's external value (mean 4.02) with the internal value that the firms produced (mean 3.98). The firm's external value consist of socio economic factor, market access and firm business cycle ; whereas, the firm's internal value consists of food security, innovation and labour time efficiency.

Situational constraint also indicated by the result as highly considered factor for consumer when purchase products or services, with the construct mean being 3.7. The external constraints are more concerned since more difficult to handle by consumer as individual (dimension mean 4) instead of internal constraint that at least have chance to managed individually by the consumers (dimension mean 3.9).

The respondents feel that emotional attachment as significant concern, that affecting their consumer purchase intent (construct mean 3.5). They see that emotional attachment as important factors to be created, which they can feel in form of attention and service quality, that could make them feel satisfy, and at the end will automatically building their trust and involvement to the firm.

The respondents are also thought that social cause will have influence on their purchase intention (construct mean 3.5). The respondents' social concern is more likely affected by causes from their own perspectives first (mean 3.8), such as their social environment and traceability, and then will followed also by causes from firm perspectives (mean 3.2), such as firms social activity or workers added value.

Result also shows that most of the respondents have concern on firm's strategy execution (construct mean 3.9). The firms will perform effective and efficient strategy execution if they focused in people as main resources, particularly by having sufficient number of capable and representative workers (dimension mean 4.) instead of focusing on digitalize and improve several process, such as ordering, promotions, and consumer feedbacks (dimension mean 3.96).

As for the construct consumer purchase intent, which has the mean of 3,7, it shows that the respondents also agreed that consumer purchase intention, particularly their perceived likelihood and next purchase probability, along with their expectation and involvement, at the end could have affect on firm performance, especially non-financial set of firm performance indicators for the future of the firm .

As for the construct firm performance, it has the lowest mean compared to the other constructs (construct mean 3.3). This happened because this study using consumers perspective, other than firms perspective, as the proxy of firm performance construct. The respondents indicated that they are more concern to variable that focused on consumer perspectives (as their basic needs as when they have dining experience as consumers in the restaurant).

Measurement model analysis – Before testing the hypothesis, we conducted the appropriateness test of the overall measurement model and the individual constructs for the multiple-items survey-based constructs. Chin & Todd (1995) stated that in single factor model, two constructs/factors that may be identical should be merged into a single factor. While Gignac (2007) stated that oblique factor modelling (by defining each of the latent variables by unique indicators or items) is perhaps the most frequent approach researchers use to model their multi-factor models, but this model can erroneously lead one to conclude that one or more observed variables share some construct related variance with a specified factor as they do not directly inform one as to the nature and strength of the latent variables, independently of the covariance between the latent variables. Higher-order models incorporate two additional

elements within the solution, one of which directly allows for the possibility of a transformation of the solution, which renders the factor loadings to be interpreted much less ambiguously, thus this study uses the higher order constructs based on the dimensions of the respective constructs in the analysis.

All standardized loadings and AVEs were above or equal to the recommended threshold of 0.50, suggesting adequate convergence. All CRs and Cronbach's alphas were well above the cut-off point of 0.70 (Fornell & Lacker, 1981) suggesting good reliability measures. The model fit indices showed χ^2/dfs below the cut-off point of 3.0, RMSEAs below the cut-off point of 0.06, SRMRs below the cut-off point of ≤ 0.08 . GFIs, NNFI, CFI, and IFI are all above the cut-off point of 0.90 (Hu & Bentler, 1999). The results of model fit indices suggest a good fit of the measures. Table 4.2 shows the results of the measurement model analysis.

Table 4.2

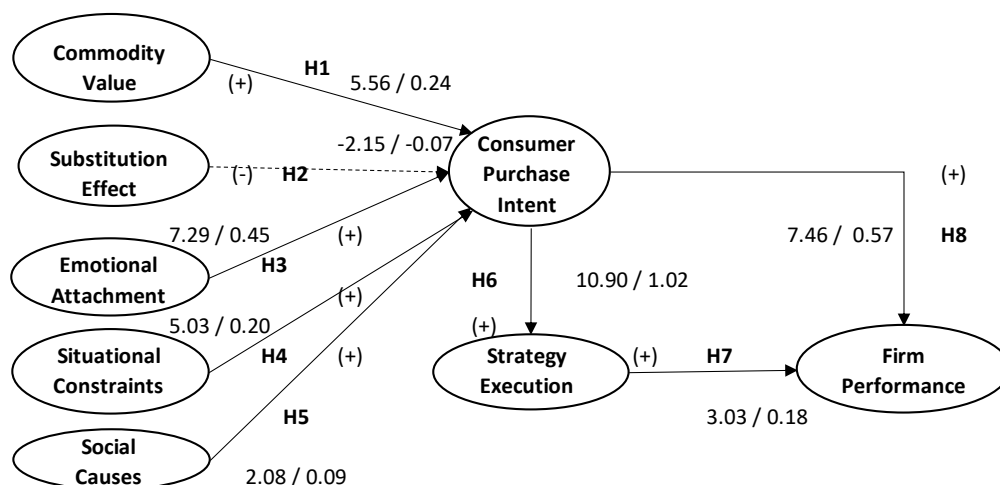
Measurement Model Analysis										
Construct/Variable	Single Factor Model			Oblique Lower Model			Higher Order Model			Cronbach's alpha
	Standardized Loadings	CR	AVE	Standardized Loadings	CR	AVE	Standardized Loadings	CR	AVE	
CV	0.41 - 0.79 Ave.: 0.61	0.78	0.39	0.56 - 0.80 Ave.: 0.66	0.76	0.45	0.92 - 1 Ave.: 0.96	0.85	0.73	0.77
SE	0.65 - 0.92 Ave.: 0.80	0.85	0.65	-	-	-	-	-	-	0.77
EA	0.50 - 0.91 Ave.: 0.74	0.87	0.57	-	-	-	-	-	-	0.86
STC	0.54 - 0.65 Ave.: 0.58	0.80	0.33	0.52 - 0.63 Ave.: 0.57	0.79	0.32	0.92 - 1 Ave.: 0.96	0.85	0.73	0.81
SC	0.54 - 0.86 Ave.: 0.73	0.86	0.55	0.55 - 0.87 Ave.: 0.74	0.86	0.57	0.96 - 1 Ave.: 0.98	0.98	0.96	0.86
CPI	0.57 - 0.89 Ave.: 0.73	0.85	0.55	-	-	-	-	-	-	0.85
STE	0.63 - 0.81 Ave.: 0.74	0.91	0.55	0.61 - 0.80 Ave.: 0.74	0.91	0.55	0.99 - 1 Ave.: 0.99	0.99	0.99	0.90
FP	0.55 - 0.87 Ave.: 0.71	0.76	0.52	-	-	-	-	-	-	0.75

Model Fit Indices																									
Construct/Variable	Single Factor Model								Oblique Lower Model								Higher Order Model								
	CV	SE	EA	STC	SC	CPI	STE	FP	CV	SE	EA	STC	SC	CPI	STE	FP	CV	SE	EA	STC	SC	CPI	STE	FP	
χ^2/df	7.95	0.00	1.44	25.97	3.01	3.85	14.93	0.00	2.82	-	-	16.37	1.47	-	19.63	-	0.00	-	0.00	0.00	-	0.00	-	0.00	-
RMSEA	0.036	0.00	0.043	0.043	0.00	0.108	0.045	0.00	0.041	-	-	0.010	0.00	-	0.063	-	0.00	-	0.00	0.00	-	0.00	-	0.00	-
SRMR	0.027	1.00	0.011	0.038	0.013	0.019	0.022	1.00	0.019	-	-	0.031	0.084	-	0.024	-	0.00	-	0.00	0.00	-	0.00	-	0.00	-
GFI	0.99	1.00	1.00	0.97	1.00	0.99	0.98	1.00	0.99	-	-	0.98	1.00	-	0.98	-	1.00	-	1.00	1.00	-	1.00	-	1.00	-
NNFI/TLI	0.99	1.00	0.99	0.97	1.00	0.96	0.99	1.00	0.99	-	-	0.98	1.01	-	0.99	-	1.00	-	1.00	1.00	-	1.00	-	1.00	-
CFI	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	-	-	1.00	1.00	-	1.00	-	1.00	-	1.00	1.00	-	1.00	-	1.00	-
IFI	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	-	-	1.00	1.00	-	1.00	-	1.00	-	1.00	1.00	-	1.00	-	1.00	-

Structural model analysis – We tested the hypothesis using maximum likelihood SEM. The results of the hypothesis testing are presented in Table 4.3. All hypothesis are supported with t-values ranging from -2.28 to 10.76, with the overall models $R^2=0.43$, $\chi^2/df=1.60$, p -value = 0.00000, RMSEA=0.049, SRMR=0.060, GFI=0.90, NNFI=0.98, CFI=0.99, and IFI=0.99. All the good fit indices are within the cutoff points of the respective indices, suggesting that the structural model of the study and the data is statistically fit. Figure 4.1 illustrates the hypothesis testing results using SEM.

Table 4.3

Hypothesis Testing Results				
No	Hypothesis	T-Values	Structural Coefficient	Results
1	H1: Commodity value has a positive relationship with consumer purchase intent	5,46	0,23	Supported
2	H2: Substitution effect has a negative relationship with consumer purchase intent	-2,28	-0,07	Supported
3	H3: Emotional attachment has a positive relationship with consumer purchase intent	7,38	0,46	Supported
4	H4: Situational constraint has a positive relationship with consumer purchase intent	4,93	0,19	Supported
5	H5: Social cause has a positive relationship with consumer purchase intent	2,09	0,08	Supported
6	H6: Consumer purchase intent has a positive relationship with strategy execution	10,76	1,01	Supported
7	H7: Strategy execution has a positive relationship with firm performance	2,97	0,18	Supported
8	H8: Consumer purchase intent has a positive relationship with firm performance	7,59	0,58	Supported



T-Value/Structural Coefficient: Chi-Square= 309.87, df=194, p-value= 0.00000, RMSEA=0.049

Figure 4.1 Hypothesis Testing Results Using SEM

5. Discussion

This study examines the relationships of the consumer purchase intent towards firm's performance and strategy execution in the disruptive environment such as Covid-19 pandemic. Based on the data collected from 246 respondents (with different demographic profile) who had dine-in experience in 112 restaurants that are operating in 49 shopping malls at Jakarta (Indonesia) region, we find that: first, commodity value, substitution effect, emotional attachment, situational constraint and social cause affect consumer purchase intention by providing perceived value, strong emotional linkage, convenience and social effect to consumers in their products or services purchasing process; second, consumer purchase intent also have bidirectional relationship with strategy execution, where-as optimum strategy execution will resulted in consumer satisfaction, and this will affect their purchase intention positively, on the other side, firm's strategy execution can also more focusing to consumer needs, to get more appropriate communication with target consumer; although this study not focused to analysed which relationship is more significant between consumer purchase intent to strategy execution and strategy execution to consumer purchase intent, which can also must be proven in future studies; third, strategy execution positively relates to firm performance in a way that it enables the firms to achieve their goals by creating a comprehensive ability that use various resources, effective system, organization, culture, working process & methods by transforming strategic decisions into expected results and making strategic choices; fourth, consumer purchase intent positively relates to firm performance, in form of consumer perceived likelihood and probability to purchase, or even actual purchase which could affect the firm performance not only for current condition but also can predict consumer preferences and purchase intent related to firm's product or services for the future.

6. Conclusion

These implications would mean that for firms in the food and beverage industry; commodity value, substitution effect, emotional attachment, situational constraint and social cause are going to affect consumer's real purchase and perceived firm performance, by affecting their consumer purchase intention and firm's strategy execution. So, the practitioners in this industry finally can focused on some variables to analysing consumer behaviour, since consumer behaviour is a vast construct or concept that it would be impossible to examine all the consumer behaviour construct or concept. The problems the food and beverage industry have has been inferred to be caused by the lack of consumer purchase intent study along with strategy

execution, and the study has shown that consumer purchase intent and strategy execution have relationships with firm performance that could cause those problems if neglected.

6.1 *Theoretical contributions*

Our study enriches the literature on several issues. First, this study confirms the relationships among the constructs contemplated in this study, as previous studies have shown that there is debate about how consumer behaviour can affect firm performance and there is none yet conducted an integrated research among the variables. This study examines the constructs commodity value, substitution effect, emotional attachment, situational constraint, social cause, consumer purchase intention, strategy execution and firm performance, linking these constructs in an integrated fashion to be studied as one, which is the research model. Second, this study brings the study of consumer purchase intent from the psychology field to the strategic management field, by answering the problem about the lack of an updated look due to less research that examines consumer behaviour, by providing latest and adaptive look on consumer purchase intent in current disruptive pandemic condition, and also examines how consumer purchase intent relates to the performance of the firms and thus clarifies the role of consumer purchase intent towards the performance of a firm. Third, this study differentiation is the contribution to solve those current supply and demand disruption due to pandemic condition that directly impacted food and beverage industry as this research context, which have highly interactive market between the consumers and the providers. Last, this study answered the call from past research on expanding the research context to a different industry, as previous studies have outlined in their research that their study needs to be expanded into another country so that it could be generalized.

6.2 *Managerial/practical contributions*

This study is also giving managerial/practical contributions in that the study revealed the possible true cause of the problems faced by the food and beverage industry in Indonesia, which is deduced to be consumer purchase intention problem, and hopefully the results of this study has provided insights for managers who are working in the industry and also to government officials trying to improve the industry on how to address the problem, by specify the answer how to focusing in analyzing vast consumer

behaviour construct, that at least we can focused on some variables to analyzing consumer behaviour, particularly consumer purchase intent.

The result of this study also help ensures the sustainability of the industry under rapid changes, uncertain and disruptive environment by paying attention to firm performance, especially using non-financial indicators to measure perceived firm performance, thus firm not only can analyze from historical data, but can analyze and get more insights from consumer behaviour perspectives for the future basis, particularly related to consumer purchase intention and strategy execution.

6.3 *Limitations and future research*

This study has several limitations. First, the study is a descriptive, cross-sectional study that only analyses Indonesian food and beverage industry. Therefore, the results only represent the conditions of the food and beverage industry at the specific point in time and location that the research is conducted. Another implication is that this research cannot determine causality between the constructs. Hence, to explore more on causality relationships among the constructs, future research could do some modification on this study research model, to improve the robustness of the research model. Future research also merits its consideration to examine explore multi countries study to see if the research model would consistently yield the same or similar findings. Second, the study also focused on restaurant that located at shopping mall in Jakarta area as unit analysis, therefore the results only represent for consumer that dining at those locations. Hence, it also interesting for future research to examine whether there are differences result for broader and different unit analysis such as stand-alone restaurant, delivery-only restaurant, or cloud kitchen-based restaurant; more spesific food restaurant concepts, such as ala-carte concept and all-you-can-eat concept; more spesific food origins, such as Indonesian foods, Chinese foods or Japanese foods.

References

- Abirami A. & P. Malaiarasan. (2014). Investigation of the Impact of Financial Variables on the Agricultural Commodity Prices in Malaysia. *A Research Project Submitted in Partial Fulfilment of the Requirement for the Degree of Bachelor of Economics (Hons) University Tunku Abdul Rahman Faculty of Business and Finance Department of Economics, August.*
- Bhandari, M., Rodgers, S., & Pan, P. L. (2020). Brand feedback to negative eWOM messages: Effects of stability and controllability of problem causes on brand attitudes and purchase intentions. *Telematics and Informatics*, 58, 101522. <https://doi.org/10.1016/j.tele.2020.101522>
- Boisvert, J., & Khan, M. S. (2020). Toward a better understanding of the main antecedents and outcomes of consumer-based perceived product innovativeness. *Journal of Strategic Marketing*, 00(00), 1–24. <https://doi.org/10.1080/0965254X.2020.1807589>
- Brianca, P., Duarte, J.B., Faria e Castro, M., (2020). Measuring Labour Supply and Demand Shocks during COVID-19, Federal Reserve Bank of St. Louis Working Paper 2020-011. URL <https://doi.org/10.20955/wp.2020.011>
- Büyükdağ, N., Soysal, A. N., & Kitapci, O. (2020). The effect of specific discount pattern in terms of price promotions on perceived price attractiveness and purchase intention: An experimental research. *Journal of Retailing and Consumer Services*, 55(December 2019). <https://doi.org/10.1016/j.jretconser.2020.102112>
- Chin, W. W., & Todd, P. A. (1995). On the use, usefulness, and ease of use of structural equation modelling in mis research: A note of caution. *MIS Quarterly: Management Information Systems*, 19(2), 237–246. <https://doi.org/10.2307/249690>
- Claes Fornell and David F. Larcker. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, 18(1), 39–50.
- Cupák, A., Pokrivčák, J., Rizov, M., Alexandri, C., & Luca, L. (2014). Economic Development and Food Demand in Central and Eastern European Countries: The Case of Romania 1. *Paper Prepared for Presentation for the 142nd EAAE Seminar Growing Success? Agriculture and Rural Development in an Enlarged EU.*
- Dagyte-Kavoliune, G., Adomaviciute, K., & Urbonavicius, S. (2020). The impact of brand and social cause prominence dimensions of fit on consumer intentions to buy cause-related products. *EuroMed Journal of Business*. <https://doi.org/10.1108/EMJB-05-2020-0049>

- Dapas, C. C., Sitorus, T., Purwanto, E., & Ihalauw, J. J. O. I. (2019). The effect of service quality and website quality of zalora.Com on purchase decision as mediated by purchase intention. *Quality - Access to Success*, 20(169), 87–92.
- de Oliveira, C. A., Carneiro, J., & Esteves, F. (2018). Conceptualizing and measuring the “strategy execution” construct. *Journal of Business Research*, 105(March), 333–344.
<https://doi.org/10.1016/j.jbusres.2018.03.012>
- Dey, P. (2015). Consumption of Green Goods: Indian Marketing Strategy. *Research Gate Article*, January. <https://www.researchgate.net/publication/273604946>
- Eghan, D. (2017). Access to Export Market for Mango Farmers in the Lower Manya District of Ghana. *Research Gate Article*, 8(12), 38–46.
<https://www.researchgate.net/publication/339273965%0AAccess>
- Ferguson, T. D., & Cheek, R. (2011). How Important Are Situational Constraints in Understanding Job Satisfaction? *International Journal of Business and Social Science*, 2(22), 221–227.
http://www.ijbssnet.com/journals/Vol_2_No_22_December_2011/25.pdf
- Gachukia Kangethe, M. (2018). Impact of Food Value Chain Governance Determinants on Innovation competitiveness: Evidence from Kenya Horticultural Exporters. *Study Research for Riara University, Kenya*.
- Gignac, G. E. (2007). Multi-factor modelling in individual differences research: Some recommendations and suggestions. *Personality and Individual Differences*, 42(1), 37–48.
<https://doi.org/10.1016/j.paid.2006.06.019>
- Grisaffe, D. B., & Nguyen, H. P. (2011). Antecedents of emotional attachment to brands. *Journal of Business Research*, 64(10), 1052–1059. <https://doi.org/10.1016/j.jbusres.2010.11.002>
- Gupta, S., & Zeithaml, V. (2006). Customer metrics and their impact on financial performance. *Marketing Science*, 25(6), 718–739. <https://doi.org/10.1287/mksc.1060.0221>
- Han, H., Al-Ansi, A., Chi, X., Baek, H., & Lee, K. S. (2020). Impact of environmental CSR, service quality, emotional attachment, and price perception on word-of-mouth for full-service airlines. *Sustainability (Switzerland)*, 12(10). <https://doi.org/10.3390/SU12103974>
- Hazen, M. D., & College, S. P. (1974). Attribution Theory and Persuasion. an Integrated Paradigm. *Submitted to the Department of Speech and Drama and the Faculty of the Graduate School of the University of Kansas in Partial Fulfilment of the Requirements for the Degree of Doctor of Philosophy Dissertation*.

- Hernández, B., Jiménez, J., & Martín, M. J. (2011). Age, gender and income: Do they really moderate online shopping behaviour? *Online Information Review*, 35(1), 113–133.
<https://doi.org/10.1108/14684521111113614>
- Hidayat, D., Bismo, A., & Basri, A. R. (2020). the Effect of Food Quality and Service Quality Towards Customer Satisfaction and Repurchase Intention (Case Study of Hot Plate Restaurants). *Management Bisnis*, 10(1), 1. <https://doi.org/10.22219/jmb.v10i1.11913>
- Hu, L. T., & Bentler, P. M. (1999). Cut-off criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modelling*, 6(1), 1–55.
<https://doi.org/10.1080/10705519909540118>
- Jones, T. M., Harrison, J. S., & Felps, W. (2018). How applying instrumental stakeholder theory can provide sustainable competitive advantage. *Academy of Management Review*, 43(3), 371–391.
<https://doi.org/10.5465/amr.2016.0111>
- Karagiannis, G., & Velentzas, K. (1997). Explaining food consumption patterns in Greece. *Journal of Agricultural Economics*, 48(1), 83–92. <https://doi.org/10.1111/j.1477-9552.1997.tb01133.x>
- Komleh, R. A. (2019). Theory of value from Smith to Marshall Theory of value from Smith to Marshall. *Research Gate Article*, August. <https://www.researchgate.net/publication/329040765>
- Lad, K. S. (2020). Impact of Social Cause Advertising on Society. *IIBM's Journal of Management Research Impact*, December, 64–74.
- Learning, M., & Cookbook, R. (2016). *New Directions in Identity Theory and Research*. Oxford University Press.
- Levy, S., & Hino, H. (2016). Emotional brand attachment: a factor in customer-bank relationships. *International Journal of Bank Marketing*, 34(2), 136–150. <https://doi.org/10.1108/IJBM-06-2015-0092>
- Lu, L. C., Chang, W. P., & Chang, H. H. (2014). Consumer attitudes toward blogger's sponsored recommendations and purchase intention: The effect of sponsorship type, product type, and brand awareness. *Computers in Human Behaviour*, 34, 258–266.
<https://doi.org/10.1016/j.chb.2014.02.007>
- Lynn, M. (1991). Scarcity effects on value: A quantitative review of the commodity theory literature. *Psychology & Marketing*, 8(1), 43–57. <https://doi.org/10.1002/mar.4220080105>

- Mango, N., Zamasiya, B., Makate, C., Nyikahadzoi, K., & Siziba, S. (2014). Factors influencing household food security among smallholder farmers in the Mudzi district of Zimbabwe. *Development Southern Africa*, 31(4), 625–640. <https://doi.org/10.1080/0376835X.2014.911694>
- Miller, C. A., & Vaske, J. J. (2003). Individual and situational influences on declining hunter effort in Illinois. *Human Dimensions of Wildlife*, 8(4), 263–276. <https://doi.org/10.1080/716100421>
- Miller, N. J., Yan, R. N. T., Jankovska, D., & Hensely, C. (2017). Exploring US Millennial consumers' consumption values in relation to traditional and social cause apparel product attributes and purchase intentions. *Journal of Global Fashion Marketing*, 8(1), 54–68. <https://doi.org/10.1080/20932685.2016.1261040>
- Min, F. (2019). An Analysis on the Influencing Factors of the World Food Price. *Applied Finance and Accounting*, 5(2), 35. <https://doi.org/10.11114/afa.v5i2.4412>
- Morwitz, V. (2014). Consumers' purchase intentions and their behaviour. *Foundations and Trends in Marketing*, 7(3), 181–230. <https://doi.org/10.1561/17000000036>
- Nascimento-Schulze, C. M. (1981). Towards situational classification. *European Journal of Social Psychology*, 11(2), 149–159. <https://doi.org/10.1002/ejsp.2420110203>
- Pandey, S., & Srivastava, D. S. (2016). Antecedents of Customer Purchase Intention. *IOSR Journal of Business and Management*, 18(10), 55–82. <https://doi.org/10.9790/487x-1810035582>
- Parnell, J. A. (2008). Strategy execution in emerging economies: Assessing strategic diffusion in Mexico and Peru. *Management Decision*, 46(9), 1277–1298. <https://doi.org/10.1108/00251740810911948>
- Patwardhan, H., & Balasubramanian, S. K. (2013). Reflections on emotional attachment to brands: Brand romance and brand love. *Journal of Customer Behaviour*, 12(1), 73–79. <https://doi.org/10.1362/147539213x13645550618560>
- Powell, T. C. (2017). Strategy as Diligence: Putting Behavioural Strategy into Practice. *California Management Review*, 59(3), 162–190. <https://doi.org/10.1177/0008125617707975>
- Reimann, M., Bechara, A., & MacInnis, D. (2015). Leveraging the happy meal effect: Substituting food with modest non-food incentives decreases portion size choice. *Journal of Experimental Psychology: Applied*, 21(3), 276–286. <https://doi.org/10.1037/xap0000054>
- Richard W. Brislin. (1970). Back Translation for Cross-Cultural Research. In *Journal of cross-cultural psychology* (Vol. 1, Issue 3, pp. 185–216).

- Schüz, B. (2017). Socio-economic status and theories of health behaviour: Time to upgrade a control variable. *British Journal of Health Psychology*, 22(1), 1–7. <https://doi.org/10.1111/bjhp.12205>
- Shee, A., Mayanja, S., Simba, E., Stathers, T., Bechoff, A., & Bennett, B. (2019). Determinants of postharvest losses along smallholder producer's maize and sweet potato value chains: an ordered Probit analysis. *Food Security*, 11(5), 1101–1120. <https://doi.org/10.1007/s12571-019-00949-4>
- Shen, H., Fu, M., Pan, H., Yu, Z., & Chen, Y. (2020). The Impact of the Covid-19 Pandemic on Firm Performance. *Emerging Markets Finance and Trade*, 56(10), 2213–2230. <https://doi.org/10.1080/1540496X.2020.1785863>
- Sheth, J. (2020). Impact of Covid-19 on consumer behaviour: Will the old habits return or die? *Journal of Business Research*, 117, 280–283. <https://doi.org/10.1016/j.jbusres.2020.05.059>
- Sohn, Y. S., Han, J. K., & Lee, S. H. (2012). Communication strategies for enhancing perceived fit in the CSR sponsorship context. *International Journal of Advertising*, 31(1). <https://doi.org/10.2501/ija-31-1-133-146>
- Song, M., & Giovannucci, E. (2018). Substitution analysis in nutritional epidemiology: proceed with caution. *European Journal of Epidemiology*, 33(2), 137–140. <https://doi.org/10.1007/s10654-018-0371-2>
- Srivastava, A. K. (2014). Act for Effective Strategy Execution: Mediating Role of Adapt. *Global Journal of Flexible Systems Management*, 15(4), 305–312. <https://doi.org/10.1007/s40171-014-0075-8>
- Srivastava, A. K., & Sushil. (2013). Modelling strategic performance factors for effective strategy execution. *International Journal of Productivity and Performance Management*, 62(6), 554–582. <https://doi.org/10.1108/IJPPM-11-2012-0121>
- Stankevich, A. (2017). Explaining the Consumer Decision-Making Process: Critical Literature Review. *Journal of International Business Research and Marketing*, 2(6), 7–14. <https://doi.org/10.18775/jibrm.1849-8558.2015.26.3001>
- Taouab, O., & Issor, Z. (2019). Firm Performance: Definition and Measurement Models. *European Scientific Journal ESJ*, 15(1), 93–106. <https://doi.org/10.19044/esj.2019.v15n1p93>
- Upadhyay, Y., Singh, S. K., & Thomas, G. (2007). Do People Differ in their Preferences regarding Restaurants? — An Exploratory Study. *Vision: The Journal of Business Perspective*, 11(2), 7–22. <https://doi.org/10.1177/097226290701100203>

- Vlachos, P. A., Theotokis, A., Pramataris, K., & Vrechopoulos, A. (2010). Consumer-retailer emotional attachment: Some antecedents and the moderating role of attachment anxiety. *European Journal of Marketing*, 44(9), 1478–1499. <https://doi.org/10.1108/03090561011062934>
- Wu, Y. (2019). *Deriving Happiness from Consumption: Towards an Understanding of Enjoyment in Consumer Consumption*.
- Yang, L. (2019). A Model for Enhancing Strategy Execution. *Journal of Human Resource and Sustainability Studies*, 07(03), 360–367. <https://doi.org/10.4236/jhrss.2019.73023>
- Yeo, S. F., Tan, C. L., Lim, K. B., Goh, M. L., Amani, F., & Wahab, A. (2020). Viral marketing messages: consumer purchase intention towards fashion apparel. *International Journal of Accounting, Finance and Business (IJAFB)*, 5(30), 31–41.
- Yu, S., & Lee, J. (2019). The effects of consumers' perceived values on intention to purchase upcycled products. *Sustainability (Switzerland)*, 11(4). <https://doi.org/10.3390/su11041034>
- Zdravkovic, S., Magnusson, P., & Stanley, S. M. (2008). Dimensions of fit between a brand and a social cause and their influence on attitudes. *International Journal of Research in Marketing*, 27(2), 151–160. <https://doi.org/10.1016/j.ijresmar.2010.01.005>

The Roles of Marketing Intelligence and Organizational Task Environment on Marketing Strategy and Their Relationship Toward the Firm Performance During Covid-19 Pandemic

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ABSTRACT

The heavy equipment business is one of the businesses that has been severely affected by the Covid-19 pandemic. Sales and marketing teams from all heavy equipment distributors in Indonesia strive to determine the right strategy in marketing their heavy equipment. Information and data about products, markets, and competitor activities are very necessary for this era of information disclosure. This study aims to clarify the role of organizational task environment and marketing intelligence on market marketing strategies and their effects on company performance. This research was conducted on 257 people who work in sales and marketing in a heavy equipment distributor company in Indonesia. Empirically found that marketing intelligence is positively related to marketing strategy, which is also positively related to firm performance.

Type of Paper: Empirical

Keywords: Organizational Task Environment, Marketing Strategy, Marketing Intelligence, Firm Performance

Introduction

The COVID-19 pandemic has made tremendous changes in the economic world. Almost all economic sectors in Indonesia have decreased in business activities. According to a Bank Indonesia survey conducted on 3,719 businessmen spread throughout Indonesia, the result found a decline in business activities in the first quarter of 2020. The decline in business activities occurred in several economic sectors such as the manufacturing sector, mining sector, trade sector, hotels, and restaurants. It was mainly due to a decrease in demand and supply disruptions due to the Corona outbreak.

Indonesia's heavy equipment market, which is part of the mining and trading sectors, has undoubtedly experienced a tremendous impact due to this pandemic. The decline in sales experienced by almost all heavy equipment providers may be anticipated using data and information through marketing intelligence. They were changing environmental conditions force organizations to adapt to these changes by implementing the right strategy so that marketing intelligence can be a marketing management approach to identify customer needs and market changes so that they can get ahead of their competitors (Faryabi et al., 2013). Companies that cannot use marketing intelligence effectively are likely to produce a weak marketing strategy, thus affecting the firm performance.

The condition of heavy equipment sales, which is strongly influenced by various factors and conditions in the environment, makes the marketing team in a heavy equipment distribution company expected to have adequate capabilities to formulate marketing strategies that adapt to conditions in their environment. In addition, data and information must be an integral part of forming a marketing strategy. The data such as market conditions, customer conditions, and especially competitor activities are expected to assist marketing in measuring marketing opportunities, analyzing and forecasting demand, and analyzing market sectors. This marketing intelligence activity is proven to be able to have a positive impact on the market share of an organization (Ismaeel & Alzubi, 2020). However, in some heavy equipment companies, marketing intelligence has not been optimally utilized in their marketing strategies. Sales or marketing teams from heavy equipment distribution companies rarely discuss data and information related to the world of heavy equipment in depth to be used as the basis for forming marketing strategies.

Organizational task environment, marketing intelligence, and marketing strategy, and firm performance have received much attention from researchers. The influence of

organizational task environment on various factors ranging from performance, structure, innovation, and process (Bataglia et al., 2013; Castrogiovanni, 2002; Cyplik, 2017; Gove, 2006; Harris, 2004; Mangundjaya, 2014; Stern et al., 2014) make the organizational task environment a factor that must be considered in the formation of the company's strategy. The ability of an organization to adapt to its environmental conditions can make an organization survive and succeed (Eruemegbe, 2015). However, Detha Alfrian & Riani (2019) in their research, said that the task environment has no significant relationship toward all dimensions of commitment to change. This creates confusion because to be able to adapt to change, of course, one must have a high commitment to change.

To understand the changing nature of the Organizational Task Environment, an organization needs to develop the capability to observe and assess the environment. Market intelligence is certainly a tool that organizations need to the products to produce effective marketing strategic tools (Osa Igbaekemen, 2014). Companies can make decisions more precisely because they are based on data and information, not just intuition from leaders (Rouhani et al., 2016). However, according to Zarella (2018) marketing intelligence can also provide new difficulties for companies to make decisions because of the large amount of data and information they have. In a study conducted by Kucera & White (2012) on 160 business leaders reveals gaps on impact marketing intelligence, since only 16% of the business leaders believe that marketing intelligence can provide benefits for their business because the data generated by marketing automation systems and social media will make it harder to gain the insights into customer behaviour that they need.

Organizational ability to improve the performance is also a successful execution of marketing strategy (Cavusgil & Zou, 2013; Lee & Griffith, 2004; Mohd et al., 2013; Muhammidin et al., 2020; Taylor, 2010). Determining the market strategy starts with defining the primary aim of the company business or, more precisely, the market segment in which it wants to operate. After that, the internal and external market analysis should be conducted, which includes defining the strengths and weaknesses of the company and the opportunities and threats that exist in the market. Kottler et al., (2012) describe marketing strategy into the product, price, promotion, and place. Dethan et al., (2020) and Mohd et al., (2013) show that the strategy for product, price, promotion, and place together positively impacts company performance. However, Adewale et al., (2013) empirically prove that promotion harms company performance because customers assume that products promoted on a large scale have a poor product quality image or the product does not sell.

Seeing the many gaps found in previous research regarding organizational task environment, marketing intelligence in marketing strategy, and firm performance, this research was conducted to clarify research gaps found by researchers in previous studies. This study also wants to determine the impact of Organizational task environment and Marketing Intelligence on the Marketing Strategy and Firm performance

Literature Review

2.1 Organizational Task Environment

Everything outside the organization that can affect the organization is the organizational environment (Cyplik, 2017). In general, external organizations can be divided into two major groups (Daft, 2010; Hatch, 1994): General environment and task environment. The general environment is all the dimensions that affect the company continuously but do not affect daily operational activities such as international conditions, economy, law-politics, technology, and social culture (Daft, 2010). Meanwhile, the task environment is the external environmental conditions that exist around the company (Daft, 2010) and can even grow, interact, and survive in the organization (Castrogiovanni, 2010) such as customers, suppliers, financiers, competitors, strategic partners, and regulators (Scott & Lane, 2000). This study will focus on the organizational task environment.

Amongst management theorists, a broad consensus has emerged around the general validity and applicability framework for analyzing organizational task environments. Dess & Beard (1984) suggested three dimensions that we're able to influence organizational behaviour and outcomes, which eventually was to collapse the six environmental dimensions described by Aldrich (1979). The three dimensions are munificence, complexity, and dynamism, as explained below: (1) Munificence (Capacity): This refers to the level of abundance or scarcity of critical resources required for the firm's operation or the ability of the environment to sustain growth (Aldrich, 1979; Castrogiovanni, 1991; Starbuck, 1976). Dess & Beard (1984) also explained that an environment rich with insufficient resources and capabilities would support growth and maintain organizational stability. This condition of scarce or abundant resources required by one or more organizations in one environment becomes important (Castrogiovanni, 2010). The existence of abundant resources allows the organization to continue to survive and grow in its environment and allows the birth of new companies in the industry (Castrogiovanni, 2010). (2) Complexity (Homogeneity-Heterogeneity, concentration – dispersion): This refers to the level of environmental knowledge needed to understand a series of activities carried out by the organization or decision-making (Bataglia et al., 2013). Dess & Beard (1984) stated that complexity is a series of corporate activities both concentrated and heterogeneous, thus requiring a high level of skill and ability to process information systems and increasing organization's strain

resources (Dutton & Graduate, 1983). Increase in structural complexity of the environment would increase the need for strategic activities (Aldrich, 1979). So that managers who face complex environmental conditions will experience more uncertainty and will need the ability to process information more than managers who face austere environments (Duncan, 1972; Pennings, 1975; Tung 1979; in Dess & Beard 1984). (3) Dynamism (stability – instability, turbulence): This refers to the level of change characterizing the activities of the environment, which is relevant for the operations of an organization (Child, 1972; Randolph and Dess, 1984; Tung, 1979; in Bataglia et al., 2013). Environmental dynamism comprises the rate of change in external circumstances (instability), and the unpredictability (or turbulence) of that change (Emery & Trist, 1965). Organizations typically seek to cope with turbulence and instability in the task environment through introduction of strategic management and vertical integration (Dess & Beard 1984). So it can be concluded that the more unstable the environmental conditions will cause the organization to be more flexible so that changes are needed to the organization's strategy, structure, strategy, processes, and culture (Detha Alfrian & Riani, 2019).

The effect of organizational task environment on the organization's operations becomes more apparent when we look at it from a strategic perspective because the more dynamic the changes in an organizational environment are, the organization is required to implement the right strategy to survive in the competition (Emery & Trist, 1965) so as to produce the following hypothesis:

H1: Organizational Task Environment has positive a correlation with marketing strategy.

H4: Organizational Task Environment has a positive corelation with firm performance.

2.2 Marketing Intelligence

Maltz & Kohli (1996) say that marketing intelligence is a business component that changes predictive quality scenarios and enables better planning, especially related to marketing strategy. According to Guarda et al (2012) marketing intelligence is a complex approach to processing information needed in the decision-making process, so it required competencies in determining which information is needed and how to organize it. It can be summarized that marketing intelligence is an activity carried out by an organization related to data, information, and knowledge used to assist managerial tasks.

Kumar & Bagga (2020) added that marketing intelligence is categorized into three activities: (1) Information Acquisition: Organization-wide marketing information for current and future customer needs. (2) Information Analysis: Generation intelligence from the collected information. (3) Information Activation: Using generated intelligence for developing and executing marketing plans

(Jaworski & Kohli, 1993; Kohli & Jaworski, 1990). The formation of marketing intelligence will go through several stages (Venter & van Rensburg, 2014), namely: (1) Data Collection: This process entails gathering internal and external data. (2) Data Storage: the process is to store data and information obtained internally and externally in a format from which it can be easily extracted. (3) Data Extraction: this process entails various management information and analysis tools. (4) Data Integration: this process is how the data and intelligence integration could support the company to support decision-making.

With extraordinary technological advances, business dependence on technology is getting higher (Berlin, 2016). The need for relevant, accurate, and reliable information from external and internal is, of course, very much needed to identify, analyze, resolve, and even anticipate problems that can come and change at high speed (Boikanyo et al., 2016). These reliable data and information are the basis for strategic decision management (Osa Igbaekemen, 2014). Strategic decision-making for companies that grow in an international business environment must have accurate and timely intelligence on all threats and opportunities that exist (Boikanyo et al., 2016). Marketing intelligence also could help managers to organized and adjust marketing plans based on the development of the marketing environment with daily Information. (Osa Igbaekemen, 2014). Marketing intelligence can be used to reduce the astonishments and the employees' inability against environmental dynamic and to minimize the business's exposure to environmental risks (Johns & Van Doren, 2010). Cornish (1997) stated that marketing intelligence can mobilize to process internal and external data so that it can be used as a tool to form strategic planning. Therefore, companies must filter and monitor market needs to win the competition by becoming a market leader in the market (Al-hashem, 2020). However, the influence of marketing intelligence on company performance is still a determinant among researchers. Some say that marketing intelligence makes company performance decline because it cannot capture opportunities outside of analytical data (Harari, 1996; in Zarrella, 2018). But some argue that marketing intelligence impacts firm performance (Elsner et al., 2004; Kohavi & Rothleder, 2002; Smith et al., 2009).

From the studies that have been done, it is known that marketing intelligence can be a factor that affects marketing strategy and even company performance. the influence of marketing intelligence on company performance is still a determinant among researchers. Some say that marketing intelligence makes company performance decline because it cannot capture opportunities outside of analytical data (Harari, 1996; in Zarrella, 2018). But some

argue that marketing intelligence impacts firm performance (Elsner et al., 2004; Kohavi & Rothleder, 2002; Smith et al., 2009), so it can proposed hypothesis

H2: Marketing Intelligence has a positive corelation with marketing strategy.

H5. Marketing intelligence has a positive correlation with firm performance.

2.3 Marketing Strategy

Kotler (2003) defines marketing into two different aspects, namely social and managerial aspects. According to the social aspect, marketing is how a person or group comply their needs by creating, supplying, and exchanging goods and services needed. Meanwhile, from a managerial point of view, marketing is a process of planning the concept, pricing, promotion, and distribution of ideas, creating satisfying opportunities for individuals, and following the goals of the company's organization. Varadarajan (2010) stated that marketing strategy refers to an organization's integrated pattern of decisions that specify its crucial choices concerning markets to serve and market segments to target, marketing activities to perform and the manner of performance of these activities, and the allocation of marketing resources among markets, market segments and marketing activities toward the creation, communication and/or delivery of a product that offers value to customers in exchanges with the organization and thereby enables the organization to achieve specific objectives.

According to Walker & Mullins (2014) that Marketing Strategy is how a Firm focuses to coordinate and effectively allocate the marketing resources and a number activity to accomplish the firm's objectives within a specific product-market. A clear focus on core capabilities can make it easier for employees to implement strategies while generating a competitive advantage (Hrebiniak, 2005). This advantage can come from the company's emphasis on the dimensions of the marketing mix, namely when the company uses resources and capabilities related to price, product, place, promotion in its marketing strategy (Morgan, 2014). The marketing mix consists of 4 elements (Kotler et al., 2012), namely: 1. Product: Something that can be offered to the market to get attention so that the product being sold is bought, used, or consumed that can fulfil a desire or need from consumers. 2. Price: The amount of value that consumers exchange for the benefits of owning or using a product or service whose value is determined by the buyer and seller through bargaining or is set by the seller for the same price to all buyers. 3. Promotion: As a way of marketing to communicate and sell a product to potential consumers. 4. Place: Place is associated as a distribution channel aimed at reaching target consumers. This distribution system includes location, transportation, warehousing, etc.

Kotler and Keller (2009) states that marketing strategy was some integrated activities aimed at achieving sustainable competitive advantage. They added that modern strategic marketing

consisted of three key activities: segmentation, target market determination, and positioning. And that is often called segmenting, targeting, positioning. (1) Segmentation: Identified and formed a separated group of customers that needed their own marketing. (2) Targeting: Choose one or more market segments to be served. (3) Positioning: Built and communicated the benefit of special products sold in the market. The marketing mix is the set of marketing tools a company uses to pursue its marketing goals in the target market (Kotler et al., 2012). Therefore, in determining the marketing strategy to be carried out, the company must first look at the market situation and conditions and assess its position in the market to determine the marketing activities that must be carried out.

The formation and implementation of competitive strategic marketing result from gathering market intelligence and developing a synthesis of market information (Greenley et al., 2005; Kirca et al., 2005; Rodriguez et al., 2004). In addition, the presence of resources around the organization will form a more stable strategy (Grant, 1996). Skilled marketing strategies make firms more responsive to the market and provide a framework for goals, decisions, and actions that result in superior performance (Lee & Griffith, 2004). This results in a hypothesis.

H5. Marketing intelligence has a positive correlation with firm performance.

2.4 Firm Performance

Lin et al., (2008) state that firm performance is the achievement of the company's internal and external goals. Companies must grow both internally and externally (Selvam et al., 2016). Measurement using this concept is theoretically called stakeholder theory (Freeman, R. E., 1984). Freeman, R. E. (1984) defines a stakeholder as "any group or individual who can affect or is affected by the achievement of the organization's objectives". In this concept, profit growth is the object to grow and survive in the competition. Meanwhile, service quality will be the main factor in competition to ensure the existence of the company (Miencha, 2015; Sudhakar et al., 2006).

Santos (2012) in his study, revealed that Firm performance is very relevant to be used in strategic management research, used as a dependent variable. Despite its relevance, there is hardly any consensus about its definition, dimensionality, and measurement, limiting advances in research. Many studies measure firm performance with a single indicator and represent this concept as unidimensional, even while admitting its multidimensionality (Miller et al., 2015). Financial is the most widely used instrument to calculate firm performance, although data availability is limited (Gerschewski & Shufeng, 2014). However, measuring a performance cannot only be done with financial indicators, non-financial indicators are also important in measuring company performance (Mohamad & Sidek, 2013). So the indicators used to analyze firm performance are, financial: company profits, use of assets, sales, company productivity, then non-financial: customer satisfaction, customer

growth, employee satisfaction, product quality, company reputation (Mohamad & Sidek, 2013). Briefly, according to Li et al., (2008) divides it into three aspects, namely: Efficiency is measured by the well-known return of investment indicators (ROI, ROE, ROA). Growth is measured by increased sales, market size, number of employees, and the last, the return on sales and gross profit margins.

It can be summarized that performance measurement is the process of determining the success or failure of an organization or an individual in achieving its objectives, performance measurement-based quality can be defined as the measurement of the performance of non-financial at all levels in the organization (including individuals, teams, processes, departments, and the organization as a whole), which aims to continuously improve performance against organizational goals.

According to the hypothesis that reveals the relationship between variables, the research model in this study can be seen in Figure 1 below

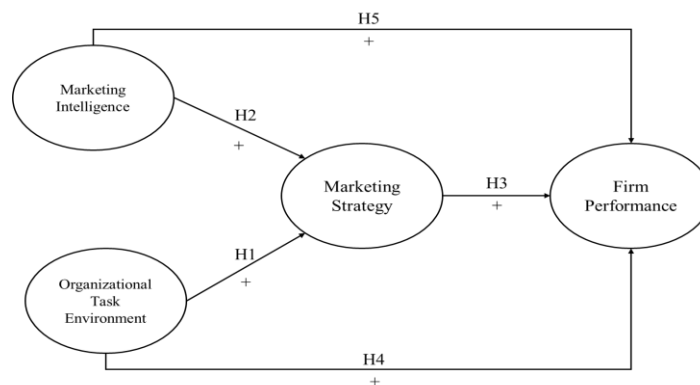


Figure 2 Research Model

Research Methodology

This study was conducted to determine the relationship between organizational task environment and marketing intelligence on marketing strategy and firm performance. This research is a quantitative descriptive study since the research data obtained from sampling was distributed to the sales and marketing teams of heavy equipment distributors in Indonesia. The sample is obtained by distributing questionnaires online through a google form that uses a Likert scale.

This research spreads the questionnaire into two parts. The first part is about demographic respondents such as gender, age, level of education, experience, and Location. Then the second part, the researcher enters the core of the research plan, namely asking

questions about the relationship between the research variables. The data collection method in this study uses a questionnaire method that contains 48 items of questions related to the construct. This study only uses a questionnaire that has been used in previous studies to measure constructs, so it can be ascertained that the questionnaire items used in this study must be valid in terms of the validity of their contents, as shown in table 1 below.

Table 2 Observed Variable and Cronbach Alpha of Construct

Variable	Dimensions	Observed Variable	Reference	Cronbach Alpha
Organizational Task Environment	Munificence	5 Variables	(Camison, 2004),(Bataglia et al., 2013)	0.93
	Complexity	4 Variables		
	Dynamism	4 Variables		
Marketing Intelligence		7 Variables	(Al-hashem, 2020)	0.884
Marketing strategy	Product Adaption	5 Variables	(Sousa & Bradley, 2005)	0.878
	Price Adaption	4 Variables		
	Promotion Adaptation	5 Variables	(Dethan et al., 2020)	
	Distribution Adaptation	4 Variables		
Firm Performance	Efficiency	5 Variables	(Cegarra-Navarro et al., 2016),(Lay & Jusoh, 2017)	0.921
	Growth	3 Variables		
	Profit	2 Variables		

3.1 Population and Sample Target

The population for this study was conducted on 257 respondents who are individuals who work as sales or marketing teams of an authorized heavy equipment dealer in Indonesia. Table 2 below shows the distribution of respondents in this study.

Table 3 Distribution of Respondents

Demographic Variables	Variable Group	Total	Percentage (%)
Gender	Male	245	95,30%
	Female	12	4,70%
	Total	257	100
Age	20-29	59	23%
	30-39	110	42,80%

	40-49	61	23,70%
	50-59	26	10,10%
	more than 60 years	1	0,40%
	Total	257	100
Education Level	Diploma	50	19,50%
	Bachelor degree	190	73,90%
	Master degree	13	5,10%
	Doctoral degree	4	1,60%
	Total	257	100%
Number of years with company	less than 5 Years	54	21%
	5 - 10 Years	112	43,60%
	10 - 20 Years	64	24,90%
	more than 20 Years	27	10,50%
	Total	257	100%
Job Area	Sumatera area	30	11,70%
	Jawa, Madura, Bali, and Nusa Tenggara area	102	39,70%
	Kalimantan area	47	18,30%
	Sulawesi and Maluku area	54	21%
	Papua area	24	9,30%
	Total	257	100%

3.2 Data Analysis

The data is processed using SPSS 25 software by coding the variables clearly to follow the coding for each of the desired data. After that, perform analysis measures such as pilot test, data screening, and data cleaning, normality assessment, collinearity, and reliability analysis. This measurement is carried out to ensure that the measurements in this study are very good and correct and to validate the data to be used for structural analysis of the Equation Model (SEM), which will be carried out using the Lisrel 8.8 software.

Results

4.1 Descriptive Statistics

Table 4 Descriptive Statistics Result

Variable	Dimensions	Min	Max	Mean	Std. Deviation	Cronbach Alpha
Organizational Task Environment	Munificence	2	5	4,101	0,63544	0,824
	Complexity	2	5	4,14	0,59934	
	Dynamism	1	5	2,965	0,69649	
Marketing Intelligence	-	2,5	5	4,28		0,864
Marketing strategy	Product Adaption	2	5	4,302	0,53539	0,881
	Price Adaption	2,5	5	4,247	0,53596	
	Promotion Adaptation	2	5	4,179	0,59545	
	Distribution Adaptation	3	5	4,313	0,46994	
Firm Performance	Efficiency	2	5	4,267	0,5589	0,909
	Growth	2	5	4,257	0,56614	
	Profit	2	5	4,148	0,59418	

According to the response, the highest Mean value in the Variable Organizational task environment is the Complexity dimension (4,14). This illustrates that the condition of the work environment around the respondent has high diversity so that it can be concluded that the respondent must be able to respond to various conditions around their work environment. The Mean value for marketing intelligence is 4.28. This illustrates that respondent consider marketing intelligence very important in the heavy equipment business. Then the Variable Marketing Strategy shows that the Product Adaption dimension has the highest mean value (4,302). This illustrates that respondent make the product the most important strategy in the marketing strategy. Finally, within the scope of the firm performance, the highest average score is in the Efficiency dimension (4,267). It can be concluded that respondents think heavy equipment distributor companies that perform well can be seen from how the company performs efficiently.

4.2 Models Analysis

The model in this study will be tested for hypotheses and analyzed for confirmatory factors using the Structural Equation Method (SEM). The application used for this SEM is Lisrel 8.8. Since organizational task environment, Marketing Strategy, and Firm performance variables are described

through several dimensions, so to see the relationship in SEM is done using the high order model relationship, while for market intelligence which has no dimensions, only uses a single-factor model.

Table 5 Measurement Model Analysis

Item	Threshold Value	Organizational Task Environment	Marketing Intelligence	Marketing Strategy	Firm Performance
CR	≥0,7	0,8	0,85	0,94	0,94
VE	≥0,5	0,77	0,46	0,81	0,81
X ² /df	≤3	2,29	1,296	2,58	0
P-value of X ²	n/a	0,13034	0,22603	2,58	1
RMSEA	≤0,08	0,071	0,034	0,079	Perfect fit
GFI	≥0,95	0,99	0,99	0,99	0,99
SRMR	≤0,08	0,013	0,0094	0,010	Perfect fit
CFI	≥0,95	0,99	1	1	Perfect fit
NFI	≥0,95	0,99	0,99	0,99	Perfect fit
NNFI	≥0,95	0,98	0,99	0,99	Perfect fit
IFI	≥0,95	0,99	1	1	Perfect fit

4.3 Hypothesis Test

In this study, five hypotheses were tested with the following results

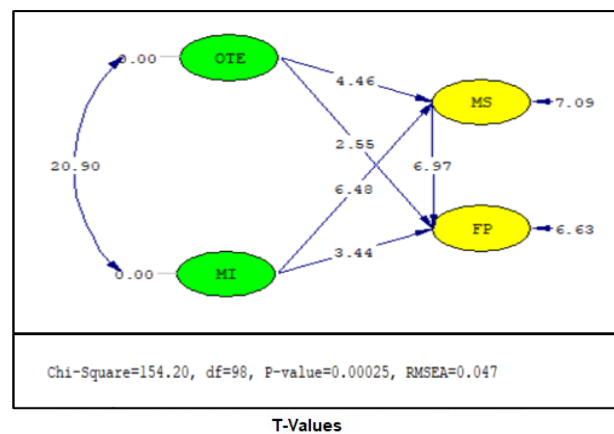


Figure 3 T-Values of Model
Table 6 Hypothesis testing results

No	Hypothesized Relationship	Structural Coefficient	T Values	Hypothesis Result
H1	Organizational Task Environment has positive relationship with marketing strategy.	0,32	4,46	Supported

H2	Marketing intelligence has positive relationship with marketing Strategy.	0,52	6,48	Supported
H3	Marketing Strategy has positive relationship with firm performance	0,49	6,97	Supported
H4	Organizational Task Environment has positive relationship with firm performance.	0,15	2,55	Supported
H5	Marketing intelligence has positive relationship with firm performance.	0,27	3,44	Supported

4.4 Goodness of fit of Structure Model

This model is having a good fit as every model fit index used indicates good fit which we can see through the table below

Table 7 Goodness of Fit Index

NO	Item	Overall Model Fit	Fit Conclusion
1	χ^2/ df	1,5735	Good Fit
2	RMSEA	0,047	Good Fit
3	GFI	0,93	Good Fit
4	SRMR	0,026	Good Fit
5	CFI	0,99	Good Fit
6	NFI	0,98	Good Fit
7	NNFI	0,99	Good Fit
8	IFI	0,99	Good Fit
9	Conclusion	8 Good Fit	

Discussion

This study reveals the relationship between the existing variables by answering the hypotheses that existed at the beginning of this research. Hypothesis 1: Organizational Task Environment (OTE) has positive relationship with Marketing Strategy (MS). The results of the hypothesis testing result against the hypothesis in this study that OTE has a positive relationship to MS is supported. This is supported by the structural value of the coefficient of this hypothesis is 0.32, and the t-Value is 4.46. A market is full of dynamics because the market is formed from a meeting of supply and demand. The right strategy and able to adapt to market needs will, of course, be a winner. This research is in line with a study conducted by

Castrogiovanni (2010) that resource as one of the factors in the organizational environment required by marketing to create an advantage over its competitors. With better resources than competitors, organizations can provide attractive offers to consumers even in uncertain markets conditions. Hypothesis 2: Marketing intelligence (MI) has positive relationship with marketing Strategy (MS). The results of the hypothesis testing result against the hypothesis in this study that MI has a positive relationship to MS is supported. This is supported by the structural value of the coefficient of this hypothesis is 0.52, and the t-Value is 6.48. The supported conditions for these two constructs seemed predictable from the start before this research was carried out. Because when we talk about marketing strategy, data and information will be everything. Data and information can be eyes and ears for an organization to increase customer satisfaction. In addition, in the current state of technology, which is changing very quickly, it will have a very immediate impact on consumer tastes for a product or service. Marketing intelligence is indeed an indispensable part of the marketing team informing their strategies. Hypothesis 3: Marketing Strategy (MS) has positive relationship with firm performance (FP). The results of the hypothesis testing result against the hypothesis in this study that MS has a positive relationship to FP is supported. This is supported by the structural value of the coefficient of this hypothesis is 0.49, and the t-Value is 6.97. The end of a marketing strategy, of course, is the sales figures. So it is true that marketing strategy has a positive relationship to Firm Performance, at least from the financial side of a company. However, mistakes in making a marketing strategy will have a tremendous impact on the company's continuity because the resources owned by the company are used to survive the onslaught of competitors, not used to create a competitive advantage strategy. Hypothesis 4: Organizational Task Environment (OTE) has positive relationship with firm performance (FP). The results of the hypothesis testing result against the hypothesis in this study that OTE has a positive relationship to FP is supported. This is supported by the structural value of the coefficient of this hypothesis is 0.15 and the t-Value is 2.55. The positive relationship between OTE and FP is the smallest coefficient. This shows that the organizational task environment independently does not sufficiently influence firm performance. This condition also illustrates that change in the organizational environment have the most negligible impact on firm performance. Hypothesis 5: Marketing intelligence (MI) has positive relationship with firm performance (FP). The results of the hypothesis testing result against the hypothesis in this study that MI has a positive relationship to FP is supported. This is supported by the structural value of the coefficient of this hypothesis is 0.27 and the t-Value is 3.44. From these results, we can also see that when marketing intelligence is not

processed into a strategy, it will only have a negligible effect on its performance. Still, if marketing intelligence is used by marketing as a basis for making strategy, it will significantly influence the firm performance.

This study offers a significant step forward by providing an empirically validated model that assesses the role of the organizational task environment, marketing intelligence, and marketing strategy on their relationship with firm performance. The findings support that Organizational task engineering, Marketing intelligence, and marketing strategy can influence firm performance independently. However, from this study, organizational tasks and marketing strategy will have a more significant influence on firm performance if they go through a marketing strategy.

Conclusion

This research has provided clarity about the relationship between organizational task environment, marketing intelligence, and marketing strategy, and firm performance in accordance with the objectives of this study. And the relationship between these variables is supported where the organizational task environment, marketing intelligence, and marketing strategy provide a mutually positive correlation between each. This study also found that the role of the organizational task environment and marketing intelligence in the marketing strategy of firm performance. Marketing strategy has the highest role in firm performance, but marketing intelligence can give the firm performance a bigger role if combined with marketing strategy.

This research still has many limitations. Therefore, it is recommended to conduct the next study. Our research is carried out using a single study context so that to be able to define the influence of organizational task engineering, marketing intelligence, and marketing strategy on firm performance more broadly, a broader research context is needed. It was conducting research using a longitudinal design compared to a cross-sectional design because it will not cause a causal relationship in the variables. Marketing intelligence has a more important role than the organizational task environment on marketing strategy. Further research is needed on the relationship between marketing intelligence and marketing strategy by looking at several dimensions that exist in marketing intelligence. And finally, additional research might explore the extent to which our findings are generalizable

References

Adewale, G., Adesola, M. , & Oyewale.I.O. (2013). Impact of Marketing Strategy on Business Performance A Study of Selected Small and Medium Enterprises (Smes) In. *Journal of Business*

and Management, 11(4), 59–66.

- Al-hashem, A. O. (2020). *Mediation Impact of Marketing Intelligence in the Relationship between Technology Based Knowledge Sharing and Product Innovation*. 9(2), 688–693. <https://doi.org/10.18421/TEM92>
- Aldrich, H. (1979) *Organizations and Environments*. Englewood Cliffs, NJ: Prentice-Hall.
- Bataglia, W., Silva, A. A., & Porto, E. C. (2013). *Organizational task environment : evidence from the Brazilian industry*. November. <https://doi.org/10.1108/MRJIAM-02-2013-0500>
- Berlin, S. (2016). *Competitive Intelligence* (Issue January 2011). <https://doi.org/10.1007/978-3-8349-6492-2>
- Boikanyo, D. H., Lotriet, R., Buys, P. W., Boikanyo, D. H., Lotriet, R., & Buys, P. W. (2016). “ *Investigating the use of business , competitive and marketing intelligence as management tools in the mining industry .*” [https://doi.org/10.21511/ppm.14\(2\).2016.03](https://doi.org/10.21511/ppm.14(2).2016.03)
- Camison, C. (2004). *Shared , competitive , and comparative advantages : a competence-based view of industrial-district competitiveness*. 36(1994). <https://doi.org/10.1068/a3759>
- Castrogiovanni, G. J. (2002). *Journal of Management*. <https://doi.org/10.1177/014920630202800201>
- Castrogiovanni, G. J. (2010). Environmental Munificence : Theoretical. *Management*, 16(3), 542–565.
- Cavusgil, S. T., & Zou, S. (2013). *Marketing An Relationship : Investigation of the in Empirical Link Export Market Ventures*. 58(1), 1–21.
- Cegarra-Navarro, J.-G., Soto-acosta, P., & Wensley, A. K. P. (2016). Structured knowledge processes and firm performance : The role of organizational agility. *Journal of Business Research*, 69(5), 1544–1549. <https://doi.org/10.1016/j.jbusres.2015.10.014>
- Cornish, S. L. (1997). *Intelligence and Implications for the*. 87(3), 451–470.
- Cyplik, P. (2017). *INFLUENCE OF TASK ENVIRONMENT ON EFFICIENCY OF MATERIAL FLOW IN COMPANIES WITH DIFFERENT*. 125–138.
- Dess, G. G., & Beard, D. W. (1984). *and*. 29(1), 52–73.
- Detha Alfrian, F., & Riani, R. (2019). *THE EFFECT OF TASK ENVIRONMENT TOWARD THE COMMITMENT TO CHANGE: TRANSFORMATIONAL LEADERSHIP AS A MEDIATOR*. 7(July 2018), 85–97.
- Dethan, A. G., Ayu, I. G., & Suryawardani, O. (2020). *The Effect of Marketing Mix and Service Quality on Satisfaction and Revisit Intention to Kampung Coklat , Blitar Regency*. 7(2), 323–348.
- Dutton, J. E., & Graduate, J. L. K. (1983). *Toward Understanding Strategic Issue Diagnosis*. 4(October 1982), 307–323.
- Elsner, R., Buchversand, R., Krafft, M., & Huchzermeier, A. (2004). *Optimizing Rhenania ' s Mail-Order Business Through Dynamic Multilevel Modeling*. January.
- Emery, F. E., & Trist, E. L. (1965). *Human Relations*. <https://doi.org/10.1177/001872676501800103>

- Eruemegbe, G. O. (2015). *IMPACT OF BUSINESS ENVIRONMENT ON ORGANIZATION PERFORMANCE IN NIGERIA- A STUDY OF UNION BANK OF NIGERIA*. 7881(November), 478–494.
- Faryabi, M., Moradi, R. M., Yasrebdoost, H., & Moghadam, S. S. (2013). Mohammad Faryabi , Rima Mohammad Moradi , Hadi Yasrebdoost *, Saeid Sarbazy Moghadam *. *Vidyabharati International Interdisciplinary Research Journal* 2, 2(2), 34–45.
- Gerschewski, S., & Shufeng, S. (2014). Beyond financial indicators : An assessment of the measurement of performance for international new ventures. *International Business Review*. <https://doi.org/10.1016/j.ibusrev.2014.11.003>
- Gove, S. (2006). *Managerial Constraint : The Intersection Between Organizational Task Environment and Discretion*. 8387(September), 0–52. [https://doi.org/10.1016/S1479-8387\(06\)03005-0](https://doi.org/10.1016/S1479-8387(06)03005-0)
- Grant, R. M. (1996). *Prospering in Dynamically-Competitive Environments : Organizational Capability as Knowledge Integration* *Prospering in Dynamically-Competitive Environments : Organizational Capability as Knowledge Integration*. November. <https://doi.org/10.1287/orsc.7.4.375>
- Greenley, G. E., Hooley, G. J., & Rudd, J. M. (2005). *Market orientation in a multiple stakeholder orientation context : implications for marketing capabilities and assets*. 58, 1483–1494. <https://doi.org/10.1016/j.jbusres.2004.07.004>
- Guarda, T., Santos, M., Pinto, F., Silva, C., & Lourenço, J. (2012). A Conceptual Framework for Marketing Intelligence. *International Journal of E-Education, e-Business, e-Management and e-Learning*, 2(6). <https://doi.org/10.7763/ijeeee.2012.v2.163>
- Harris, R. D. (2004). *Organizational Task Environments : An Evaluation of Convergent and Discriminant Validity **. July.
- Hrebiniak, G. L. (2005). *Making Strategy Work*.
- Ismaeel, B., & Alzubi, M. (2020). The Impact of Marketing Intelligence on the Market Share of the Jordanian Commercial Banks. *SunText Review of Economics & Business*, 01(03). <https://doi.org/10.51737/2766-4775.2020.016>
- Jaworski, B. J., & Kohli, A. K. (1993). *Orientation : Antecedents and*. 57(3), 53–70.
- Johns, P., & Van Doren, D. C. (2010). Competitive intelligence in service marketing: A new approach with practical application. *Marketing Intelligence & Planning*, 28(5), 551–570. <https://doi.org/10.1108/02634501011066492>
- Kirca, A. H., Jayachandran, S., & Bearden, W. (2005). *Market Orientation : A Meta-Analytic Review and Assessment of Its*. April. <https://doi.org/10.1509/jmkg.69.2.24.60761>
- Kohavi, R., & Rothleder, N. J. (2002). *Emerging Trends in Business Analytics*. 45(8), 45–48.
- Kohli, A. K., & Jaworski, B. J. (1990). *Orientation : The Construct , Research Propositions Managerial Implications*. 54(2), 1–18.
- Kucera, T., & White, D. (2012). *Predictive Analytics for Sales and Marketing*. January.
- Kumar, S., & Bagga, T. (2020). *Marketing Intelligence : Antecedents and Consequences Marketing Intelligence : Antecedents and Consequences*. April. <https://doi.org/10.2139/ssrn.3563107>

- Lay, T. A., & Jusoh, R. (2017). *ORGANIZATIONAL CAPABILITIES , STRATEGIC MANAGEMENT*. 14(2), 222–246.
- Lee, C., & Griffith, D. A. (2004). *The marketing relationship in an export-driven developing economy A Korean illustration*. June. <https://doi.org/10.1108/02651330410539648>
- Li, Y. H., Huang, J. W., & Tsai, M. T. (2008). Entrepreneurial orientation and firm performance: The role of knowledge creation process. *Industrial Marketing Management*, 38(4), 440–449. <https://doi.org/10.1016/j.indmarman.2008.02.004>
- Lin, C.-H., Peng, C.-H., & Kao, D. T. (2008). The innovativeness effect of market orientation and learning orientation on business performance, *International Journal of Manpower*, Vol. 29 Issue: 8, pp.752-772. *Emerald Insight*, 29(8), 752–772.
- Maltz, E., & Kohli, A. K. (1996). *Market Intelligence Dissemination Across Functional Boundaries*. XXXIII(February), 47–61.
- Mangundjaya, W. L. (2014). *Psychological empowerment and organizational task environment in commitment to change*. II(2), 119–126.
- Miencha, I. O. (2015). *Efficiency Measurement of Kenyan Commercial Banks Professor Selvam Murugesan Vinayagamoorthi Vasanth Kasilingam Lingaraja Mariappan Raja It has been recognized that the financial system in Africa in general and Kenya specifically , is shallow and fragile* . 6(4), 621–631. <https://doi.org/10.5901/mjss.2015.v6n4s2p621>
- Miller, C. C., Miller, C. C., Washburn, N. T., & Glick, W. H. (2015). *The Myth of Firm Performance*. May 2013. <https://doi.org/10.1287/orsc.1120.0762>
- Mohamad, M. R., & Sidek, S. (2013). *The Impact of Innovation on the Performance of Small and Medium Manufacturing Enterprises : Evidence from Malaysia The Impact of Innovation on the Performance of Small and Medium Manufacturing Enterprises : Evidence from Malaysia*. April 2020. <https://doi.org/10.5171/2013.885666>
- Mohd, W., Idris, S., & Momani, R. A. (2013). *Impact of Environmental Dynamism on Marketing Strategy Comprehensiveness and Organizational Performance*. 8(9), 40–49. <https://doi.org/10.5539/ijbm.v8n9p40>
- Morgan, N. A. (2014). *Marketing and business performance*. January 2011. <https://doi.org/10.1007/s11747-011-0279-9>
- MUHAMMADIN, A., RAMLI, R., RIDJAL, S., KANTO, M., & ALAM, S. (2020). *Effects of dynamic capability and marketing strategy on the organizational performance of the banking sector in Makassar , Indonesia*. 41(24), 26–41.
- Osa Igbaekemen, G. (2014). Marketing Intelligence As a Strategic Tool for Competitive Edge. *British Journal of Marketing Studies*, 2(5), 17–34.
- Rodriguez, C., Carrillat, F. A., & Jaramillo, F. (2004). *A meta-analysis of the relationship between market orientation and business performance : evidence from five continents*. 21, 179–200. <https://doi.org/10.1016/j.ijresmar.2003.07.001>
- Rouhani, S., Ashrafi, A., Zareravasan, A., & Afshari, S. (2016). *The impact of business intelligence on*

decision support and organizational benefits Journal of Enterprise Information Management
Article information : February 2018. <https://doi.org/10.1108/JEIM-12-2014-0126>

- Santos, J. B. (2012). *Toward a Subjective Measurement Model for Firm Performance*. May, 95–117.
- Scott, S. G., & Lane, V. R. (2000). A stakeholder approach to organizational identity. *Academy of Management Review*, 25(1), 43–62. <https://doi.org/10.5465/AMR.2000.2791602>
- Selvam, M., Gayathri, J., Vasanth, V., Lingaraja, K., & Marxiaoli, S. (2016). *Determinants of Firm Performance : A Subjective Model*. 4(7), 90–100. <https://doi.org/10.11114/ijsss.v4i7.1662>
- Smith, R. H., Park, C., & Pope, B. K. (2009). *Pricing Digital Content Product Lines : A Model and Application for the National Academies Press*. 28(4), 620–636.
<https://doi.org/10.1287/mksc.1080.0481>
- Sousa, C. M. P., & Bradley, F. (2005). *Global markets : does psychic distance*. 59(March), 43–59.
<https://doi.org/10.1080/0965254042000328668>
- Stern, R. N., Becker, T. M., & Stern, R. N. (2014). *The Effects of Task Environments on Strategies for Controlling Clients THE EFFECTS OF TASK ON STRATEGIES ENVIRONMENTS FOR CONTROLLING CLIENTS the techniques*. 16(4), 477–494.
- Sudhahar, J. C., Israel, D., Britto, A. P., & Selvam, M. (2006). *Service Loyalty Measurement Scale : A Reliability Assessment*. 3(4), 1814–1818.
- Taylor, P. (2010). *Logistics Service Providers : An Empirical Study of Marketing Strategies and Company Performance*. October 2014, 37–41.
<https://doi.org/10.1080/13675560310001619231>
- Varadarajan, R. (2010). Strategic marketing and marketing strategy: Domain, definition, fundamental issues and foundational premises. *Journal of the Academy of Marketing Science*, 38(2), 119–140. <https://doi.org/10.1007/s11747-009-0176-7>
- Venter, P., & van Rensburg, M. J. (2014). The relationship between marketing intelligence and strategic marketing. *South African Journal of Economic and Management Sciences*, 17(4), 440–456. <https://doi.org/10.4102/sajems.v17i4.642>
- Walker, O. C., & Mullins, J. W. (2014). *Marketing Strategy: a Decision-Focused Approach, Eighth Edition*.
- Zarella, D. (2018). *The impact of marketing intelligence on SMEs*.

THE RELATIONSHIPS OF STRATEGIC ALLIANCE, INNOVATION CAPABILITY, COST REDUCTION AND CUSTOMER LOYALTY**

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ABSTRACT

Coal mining industry in Indonesia is facing more challenges and uncertainty today, that push coal mining contractor to keep innovating and manage their cost in the most efficient way. This condition also affects other industries along its value chain business activities such as heavy equipment industry. Regarding this condition, both heavy equipment distributor and coal mining contractor have seen strategic alliance as an interesting option to stay competitive in the market. This study examines relationship between strategic alliance, innovation capability, cost reduction and customer loyalty in the context of heavy equipment industry from the perspective of alliance-partner to alliance-customer relationship. This study was conducted based on 256 respondents who are working in PT Mandala Karya Prima, as this study is a case study of strategic alliance between PT United Tractors tbk, leading heavy equipment distributor in Indonesia and PT Mandala Karya Prima, coal mining contractor in Indonesia.

Type of Paper: Empirical

Keywords: Strategic Alliance, Innovation Capability, Cost Reduction, Customer Loyalty, Heavy Equipment, Coal Mining.

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1. Introduction

Coal mining industry has been an important sector that support national development in Indonesia, but the roles and continuity of coal mining industry is very volatile due to change in global commodity price and economic global growth (Apbi-icma.org, 2015). China as number one global coal importer plays an important role in influencing coal price especially Indonesia export coal price (Sinadia, 2021). However, while Indonesia increases their coal production, global coal market has been changed as renewable energy dramatically grows (Atteridge, Aung and Nugroho, 2018), creates more pressure and volatility to Indonesia coal mining Industry (Nangoy, 2019). Such impact on the coal mining industry would certainly have an effect on other industries along the coal mining value chain business activities such as fluctuation on heavy equipment industry following the coal price trend. Heavy equipment distributors (proxy: distributor) meet more challenge in securing loyalty from their customers (proxy: contractor) especially after the invasion from China products (The Jakarta Post, 2020), pushed them to continuously improve their services and sustain innovative strategy to create more value to contractors in order to enhance the customer loyalty. On the other side, coal price downtrends pushed coal mining contractor to manage their operation more efficient to survive in the worst scenario (Kontan, 2019). Regarding to these conditions, strategic alliance could become an interesting option for both distributor and contractor to stay competitive in the market today.

Strategic alliance offers mutual beneficial opportunity and maintained competitiveness to partners that collaborate in the alliance by improvement of capabilities and competencies (Isoraite, 2009), such as knowledge sharing, learning new skill and competences from partners that known as important factors that forming innovation capability of a firm (Lin, 2007). However, there is an exist research gap where in the previous studies found out difficulties in manage some strategic alliance due to unstable character of alliances and could depressed the building of innovation capability in the alliance (Spekman, R. E., Lynn, A. I., MacAvoy, T. C. and Forbes III, 1996; Dacin, Hitt and Levitas, 1997; Whipple and Gentry, 2000; Wittmann, 2007). Further, Isorite (2009) added an argument that opportunity to improve productivity appeared through sustain innovation in the alliance and play an important role in reduce total cost of the business process. Although previous study for the topic strategic alliance and cost reduction outlined strategic alliance give an advantage of cost reduction through technology improvement and information exchange (Chang, 1998; Wang et al., 2005; Ploch, Delnoij and Klazinga, 2006), there is inconsistency in the findings whereas in other study showed different

conclusion, in that strategic alliance may not improve efficiency through economic of scale and may incur unpredictable new cost (Halverson, Kaluzny and Young, 1997; Burns and Pauly, 2002; Das and Rahman, 2010). Further, these studies were mostly done in the hospital and healthcare sector where generalization of their findings might be not consistently applicable in other business sector. Moreover, although it has been indicated that relationship quality builds around strategic alliance will impact to loyalty, there also an exist gap in the previous study about strategic alliance impact to customer loyalty conducted by Uncles and Goh (2002) in the context of airlines industry, whereas the study indicates strategic alliance might give different impact to customer loyalty depends on segmentation of the passenger and since the study done in the selective first choice airlines company, their finding might not be generalizable in other business sector. Moreover, extant research has examined strategic alliance more from the perspective of alliance-partner to alliance-partner relationship, and less on the perspective of alliance-partner to alliance-customer relationship (McSweeney-Feld, Discenza and De Feis, 2010). This lack of consistent finding the effect of strategic alliance on loyalty and not many strategic alliances done on partner-to-customer merit further examination on the relationship between strategic alliances and customer loyalty in the context of partner-to-customer strategic alliances. With those inconsistency finding and unclear conclusions in the previous study as mentioned before, this study aims to examine relationships among the contemplated constructs use in this research, such as strategic alliance, innovation capability, cost reduction and customer loyalty. This study will make an attempt to clarify those research gaps by integrating various constructs use in this study to shed light their relationships in more conclusive and determinate results.

2. Literature Review and Hypotheses Development

2.1 Strategic Alliance, Innovation Capability and Cost Reduction

Strategic Alliance. Strategic alliance (SA) is defined as a purposive relationship among firms that stay legally independent to achieve specific common targets, sharing benefits between partners that involve cooperation, resources sharing, knowledge transfer, improvement of competences and capabilities (Gulati, 1998; Todeva and Knoke, 2005; Isoraite, 2009; Mowla, 2012; Talebi, Yadollahi Farsi and Miriasl, 2017). Firms are forming strategic alliance for several reasons such as improving productivity, reducing risk because of internal organization problems and external issues, and also getting competitive advantages to produce higher output values (Webster, 1999). Strategic alliance expected to give cost advantage and reduce potential

uncertain risk by arrangement of cost reduction method between partners (Todeva and Knoke, 2005; Mowla, 2012; Ray, 2013), such as creates new product, operates new management technique, and applicate new technology (Vaidya, 2011).

Innovation Capability. Innovation capability (IC) is defined by Lawson and Samson (2001) as firm's ability to transform ideas and knowledge into new systems, new processes or new products in order to give benefits to the firm and stakeholder. Iddris (2016) enriches the definition of innovation capability as firm's ability to produce innovation through continuous learning process, knowledge transformation, exploration and also exploitation of available internal and external resources. Several firm's activities may involve in the process of building innovation capability such as internal and external research and development, usage of new equipment, technology, improvement process, maximize external advisory, innovation training, and other activities related to development of process improvement (Lendel, Morav Cikova and Latka, 2017). From the perspective of resource based view (RBV) as the grand theory that is used to discuss about development of innovative capability (Lawson and Samson, 2001), firm couldn't stand alone to build their enough resources and needs specific external resources. This condition pushes firms to engage external resources by established external relationship with other firm such as strategic alliance (Gulati, 1998; Sudolska and Lapinska, 2020). Cooperation through strategic alliance will give benefits to firm by giving access of additional resources from partners and this kind of cooperation activity will give deep integration of resources capabilities that stimulate innovation and also accelerate the forming of competitive advantages (Lavie, 2006; Pouwels and Koster, 2017; Sudolska and Lapinska, 2020).

Cost Reduction. Cost reduction (CR) can be achieved through running current activities in a cheaper way by optimizing internal resources or restructuring the business process that's need a change in the process (Figar and Ivanovic, 2015). Yadav et al. (2013) defines cost reduction as the process to find out and eliminate waste in the business process to increase the profit without negatively impact the quality of product or services. It is also extended the arguments from Shields and Young (1989) that simplify cost reduction as innovative work method with more efficiency to reduce the actual cost. The purpose of cost reduction is producing more with fewer inputs and also increasing efficiency and effectiveness of the company. Cost reduction will maximize efficiency and potency, while related to growth potency, it needs to be identified main area that is need to be improved efficiently and in some firms can be reached through

partnership with other firm (Yadav et al., 2013). Transaction cost theory states that there are cost in the process of transaction between buyer and seller in the market, and these transaction costs can be reduced through activity outside the market (Coase, 1937; Williamson, 1975). Social relationship between firms may reduce these transactions costs (Granovetter, 1985). Theoretically, relationship between buyer and seller focused on bargaining power as explained in Porter's five competitive force model. Closer relationship between buyer and seller will optimize the transaction cost (Cockrell, 2018).

Refers to above theoretical development on strategic alliance, innovation capability and cost reduction, this study advances the following hypotheses:

Hypothesis 1: Strategic alliance has a positive relationship with innovation capability.

Hypothesis 2: Strategic alliance has a positive relationship with cost reduction.

2.2 Strategic Alliance, Innovation Capability, Cost Reduction, and Customer Loyalty

Lin (2013) gives an argument of strategic alliance as a long-term relationship based on understanding between partners that successfully dependence between each other and supported by mutual trust and commitment. Strategic alliance aspects has important role in increasing partner loyalty, influences by several factors includes coordination, deal, commitment, trust, and partner interdependency (Suparjiman et al., 2019). While previous study has indicated that firm's innovation capabilities may provide other beneficial outcomes such as higher success rate on new products or services, better service quality given to customer, and higher customer retention (Slater and Narver, 1995; Bieglmeyer, Camargo and Craco, 2017). Past study indicates service quality is factor affecting customer loyalty (Kumar et al., 2011). In addition, better services quality will enhance customer satisfaction that known as key determinant of customer loyalty (Richard and Zhang, 2012).

Further, customers prefer to work with suppliers that help them reduce the operational costs and one of the prior motivation to establish collaborative relationship between them is potential cost reduction (Cannon and Homburg, 2001). Unexpected costs can be mitigated when both firms work together and adapt each other over the time (Mieghem, 1995; Cannon and Homburg, 2001; Cockrell, 2018). Successful achievement from this collaborative activity will build trust, satisfaction and enhance customer buyer retention (Butter and Mosch, 2003; Henningsen, Henningsen and Henning, 2013; Hespings, 2017; Cockrell, 2018).

Customer Loyalty. Customer loyalty (CL) is a phenomenon as the behavioral result of customer preferences for a specific brand form a couples of similar ones (Jacoby and Chestnut, 1978). Further, Oliver (1999) added an argument that defines customer loyalty as deeply held commitment to re-purchase a selected product or service continuously in the future and producing repetition on the same brand, despite situational influence or marketing efforts giving a potential to cause switching behavior. Customer loyalty leads a firm to committed in doing business with same firm partner for a long period and become a state of mind, a set of attitudes, trust and appetite (Zineldin, 2006).

Customer loyalty whereas in general refers to solid commitment to repurchasing preferred product or service, has admit interest from researchers on the analysis of the attitudinal and behavioral dimensions of customer loyalty (Oliver, 1999; Chaudhuri and Holbrook, 2001; Kim et al., 2018). Attitudinal loyalty is a compliance of cognition or pleasant to some products or services (Oliver, 1999; Chaudhuri and Holbrook, 2001). It can be said that attitudinal loyalty defines customer connection to a products, services, brands or firms, tolerance of price, and intention to purchase (McManus and Guilding, 2008; Sánchez et al., 2011; Kim and Ko, 2012; Moretta Tartaglione et al., 2019). While prior studies demonstrate behavioral loyalty refers to repeated purchases, customer equity and positive word of mouth (Kim and Ko, 2012; Richard and Zhang, 2012; Hajli et al., 2017). Previous researches define service quality, customer satisfaction, commitment, trust, communication, and conflict handling as the major antecedents of customer loyalty (Kumar et al., 2011; Sohail, 2012; Rai and Medha, 2013; Watson et al., 2015; Nyadzayo and Khajehzadeh, 2016; Singh et al., 2017; Moretta Tartaglione et al., 2019)

Based on above theoretical relationships, this study advances the following hypotheses:

Hypothesis 3: Innovation capability has a positive relationship with customer loyalty.

Hypothesis 4: Cost reduction has a positive relationship with customer loyalty.

Hypothesis 5: Strategic alliance has a positive relationship with customer loyalty.

Figure 1 illustrates the hypotheses outlined then integrated with the proposed research model in this study.

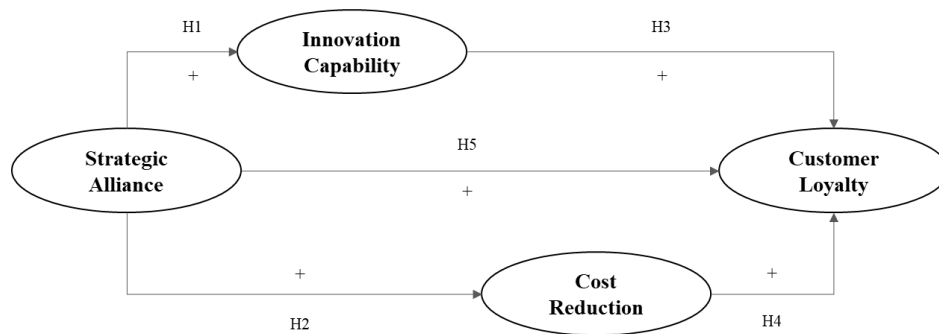


Figure 1. Research Model of the Study with Hypotheses

3. Research Methodology

3.1 Sample and Procedure

This study is a quantitative study that invited 300 respondents at top level management, middle level management and operational level who work in PT Mandala Karya Prima (MKP), as this study is a case study at MKP. This study conducts online survey through an online method (e.g. email and WhatsApp platform) and collects questionnaire data using Google Form application. Respondents were asked to answer 30 questionnaire items divided into four parts covering the measurement of the constructs in the research model. This study applied Brislin's back translation method to translate all measurement items from English into Indonesian language. The study also conducted pilot test and focus group discussion (FGD) on the measurement items to ensure their validity (e.g. face and content validity). Descriptive analysis is done using SPSS 25 and inferential analysis is done based on structural equation modelling (SEM) using LISREL 8.8.

3.2 Measures

All measurements in this study adapted from the validated measurements that have been used in previous studies in different research contexts. Then, each construct is measured by using Likert scale seven-point ranging from "1" being "strongly disagree" to "7" being "strongly agree", while for construct CR, it is ranging from "1" being "strongly inefficient" to "7" being "strongly efficient".

3.2.1 Independent Variables

Strategic Alliance – SA is measured using 14 measurement items adapted from Kwok and Hampson (1997) which consist of five dimensions: Trust (SAA) with two items, Commitment (SAB) with four items, Communication (SAC) with three items, Co-operation (SAD) with three items, and Joint Problem Solving (SAE) with two items.

Sample items for SAA include: “We help each other in the difficult situations”; for SAB include: “Co-operative business relationship developed from the top management of both firms”; for SAC include: “We maintain openness to prevent hesitation, objection or other defensive behaviour”; for SAD include: “We co-operate because of mutual need and desire”; and for SAE include: “We feel free to admit and discuss difficulties even they relate to uncomfortable issues”.

Innovation Capability – IC is measured using 6 measurement items adapted from Calantone et al. (2002) and Lin (2007). Sample item for IC include: “Our firm frequently tries out new ideas”.

Cost Reduction – CR is measured using 5 measurement items adapted from Ward et al. (2000), Wong et al. (2011), Gligor et al. (2015) and Essuman et al. (2020). Sample item for CR include: “The costs we incur in running our main operations has been...”.

3.2.2. Dependent Variable

Customer Loyalty – CL is measured using 5 measurement items adapted from Zeithaml et al. (1996), Caruana (2002), Ganguli and Roy (2011), Tam (2012) and Leninkumar (2017) which consist of two dimensions: Attitudinal Loyalty (CLA) and Behavioral Loyalty (CLB).

Sample item for CLA include: “I consider UT as first choice to buy heavy equipment units and services” and for CLB include: “I say positive things about UT to other people”.

3.2.3. Control Variables

This study uses demographic data such as gender, age group, and position in the firm, working tenure as a control variable. These variables have been shown to affect the behavior of each individual (Goldberg, L. R., Sweeney, D., Merenda, P. F. and Hughes, 1998).

4. Results

Empirical data were collected from a total 300 respondents which are employees at top level management, middle level management and operational level that represented MKP. The response rate is 88.67% where the total respondents that answered the questionnaire are 266 peoples. After further data screening using the SPSS software, 10 respondents are marked as outliers in the Mahalanobis Distance analysis and then were removed from the data set. Final respondents used in this research are 256 peoples, which 87.89% are male, 53.13% are aged between 30 to 39, 76.56% are operational level position in the firm, and 47.66% are working for five to ten years in the firm.

Descriptive statistics & correlations – All correlations among the constructs or variables in this study are less than 0.75 as shown in Table 1. Furthermore, the variance inflation factor (VIF) analysis (all VIFs \leq 10, Tolerance \geq 0.10) between independent variables (IV) and dependent variables and also among the IVs also suggests an absence of multi-collinearity.

Table 1. Descriptive Statistics and Correlations

No	Variable	Mean	S.D	Min	Max	1	2	3	4
1	SA	6.7461	.35972	5.50	7.00	1			
2	IC	6.6992	.40748	5.50	7.00	.526**	1		
3	CR	6.5645	.56944	4.50	7.00	.393**	.567**	1	
4	CL	6.7344	.43358	5.00	7.00	.506**	.473**	.509**	1

** indicates significant correlation at the 0.01 level (2-tailed).

Measurement model analysis – Prior testing the hypotheses, this study conducted appropriateness test of the overall measurement model and the individual constructs for the multiple-items survey-based constructs. The study uses the higher order model constructs based on the dimensions of the constructs SA and CL in the analysis, and single factor model for the construct IC and CR. All standardized loadings and AVEs were above or equal to the recommended threshold of 0.50 suggesting adequate convergence, except for construct IC where the AVE value is 0.37. However, since the root square value of the AVE for construct IC is 0.61, higher than the correlation value that has been describe in Table 4.1 above, so it can be inferred that this construct has qualified its discriminant validity. All CRs and Cronbach’s alphas were well above the threshold value of 0.70 indicate the measurement models have a good reliability.

The model fit indices showed χ^2/df below the threshold value of 3.0, RMSEAs below the threshold value of 0.08, SRMRs the threshold value of ≤ 0.08 . GFIs, NNFI, CFI, and IFI are all above the threshold value of 0.90 adopted from Anderson and Gerbing (1988), Kline (2005), Weston and Gore Jr. (2006), Wolf et al. (2013). The results of model fit indices suggest a good fit of the measures. Table 2 shows the results of the measurement model analysis and Table 3. shows model fit indices for each construct.

Table 2. Measurement Model Analysis

Variable	Single Factor Model			Higher Order Model			Cronbach's Alpha
	SFL	CR	AVE	SFL	CR	AVE	
SA	0.36 – 0.64	0.85	0.30	0.81 – 0.96	0.96	0.82	0.85
IC	0.52 – 0.72	0.78	0.37	-	-	-	0.79
CR	0.73 – 0.77	0.86	0.55	-	-	-	0.87
CL	0.60 – 0.75	0.81	0.46	0.90 – 1.00	0.95	0.91	0.80

Table 3. Model Fit Indices

	Single Factor Model				Higher Order Model			
	SA	IC	CR	CL	SA	IC	CR	CL
χ^2/df	1.478	1.295	0.335	0.155	0.06	-	-	0.00
RMSEA	0.043	0.034	0.00	0.00	0.00	-	-	Perfect Fit
SRMR	0.045	0.028	0.0084	0.0077	0.00065	-	-	Perfect Fit
GFI	0.95	0.99	1.00	1.00	1.00	-	-	Perfect Fit
NNFI	0.98	0.99	1.01	1.02	1.01	-	-	Perfect Fit
CFI	0.98	1.00	1.00	1.00	1.00	-	-	Perfect Fit
IFI	0.98	1.00	1.00	1.01	1.00	-	-	Perfect Fit

Structural model analysis – This study tested the hypotheses using maximum likelihood SEM. The results of the hypotheses testing are presented in Table 4. Four of five hypotheses are supported with t-values ranging from 2.22 to 9.50, and one hypothesis is not supported with t-values -0.70 with the overall models $\chi^2/df=1.269$, RMSEA=0.032, SRMR=0.034, GFI=0.94, NNFI=0.99, NFI=0.98, CFI=1.00, and IFI=1.00. All the good fit indices are within the

threshold value of the respective indices, suggesting that the overall structural model of the study and the data is statistically fit, Figure 2 illustrates the hypotheses testing results using SEM then integrated into research model.

Table 4. Hypotheses Testing Results

No	Hypothesis Relationship	Structural Coefficient	T-value	Hypothesis Test Result
H1	Strategic alliance has a positive relationship with innovation capability	0.78	8.06	Supported
H2	Strategic alliance has a positive relationship with cost reduction	0.68	9.50	Supported
H3	Innovation capability has a positive relationship with customer loyalty	0.67	3.08	Supported
H4	Cost reduction has a positive relationship with customer loyalty	-0.11	-0.70	Not Supported
H5	Strategic alliance has a positive relationship with customer loyalty	0.21	2.22	Supported

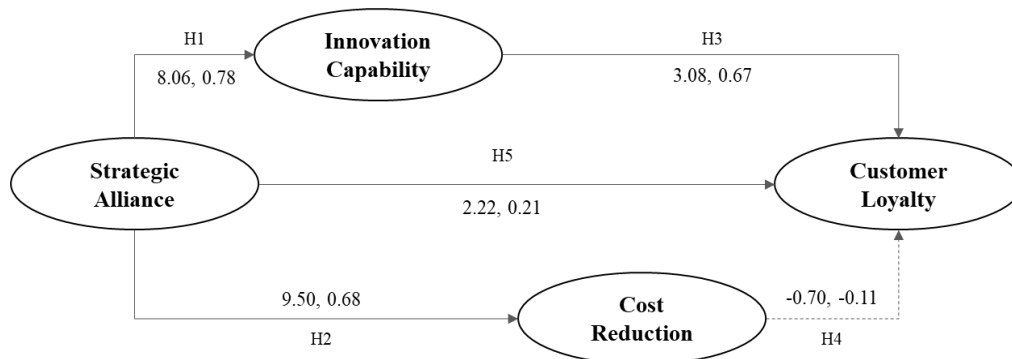


Figure 2. The Relationship of the Constructs, based on the Hypotheses Supported, The Values Indicate T-value and Structural Coefficient Respectively

5. Discussion

This study examines the relationships among strategic alliance, innovation capability, cost reduction towards customer loyalty in the context of heavy equipment industry, a case study at PT United Tractors Tbk (UT) as heavy equipment distributor of Komatsu brand and PT Mandala Karya Prima (MKP) as coal mining contractor in Indonesia. Based on data collected from 256 respondents that work in MKP, this study found that IC and CR are associated with SA, where

SA has greater association in affecting CR compared to IA. Such findings showed that the respondents weigh more on cost reduction in the strategic alliance relationship. As argued by Williamson (1975) that suggested firms to choose an alternative arrangement that resulted cost reduction and efficiency in their operation, SA is formed to achieve such minimum cost arrangement. In other words, firm's prior motivation in forming SA is CR. This study finding also agreed with previous researches on SA that has shown theories on the rationales why firms formed an alliance are including operational efficiency through economies of scale, complementary capabilities from external, and also sharing risk and costs (Henricks, 1991; Gugler, 1992; Lorange and Roos, 1993; Kwok and Hampson, 1997).

This study also confirms the relations between SA and IC towards CL, with IC is having the greatest association with CL. It can be inferred that despite SA have a positive relationship with CL, but the impact on CL is highly influenced by the perceived IC along the alliance relationship. Previous study argues that partnering firms that formed SA may receive an opportunity to establish new form of strategy and also create new value through collaboration activities (Yoo, 2006). Social interaction that occurs among them will increase mutual trust and commitment (Lin, 2013). Collaboration based on trust among the partners, openness, willingness to share risks and benefits will produce a better performance (Idris and Primiana, 2015). SA will increase a needs of experiences, technological and knowledge exchanges as well as the other processes that resulting improvement of IC of a partnering firms (Supriyadi and Ekawati, 2014). Beneficial achievement though alliance relationship will enhance customer confidence, trust and satisfaction that affect to the increasing customer loyalty (Singh, Singh and Vij, 2017). Moreover, from the perspective of SA partner to customer relationship, fulfillment of alliance goals that satisfied the customer through beneficial outcomes received by the customer will create strong relationship alliance (McSweeney-Feld et. al, 2010). Thus, it will enhance customer loyalty.

However, this study also found that CR doesn't affect CL. It could be explained as CR will not make a customer feel attached to a brand or firm, and this was consistent with the finding of higher mean of the attitudinal dimension of CL in our respondents. Attitudinal dimension of CL, known as psychological aspect of loyalty, addresses customer's intention to continue the relationship with a company despite of the lower price of the competing companies and willingness to recommend these company to relatives (Dick and Basu, 1994; Chaudhuri and Holbrook, 2001). Attitudinal loyalty measured how much a customer attached to his supplier

that involves trust, commitment and satisfaction (Dick and Basu, 1994). Thus in this study, the hypothesis of the relationship between CR and CL was not supported. Moreover, when talks about cost, Jones et al. (2000) found that customer satisfaction impact on loyalty decreases when there is high switching cost condition. Switching cost is defined as cost incurred when a firm change its partner/supplier (Heide and Weiss, 1995). Switching cost could make customers hard or expensive in switching to other supplier (Cheng, 2011). When customers are thinking to switch supplier, they calculate both switching costs and benefits; so that when there is a considerably high switching cost, means that required costs are higher than received benefits, then it will create an exit barrier and reduce the possibility of switching (Jones et al., 2000). Hauser et al. (1994) argues that sensitivity to customer satisfaction will decrease when switching cost is increasing; therefore, switching costs become critical when a customer is looking to change supplier. Previous studies found that many customers might continue relationship with the same supplier when switching cost is high even though they are unsatisfied and on the other side when switching cost is low, there will be a possibility to switch (Jones et al., 2000; Sharma and Patterson, 2000; Whitehead, 2003). Thus, it could be inferred that when there's a competing firm offers customers with more CR, they might change partner; and this argument support the hypothesis finding why CR is not significantly impact on CL.

5.1 Theoretical Contributions

The research findings have theoretical implications on the existing concepts and relationships among the constructs SA, IC, CR and CL. Those theoretical contributions are as follows: First, this study examines the relationship between SA and IC, as mentioned previously SA could be a key driver for IC of the collaborating firms (Duysters, Kok and Vaandrager, 1999; Linnarson and Wen, 2004; Park and Zhou, 2005; Schreiner, Kale and Corsten, 2009; Lee, Chen and Shyr, 2011; Schweitzer, 2014) through improvement of capabilities and competencies (Isoraite, 2009).

Second, this study confirms the relationship between SA and CR. Result of this study shows that SA has a strong relationship with CR, indicated by the high t-value that presented in table 4.4 above. However, this study result also showed that even though CR strongly relates with SA, but it doesn't have significant relationship with CL, indicating CL may not create competitive advantage, if CL was deemed as the proxy of competitive advantage.

Lastly, this study examines the relationship between SA and CL and answers the call from previous study conducted by Uncles and Goh (2002) on expanding this relationship to a different industry and research context in order to generalize the finding. Since this study views SA from perspective of SA partner to customer relationship, findings from this study show that SA between seller and customer could enhance CL more on the improvement of IC as the result of alliance relationship. Improvement of IC will help customer to achieve their alliance goals such as complementary skills and knowledge, cheapest additional capability and also improvement of operational efficiency. Moreover, beneficial achievement from this relationship will increase the impact of satisfaction that also increase relationship quality in the alliance. These factors play an important role in sustaining CL.

5.2 Managerial/Practical Contributions

Results from this study provide insights about SA in the heavy equipment industry as the practical contributions by examines the relationship among all constructs used in this study. In order to face dynamic coal business condition, SA could be a solution for both distributor and contractor in facing the competition. Contractor could get benefits of forming SA with reliable distributor such as enhancement of IC and also CR. Cooperation with distributor will provide contractor an opportunity to get additional resources such as new knowledge, new technologies, new skills and also expertise through communication in the alliance relationship. Instead of do heavy investment on additional resources, SA will give the most efficient cost solution to contractors. Those additional resources also play an important role in improve contractor's IC. For example, contractor that have low productivity achievement on production could get benefit from alliance with distributor by arrangement of continuous improvement program provided by the distributor such as continuous development on machine operator, standardization skill and productivity monitoring program and also improved working area development.

Another example is contractor may learn about maintenance skill from the distributor through scheduled maintenance training, joint problem solving, inspection and maintenance supervision. As the result, while the productivity increased and maintenance processed improved then contractor could reduce their operational cost. This could extend contractor's competitive advantages in facing current business condition that pushed them to manage their cost in the most efficient way. All these beneficial outcomes from the SA activity will create

more trust and satisfaction on the contractor that distributor could use it to enhance loyalty from the customer.

Distributor also could receive benefit from arrangement of SA with contractor. Most prior benefit is loyalty from the contractor. Results of this study shows that SA will give greater effect on CL especially from the perceived improvement of IC. It means distributor should focus on arrangement of innovative program that helps contractors sustaining their IC. This innovative program, such as training programs, improvement programs and new technology application programs, must be integrated with continuous improvement of service quality provided for the contractors, which are understood as the fundamental of attitudinal CL. Customer with high attitudinal loyalty will feel attached to the company and enhance their behavioral loyalty such as repeating order and positive word of mouth. For real, contractor that received much benefits from the SA arrangement would prefer to stay purchase products and services from their distributor and also recommends to other contractors. Such positive recommendation could be seen as reduction cost on marketing and publication process. Moreover, loyal customers are willing to pay higher price that also give an advantage and more profit to distributor.

6. Limitation and Recommendation for Future Research

This research study is conducting by taking PT Mandala Karya Prima as a case study. This study is a descriptive and confirmatory study using quantitative method that will be limited to the heavy equipment distributor business in the relation with coal mining contractor at the time the research was done and will be done on the basis of cross-sectional data. Thus it will only represent the condition at the specific point in time when the research conducted and may not provide a clear understanding of causality between contemplated research constructs.

Since this study only focus on relationship among the constructs in heavy equipment business in coal mining industry, future research with some duplication on this study but in different research context is possible for potential future research in order to generalizable the study findings. Likewise, to attest the explanation for the unsupported hypothesis, which is the mediating effect of cost reduction from strategic alliance towards customer loyalty, which might change over the longer age of strategic alliance is also possible for future research. Moreover, if we take a look at the demographic data of the respondents, whereas 76.56% of the respondents are working at the operational level and 53.13% of the respondents are in the

group of age 30-39 that might affect the perspective on cost reduction, this also possible for interesting future research.

References

- Anderson, J. C. and Gerbing, D. W. (1988) 'Structural Equation Modeling in Practice: A Review and Recommended Two-Step Approach', *Psychological Bulletin*, 102.
- Apbi-icma.org (2015) *Industri Pertambangan Batubara Indonesia*, 15 October 2015.
- Atteridge, A., Aung, M. T. and Nugroho, A. (2018) 'Contemporary Coal Dynamics in Indonesia', *Stockholm Environment Institute*.
- Biegelmeyer, U. H., Camargo, M. E. and Craco, T. (2017) 'The Relationship between Market Orientation, Learning Orientation and Organizational Performance in the Development of New Products', *International Journal of Business Management and Economic Research (IJBMER)*, 8(5), pp. 1052–1059.
- Burns, L. R. and Pauly, M. V. (2002) 'Integrated Delivery Networks: A Detour on The Road to Integrated Health Care', *Health Affairs*, 21(4), pp. 128–143.
- Butter, F. A. G. den and Mosch, R. H. J. (2003) 'Trade, Trust and Transaction Costs', *Tinbergen Instituut Discussion Paper*, 3(082/3).
- Calantone, R. J., Cavusgil, S. T. and Zhao, Y. (2002) 'Learning Orientation, Firm Innovation Capability, and Firm Performance', *Industrial Marketing Management*, 31(6), pp. 515–524.
- Cannon, J. P. and Homburg, C. (2001) 'Buyer–Supplier Relationships and Customer Firm Costs', *Research Article*, (January).
- Caruana, A. (2002) 'Service Loyalty: The Effects of Service Quality and The Mediating Role of Customer Satisfaction', *European Journal of Marketing*, 36(7–8), pp. 811–828.
- Chang, H. H. (1998) 'Determinants of Hospital Efficiency: The Case of Central Government-Owned Hospitals in Taiwan', *Omega*, 26(2), pp. 307–317.
- Chaudhuri, A. and Holbrook, M. B. (2001) 'The Chain of Effects From Brand Trust and Brand Affect to Brand Performance: The Role of Brand Loyalty', *Journal of Marketing*, 65, pp. 81–93.
- Cheng, S. I. (2011) 'Comparisons of Competing Models between Attitudinal Loyalty and Behavioral Loyalty', *International Journal of Business & Social Sciences*, 2(10), pp.149-166.
- Coase, R. H. (1937) 'The Nature of The Firm', *Economica*, 4(November), pp. 386–405.
- Cockrell, A. (2018) 'Supply Market Analysis: The Moderating Effect of Social Networking on Cost Reduction', *College of Business Theses and Dissertations*, 7.
- Dacin, M. T., Hitt, M. A. and Levitas, E. (1997) 'Selecting Partners for Successful International Alliances: Examination of U.S. and Korean Firms', *Journal of World Business*, 32(1).
- Das, T. and Rahman, N. (2010) 'Determinants of Partner Opportunism in Strategic Alliances: A Conceptual Framework', *Journal of Business & Psychology*, 25, pp. 55–74.
- Dick, A. S. and Basu, K. (1994) 'Customer Loyalty: Toward an Integrated Conceptual Framework', *Journal of the Academy of Marketing Science*, 22(3), pp. 99–133.
- Duysters, G., Kok, G. and Vaandrager, M. (1999) 'Crafting Successful Strategic Technology Partnerships', *R&D Management*, 29(4), pp. 343–51.
- Essuman, D., Boso, N. and Annan, J. (2020) 'Operational Resilience, Disruption, and Efficiency: Conceptual and Empirical Analyses Dominic', *International Journal of Production Economics*, (January).
- Figar, N. and Ivanovic, V. (2015) 'Cost Reduction Strategy - Process and Effects', *Economics and Organization*, 12(1), pp. 15–26.
- Ganguli, S. and Roy, S. K. (2011) 'Generic Technology Based Service Quality Dimensions in Banking: Impact on Customer Satisfaction and Loyalty', *International Journal of Bank Marketing*, 29(2), pp. 168–189.
- Gligor, D. M., Esmark, C. L. and Holcomb, M. C. (2015) 'Performance Outcomes of Supply Chain Agility: When Should You be Agile?', *Journal of Operations Management*, 33–34, pp.71-82.
- Goldberg, L. R., Sweeney, D., Merenda, P. F. and Hughes, J. E. (1998) 'Demographic Variables and Personality: The Effects of Gender, Age, Education, and Ethnic/Racial Status on Self-Descriptions of Personality Attributes', *Personality and Individual Differences*, 24(3), 24(3), pp. 393–403.

- Granovetter, M. (1985) 'Economic Action and Social Structure: The Problem of Embeddedness', *American Journal of Sociology*, 3, pp. 481–510.
- Gugler, P. (1992) 'Building Transactional Alliances to Create Competitive Advantage', *Long Range Planning*, 25(1), pp. 90–99.
- Gulati, R. (1998) 'Alliance and Networks', *Strategic Management Journal*, 19, pp. 293–317.
- Hajli, N., Shanmugam, M., Papagiannidis, S., Zahay, D. and Richard, M. O. (2017) 'Branding Co-Creation with Members of Online Brand Communities', *Journal of Business Research*, 70, pp. 136–144.
- Halverson, P. K., Kaluzny, A. D. and Young, G. J. (1997) 'Strategic Alliances in Healthcare: Opportunities for The Veterans Affairs Healthcare System', *Hospital and Health Services Administration*, 42(3), pp. 383–410.
- Hauser, J. R., Duncan, I. S. and Birger, W. (1994) 'Customer Satisfaction Incentives', *Marketing Science*, 13(4), pp. 327–350.
- Heide, J. B. and Weiss, A. M. (1995) 'Vendor Consideration And Switching Behavior For Buyers In High-Technology Markets', *Journal of Marketing*, 59(7), pp. 30–43.
- Henningsen, G., Henningsen, A. and Henning, C. H. C. A. (2013) 'Measuring The Influence of Networks on Transaction Costs Using a Nonparametric Regression Technique', *IFRO Working Paper 2013/11*.
- Henricks, M. (1991) 'The Power of Partnering', *Small Business Reports*, June, pp. 46–57.
- Hesping, F. (2017) 'Tactics for Cost Reduction and Innovation: Empirical Evidence at the Category Level', *Supply Management Research*, pp. 17–33.
- Iddris, F. (2016) 'Innovation Capability: A Systematic Review and Research Agenda', *Interdisciplinary Journal of Information, Knowledge, and Management*, 11, pp. 235–260. doi: 10.28945/3571.
- Idris, S. and Primiana, I. (2015) 'Effect of Competitive Strategy and Partnership Strategy for Small Industry Performance', *International Journal of Economics, Commerce and Management*, 3(4), pp. 1–18. Available at: <http://ijecm.co.uk/wp-content/uploads/2015/04/3441.pdf>.
- Isoraite, M. (2009) 'Importance of Strategic Alliances in Company's Activity', *Intellectual Economics*, 1(5), pp. 39–46.
- Jacoby, J. and Chestnut, R. W. (1978) *Brand Loyalty Measurement and Management*. New York: Wiley.
- Jones, M. A., Mothersbaugh, D. L. and Beatty, S. E. (2000) 'Switching Barriers And Repurchase Intentions In Services', *Journal of Retailing*, 76(2), pp. 259–274.
- Kim, A. J. Y. and Ko, E. J. (2012) 'Do Social Media Marketing Activities Enhance Customer Equity? An Empirical Study of Luxury Fashion Brand', *Journal of Business Research*, 65, pp. 1480–1486.
- Kim, M. K., Park, M. C., Park, J. H., Kim, J. and Kim, E. (2018) 'The Role of Multidimensional Switching Barriers on The Cognitive and Affective Satisfaction Loyalty Link in Mobile Communication Services: Coupling in Moderating Effects', *Computers in Human Behavior*, 87, pp. 212–223.
- Kline, R. B. (2005) *Principles and Practice of Structural Equation Modeling (2nd ed.)*. New York: Guilford.
- Kontan (2019) 'Perusahaan Jasa Kontraktor Batubara Fokus Efisiensi Operasional'. Available at: <https://insight.kontan.co.id/news/perusahaan-jasa-kontraktor-batubara-fokus-efisiensi-operasional>.
- Kumar, V., Batista, L. and Maull, R. (2011) 'The Impact of Operations Performance on Customer Loyalty', *Service Science*, 3(2), pp. 158–171. doi: 10.1287/serv.3.2.158.
- Kwok, T. L. and Hampson, K. D. (1997) 'Strategic Alliances Between Contractors and Subcontractors: A Tender Evaluation Criterion for The Public Works Sector', *Construction process re-engineering: proceedings of the International Conference on Construction Process Re-engineering, 14-15 July 1997, Gold Coast, Australia*.
- Lavie, D. (2006) 'The Competitive Advantage of Interconnected Firms: An Extension of The Resource-Based View', *Academic Management Review*, 31, pp. 638–658.
- Lawson, B. and Samson, D. (2001) 'Developing Innovation Capability in Organisations: A dynamic Capabilities Approach', *International Journal of Innovation Management*, 5, pp. 377–400.
- Lee, P. Y., Chen, H. H. and Shyr, Y. H. (2011) 'Driving Dynamic Knowledge Articulation and Dynamic Capabilities Development of Service Alliance Firms', *The Service Industries Journal*, 31(13), pp. 2223–2242.

- Lendel, V., Morav Cikova, D. and Latka, M. (2017) 'Organizing Innovation Activities in Company', *Procedia Eng*, 192, pp. 615–620.
- Leninkumar, V. (2017) 'The Relationship between Customer Satisfaction and Customer Trust on Customer Loyalty', *International Journal of Academic Research in Business and Social Sciences*, 7(4), pp. 450–465. doi: 10.6007/IJARBS/v7-i4/2821.
- Lin, H. F. (2007) 'Knowledge Sharing and Firm Innovation Capability: An Empirical Study', *International Journal of Manpower*, 28(3–4), pp. 315–332. doi: 10.1108/01437720710755272.
- Lin, H. F. (2013) 'The Effects of Knowledge Management Capabilities and Partnership Attributes on The Stage-Based Ebusiness Diffusion', *Internet Research*, 23(4), 439-464.
- Linnarson, H. and Wen, A. (2004) 'Overcoming The Innovation Alliance Paradox: A Case Study of An Explorative Alliance', *European Journal of Innovation Management*, 7(1), pp. 45–55.
- Lorange, P. and Roos, J. (1993) *Strategic Alliances - Formation, Implementation, and Evolution*. Blackwell, Cambridge: Massachusetts, USA.
- McManus, L. and Guilding, C. (2008) 'Exploring The Potential of Customer Accounting: A Synthesis of The Accounting and Marketing Literatures', *Journal of Marketing Management*, 24, pp. 771–795.
- McSweeney-Feld, M. H., Discenza, S. and De Feis, G. L. (2010) 'Strategic Alliances & Customer Impact: A Case Study Of Community Hospitals', *Journal of Business & Economics Research (JBER)*, 8(9), pp. 13–22. doi: 10.19030/jber.v8i9.755.
- Mieghem, J. A. van (1995) 'Dyanmic Scheduling with Convex Delay costs: The Generalized c|mu Rule', *The Annals of Applied Probability*, 5(3), pp. 809–833.
- Mowla, M. M. (2012) 'An Overview of Strategic Alliance: Competitive Advantages in Alliance Constellations', *Journal of Business Management and Corporate Affairs*, 1(1), pp. 1–10.
- Nangoy, F. (2019) *Indonesia Regulatory Changes to Bring More Uncertainty to Coal Sector*, Reuters. Available at: <https://www.reuters.com/article/us-indonesia-coal/idUSKCN1TR0OV>.
- Nyadzayo, M. W. and Khajehzadeh, S. (2016) 'The Antecedents of Customer Loyalty: A Moderated Mediation Model of Customer Relationship Management Quality and Brand Image', *Journal of Retailing and Consumer Services*. Elsevier, 30, pp. 262–270. doi: 10.1016/j.jretconser.2016.02.002.
- Oliver, R. L. (1999) 'Whence Customer Loyalty?', *Journal of Marketing*, 63(Special Issue), pp. 33–44.
- Park, S. H. and Zhou, D. (2005) 'Firm Heterogeneity and Competitive Dynamics in Alliance Formation', *Academy of Management Review*, 30(3), pp. 531–554.
- Plochg, T., Delnoij, D. M. J. and Klazinga, N. S. (2006) 'Linking Up With The Community: A Fertile Strategy For A University Hospital?', *International Journal of Integrated Care*, 6, pp. 1–19.
- Pouwels, I. and Koster, F. (2017) 'Inter-organizational Cooperation and Organizational Innovativeness: A Comparative Study', *International Journal of Innovation Science*, 9(2), pp. 184–204.
- Rai, A. K. and Medha, S. (2013) 'The Antecedents of Customer Loyalty: An Empirical Investigation in Life Insurance Context', 5(2), pp. 139–163. doi: 10.7441/joc.2013.02.10.
- Ray, S. (2013) 'Strategic Alliance in India under Globalized Economic Scenario', *Advances in Asian Social Science (AASS)*, 4(2), pp. 2167–6429.
- Richard, J. E. and Zhang, A. (2012) 'Corporate Image, Loyalty, and Commitment in The Consumer Travel Industry', *Journal of Marketing Management*, 28, pp. 568–593.
- Sánchez, J. Á. L., Vijande, M. L. S. and Gutiérrez, J. A. T. (2011) 'The Effects of Manufacturer's Organizational Learning on Distributor Satisfaction and Loyalty in Industrial Markets', *Industrial Marketing Management*, 40, pp. 624–635.
- Schreiner, M., Kale, P. and Corsten, D. (2009) 'What Really is Alliance Management Capability and How Does It Impact Alliance Outcomes and Success?', *Strategic Management Journal*, 30(13), pp. 1395–1419.
- Schweitzer, J. (2014) 'Leadership and Innovation Capability Development in Strategic Alliances', *Leadership and Organization Development Journal*, 35(5), pp. 442–469. doi: 10.1108/LODJ-01-12-0001.
- Sharma, N. and Patterson, P. G. (2000) 'Switching Costs, Alternative Attractiveness and Experience as Moderators of Relationship Commitment in Professional, Consumer Services', *International Journal of Service Industry Management*, 11(5), p. 470.
- Shields, M. D. and Young, S. (1989) 'A Behavioral Model for Implementing Cost Management Systems', *Journal of Cost Management*, 3(4), pp. 17–27.
- Sinadia, H. (2021) *Review 2020 and Outlook 2021, APBI-ICMA*. Available at: <http://www.apbi->

- icma.org/news/4270/review-2020-and-outlook-2021.
- Singh, G., Singh, I. and Vij, S. (2017) 'Antecedents and Consequences of Customer Loyalty: A Conceptual Model', *International Journal of Applied Business and Economic Research ISSN: 0972-7302*, 15(Number 23 (Part 2)).
- Slater, S. F. and Narver, J. C. (1995) 'Market Orientation and The Learning Organization', *Journal of Marketing*, 59(3), pp. 67–74.
- Sohail, S. (2012) 'The Antecedents of Relationship Marketing and Customer Loyalty : A Conceptual Framework to Determine Outcomes', *2012 International Conference on Economics, Business Innovation*, 38, pp. 236–240.
- Spekman, R. E., Lynn, A. I., MacAvoy, T. C. and Forbes III, T. (1996) 'Creating Strategic Alliances Which Endure', *Long Range Planning*, 29(3).
- Sudolska, A. and Lapinska, J. (2020) 'Exploring Determinants of Innovation Capability in Manufacturing Companies Operating in Poland', *Sustainability (Switzerland)*, 12(17), pp. 1–20. doi: 10.3390/su12177101.
- Suparjiman *et al.* (2019) 'Reputation and Partnership in Improving Loyalty of PT Telkom Foster Partners in Indonesia', *Journal of Entrepreneurship Education*, 22, pp. 1–14.
- Supriyadi and Ekawati, R. (2014) 'The Effect of Strategic Partnership On Innovation Capability and Business Performance Of Garment Industry In West Java - Indonesia', *International Journal of Scientific & Technology Research*, 3(12), pp. 328–336.
- Talebi, K., Yadollahi Farsi, J. and Miriasl, H. (2017) 'Identifying the Impact of Strategic Alliances on the Performance of SMEs (Case Study: The Industry of Automotive Parts Manufacturers in Iran)', *International Business Research*, 10(6), p. 227. doi: 10.5539/ibr.v10n6p227.
- Tam, J. K. M. (2012) 'The Moderating Role of Perceived Risk in Loyalty Intentions: an Investigation in a Service Context', *Marketing Intelligence & Planning*, 30(1), pp. 33–52.
- Tartaglione, A. M. *et al.* (2019) 'A Systematic Mapping Study on Customer Loyalty and Brand Management', *Administrative Sciences*, 9(1), p. 8. doi: 10.3390/admsci9010008.
- The Jakarta Post (2020) 'More Chinese Products to Enter Indonesian Heavy Equipment Market'. Available at: <https://www.thejakartapost.com/news/2020/12/28/more-chinese-products-to-enter-indonesian-heavy-equipment-market.html>.
- Todeva, E. and Knoke, D. (2005) 'Strategic Alliances and Models of Collaboration', *Management Decision*, 43:1. doi: 10.1093/acprof:oso/9780195167207.003.0005.
- Uncles, M. and Goh, K. (2002) 'Airline Global Alliances: What is their Impact on Customer Loyalty?', *Journal of Marketing Management*.
- Vaidya, S. (2011) 'Understanding Strategic Alliances: An Integrated Framework.', *Journal of Management Policy & Practice*, 12(6), pp. 90–100.
- Wang, B. B., Wan, T. T. H., Burke, D. E., Bazzoli, G. J. and Lin, B. Y. J. (2005) 'Factors Influencing Health Information System Adoption in American Hospitals', *Health Care Management Review*, 30(1), pp. 44–51.
- Ward, P. and Duray, R. (2000) 'Manufacturing Strategy in Context: Environment, Competitive Strategy and Manufacturing Strategy', *Journal of Operations Management*, 18, pp.123–138.
- Watson, G. F., Beck, J. T., Henderson, C. M. and Palmatier, R. W. (2015) 'Building, Measuring, and Profiting From Customer Loyalty', *Journal of the Academy of Marketing Science*, 43(6), pp. 790–825. doi: 10.1007/s11747-015-0439-4.
- Webster, E. (1999) 'The Economics of Intangible Investment, Cheltenham, UK: Edward Elgar'.
- Weston, R. and Gore Jr., P. A. (2006) 'A Brief Guide to Structural Equation Modeling', *The Counseling Psychologist*, 34(5).
- Whipple, J. S. and Gentry, J. J. (2000) 'A Network Comparison of Alliance Motives and Achievements', *Journal of Business & Industrial Marketing*, 15(5), pp. 301–320.
- Whitehead, P. (2003) 'Satisfied Customers are not Necessarily Loyal', *Energy Forum*, April.
- Williamson, O. E. (1975) 'Markets and Hierarchies: Analysis and Antitrust Implications', *New York: Free Press*. New York: Free Press., p. 286.
- Wittmann, C. (2007) 'Strategic Alliances: What Can We Learn When They Fail?', *Journal of Business to Business Marketing*, 14(3), pp. 1–19.
- Wolf, E. J., Harrington, K. M., Clark, S. L. and Miller, M. W. (2013) 'Sample Size Requirements for Structural Equation Models: An Evaluation of Power, Bias, and Solution Propriety', *Educ Psychol Meas*, 76(6), pp. 913–934.
- Wong, C. Y., Boon-Itt, S. and Wong, C. W. Y. (2011) 'The Contingency Effects of Environmental

- Uncertainty on The Relationship Between Supply Chain Integration and Operational Performance', *Journal of Operations Management*, 29(6), pp. 604–615.
- Yadav, G. H., Jain, R. K., Kapoor, M. and Nateriya, R. (2013) 'Cost Reduction In Different Dicipines', *International Journal of Current Research*, 5(10), pp. 2821–2825.
- Zeithaml, V. A., Berry, L. L. and Parasuraman, A. (1996) 'The Behavioral Consequences of Service Quality', *Journal of Marketing*, 60(2), pp. 31–46.
- Zineldin, M. (2006) 'The Royalty of Loyalty: CRM, Quality and Retention', *Journal of Consumer Marketing*, 23(7), pp. 430–437.

Dollar Cost Averaging vs Lump Sum Strategy Investing in Exchange Trade Fund (ETF)

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ABSTRACT

Dollar Cost Averaging and Lump Sum Strategies on ETF obtained different return values between DCA and LS. DCA earns higher returns on 6 ETFs and LS earns higher returns on 3 ETFs. But overall, the average return of LS is still higher than DCA despite only excelling in LQ45X, XIIT, XISR. LS performance in this agreement obtained an average return of 5.47% while DCA 3.84%. Using Pooled-variance t Test and One-Way ANOVA obtained the same hypothesis, that there is insufficient evidence that LS has a higher return than DCA. Although in LS testing obtained a higher average return, the difference was only 1.64%. LS can be very superior in some cases, in this study on the XISR ETF (Premier SRI-KEHATI), LS obtained a return of 44.83% greater than DCA which is only 9.42%. Based on boxplot chart analysis, represents a higher risk profile of LS than DCA. For some return LS can be very high but otherwise can get a high loss anyway.

Type of Paper: Review

Keywords: *Dollar Cost Averaging, Lump Sum, Investment Strategy, Return, Risk*

1. Introduction

Mutual funds are one of the investment alternatives for investors, especially for small investors and those who have less time and skills to calculate the risks of their investments. Mutual funds are designed as a tool to raise funds from people who are capitalized, willing to invest, but have only limited time and knowledge. In addition, through mutual funds, it is expected that the number of local investors in the Indonesian capital market can increase (Rita, 2008).

Exchange Traded Funds (ETF) is a Mutual Fund in the form of a Collective Investment Contract whose participation unit is traded on the Stock Exchange. Although ETFs are essentially mutual funds, they are traded like stocks on the stock exchange. ETF is a merger

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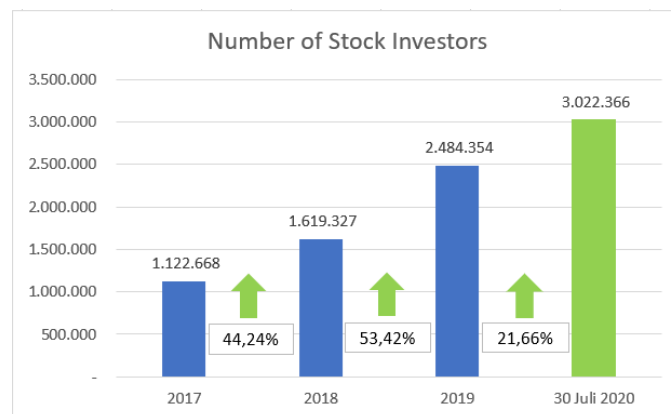
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between mutual fund elements in terms of fund management with stock mechanisms in terms of buying and selling transactions (Kutra, Edo Azhara and Gulo, 2019)

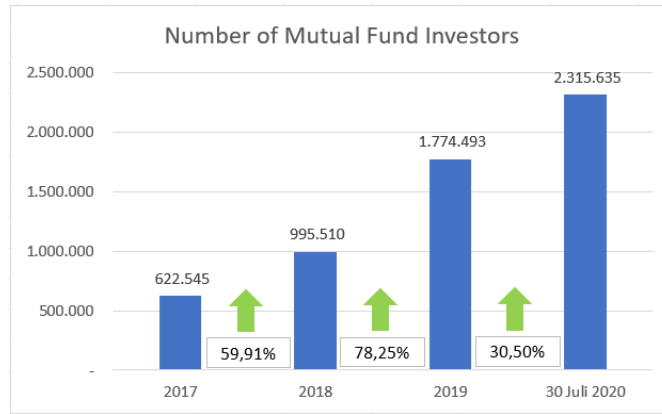
ETF square measure basically hybrid funds as ETFs contain bound features of each open-end mutual funds (e.g. unlimited creation of shares) and closed-end funds (e.g. in contrast to investment trust wherever there's one worth per day, ETF has intraday prices). ETFs square measure listed in an exceedingly stock market at market-determined costs and permit investors to shop for or sell shares supported the performance of a whole portfolio. ETFs square measure designed to copy the holdings, performance, and yield of their underlying portfolio or index. Investors will trade ETFs through their brokerage accounts as they trade stocks of any public company (Mazumder, 2014).

ETF is defined as a collection of investment products which are then securitized into a new investment product. ETFs can have underlying stocks in BEI or certain stocks that are predetermined. Underlying is used as a reference so that the ETF price will be raised. So the benchmark price is the underlying, and this is what is then traded. One of the advantages of ETFs is in terms of liquidity, because ETFs can be traded on exchanges that are much more liquid than conventional transactions between only investors and Investment Management (Rita, 2008).

Investors who invest in certain companies certainly expect returns. The return on the shares themselves is the result obtained from the investment by calculating the difference in the current period share price with the previous period. In fact almost all investments contain elements of uncertainty or risk. The financier does not know with certainty the results that will be obtained from the investment he made. In these circumstances it is said that the financier faces risks in the investments he makes (Windari, 2018).



(a)



(b)

Figure 1. (a) Number of Stock Investors (b) Number of Mutual Fund Investors (Kustodian Sentral Efek Indonesia, 2020)

According to Figure 1, growth in the number of investors increases every year. People are increasingly interested in investing in the capital market. The percentage increase of mutual fund investors is greater than the percentage increase in Stock Investors. From the data, it appears that Mutual Fund is growing and attracting more and more investors. The author is interested in analyzing investing in mutual funds to obtain high returns and manage risk, what strategy is right for investing in mutual funds.

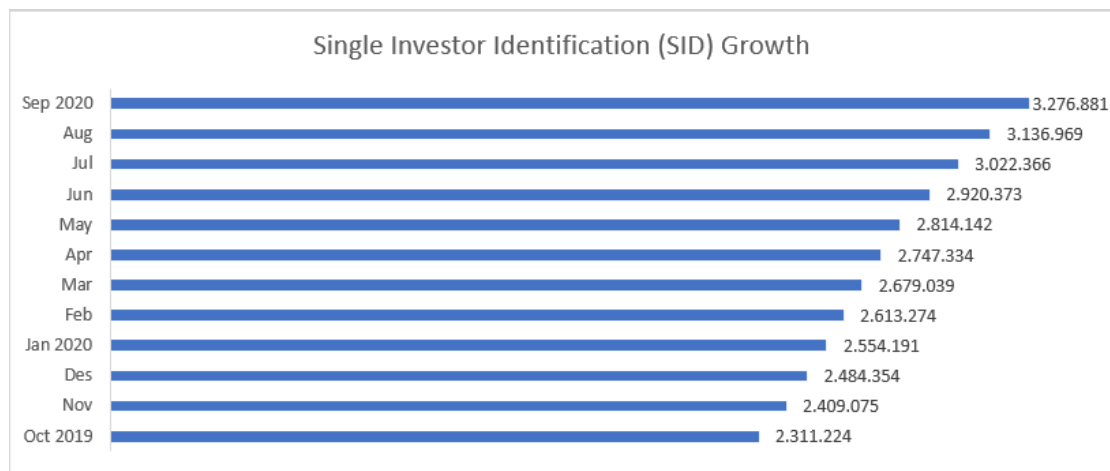


Figure 2. Single Investor Identification (SID) Growth (Kustodian Sentral Efek Indonesia, 2020)

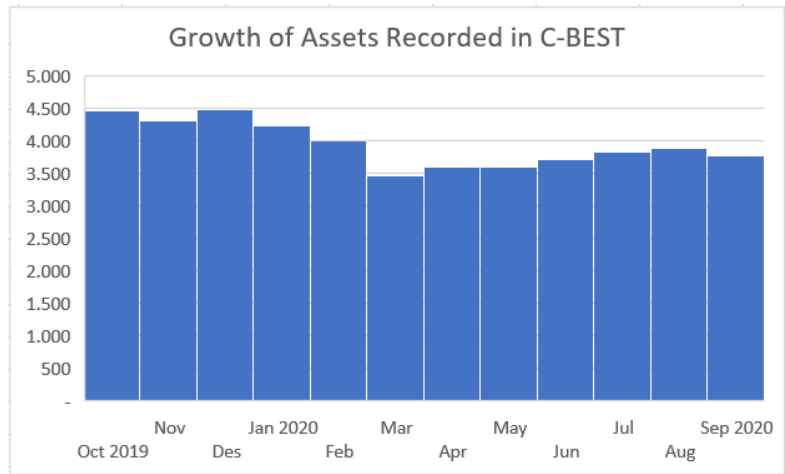


Figure 3. Growth of Assets Recorded in C-BEST (Central Depository and Book Entry Settlement System) (Kustodian Sentral Efek Indonesia, 2020)

Based on Figure 2 and Figure 3 data, there is an anomaly where the number of investors is growing but asset growth is declining. Investor growth rose 42% YoY (Year on Year) while C-BEST Total Assets decreased -16% YoY. When the number of investors increases then the total assets should also increase. In other words, some investors lose asset in their investments. See that thing, the author is interested in analyzing strategies that can obtain the best return. Research is limited to investing in ETFs with Dollar Cost Averaging and Lump Sum Strategy.

1.1 Research Problem

The Jakarta Composite Index (JKSE) includes price movements of all common shares and preferred shares listed on the Indonesia Stock Exchange. Based on the price movement chart, JKSE is not always uptrend. The right investment strategy is needed to minimize risk. In addition, the selection of the right strategy will be able to produce a better return. Investment strategies that will be analysis in this research are Dollar Cost Averaging and Lump Sum Strategies.

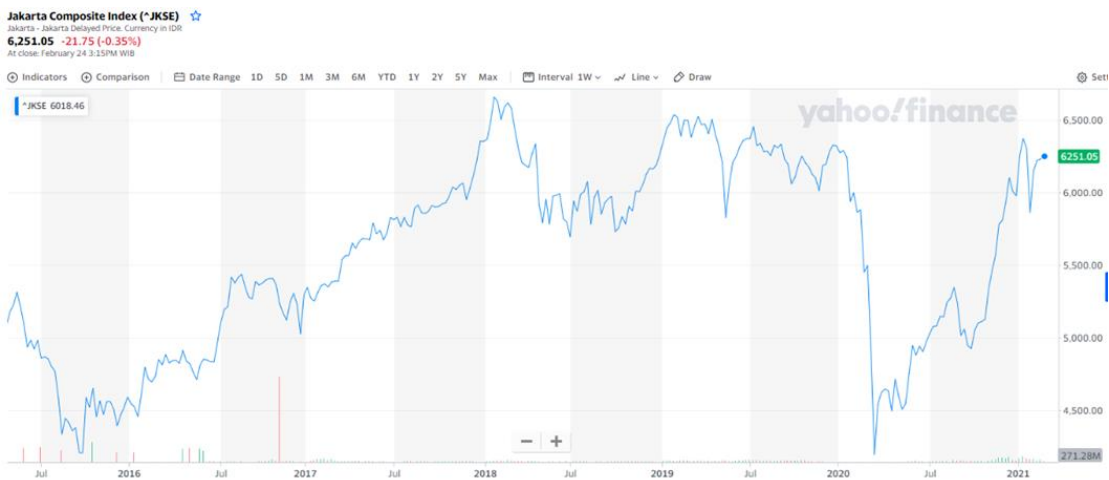


Figure 4. Jakarta Composite Index Price Chart - Source: Yahoo Finance

2. Literature Review

2.1 Exchange Traded Funds (ETF)

Exchange Traded Funds (ETF) is a Mutual Fund in the form of a Collective Investment Contract whose participation unit is traded on the Stock Exchange. Although ETFs are essentially mutual funds, they are traded like stocks on the stock exchange. ETF is a merger between mutual fund elements in terms of fund management with stock mechanisms in terms of buying and selling transactions (Kutra, Edo Azhara and Gulo, 2019).

Based on Financial Services Authority Regulation No. 29/POJK.04/2015 concerning Mutual Funds in the form of Collective Investment Contracts whose Participation Units Are Traded on the Exchange, Exchange Traded Fund (ETF) is a Mutual Fund Collective Investment Contract in the form of a Collective Investment Contract whose Participation Unit is traded on the Stock Exchange which must follow the laws and regulations in the Capital Market sector governing the Guidelines for Mutual Fund Contracts in the form of Collective Investment Contracts and contain the following provisions:

- Collective Custody of Participation Units;
- The procedure for the creation of Mutual Fund Participation Units in the form of Collective Investment Contracts whose Participation Units are traded on the Stock Exchange, shall include at least: (1) the types of Securities on which the Mutual Fund is forming; and (2) the minimum number of Participation Units to be listed on the Stock Exchange.
- Procedures for the redemption of Mutual Fund Participation Units in the form of Collective Investment Contracts to Investment Managers and that the re-sales are only allowed for Participating Sponsors and Dealers;
- Repurchases (repayments) by Investment Managers from Participating Sponsors and Dealers per exchange day at most 10% (ten percent) of the total Mutual Fund Participation Units in the form of Collective Investment Contracts whose Participation Units are traded on the outstanding Stock Exchange;
- The investment policy shall refer to the Regulation of the Financial Services Authority concerning the Guidelines for The Daily Announcement of the Net Asset Value of Open Mutual Funds or the Regulation of the Financial Services Authority concerning Protected Mutual Funds, Underwriting Mutual Funds, and Index Mutual Funds, and meet the following provisions:
 - The composition of the Securities portfolio that forms a Mutual Fund in the form of a Collective Investment Contract whose Participation Unit is traded on the Stock Exchange must consist of liquid Securities;
 - The liquidity level of Securities that become a portfolio of Mutual Funds in the form of Collective Investment Contracts whose Participation Units are traded on the Stock Exchange must be determined jointly between the Investment Manager and the Custodian Bank;

- The Name of the Stock Exchange where the Mutual Fund Participation Unit in the form of a Collective Investment Contract will be listed;
- The Obligation of the Investment Manager to announce on the Stock Exchange and report to the Financial Services Authority the Net Asset Value every day after the close of Stock Exchange trading as an indication of the price of mutual fund participation units in the form of Collective Investment Contracts listed on the Stock Exchange;
- The Obligation of the Investment Manager to announce on the Stock Exchange the composition of the portfolio every day after the close of trading on the Stock Exchange;
- The Obligation of the Investment Manager to announce on the Stock Exchange the number of Mutual Fund Participation Units in the form of Collective Investment Contracts whose Participation Units are traded on the Stock Exchange in circulation every change; and the mechanism of the general meeting of Mutual Fund Participation Units whose Participation Units are traded on the Stock Exchange (if any).

2.2 Stock Index

A stock index is a statistical measure that reflects the overall price movement of a set of stocks selected based on specific criteria and methodologies and evaluated periodically (Indonesia Stock Exchange, 2019).

The objectives/benefits of stock indices include:

- Measuring Market Sentiment;
- Index is as a tool to measure market sentiment or investor confidence. The change in value reflected in one index can be used as an indicator that reflects the collective opinion of all market participants.
- Used as passive investment products such as Index Mutual Funds and Index ETFs as well as derivative products;
- Indexes can also be used as a reference/basis for investment products ("index tracking products"). Investing in index mutual funds or ETFs that use a specific index reference ensures that the portfolio managed by the investment manager matches the index. Investors can choose an index that matches both the exposure and the expected risk profile. In addition, stock indices can also be used for derivative products such as futures, options, and structured warrants.
- Benchmarks for active portfolios;
- Stock indices can be used as benchmarks for active portfolios. In an investment portfolio it is necessary to determine the benchmark that best suits the mandate or risk profile of the investment, so as to measure the performance of investment products managed by the investment manager. The selection of the right index as a benchmark determines the risk

and expected performance of the investment manager from the active portfolio. For example, when investors have a mandate to invest stocks in the financial sector, the benchmark index that is more appropriately used is the financial sector index, not the Composite Stock Price Index (JCI).

- Proxies in measuring and creating a model of return on investment (return), systematic risk, and performance adjusted to the risk;
- The Capital Asset Pricing Model (CAPM) defines beta as a systematic risk to market risk. The market portfolio at CAPM contains all risky securities. Composite indices such as JCI are usually used as proxies for market portfolios, which can then be used to calculate the systematic risk and risk-adjusted performance of a portfolio.
- Proxy for asset class on asset allocation;
- Because a stock index contains a risk profile and return on a group of stocks, the stock index can be used as a proxy for asset allocation.

2.3 Investment Strategy

2.3.1. Dollar Cost Averaging (DCA)

Dollar Cost Averaging (DCA) is an investing strategy which, over a given time interval, calls for the periodic investment of a fixed amount of money in a stock or portfolio at each period (Merlone and Pilloto, 2014). For example, Investors routinely invest one million per month for one year. This strategy is carried out regardless of market or economic conditions. When the market is passionate or weakening, the economy is in a state of crisis or not, Investors continue to make investments on a regular basis.

(Compaire and Sejourne, 2015) present DCA investment strategy is believed to perform poorly when confirmed with simulations, estimates and standard financial theory, this strategy has been shown to outperform a lump sum investment on the stock market in a small number of cases. High price market ratio level could then justify using a DCA strategy.

As a popularly recommended investment strategy, (Fang, 2007) defined DCA is known as a risk reduction strategy; however, such profits are claimed as costs to generate higher returns. The results reviewed were confirmed by scientific tests that DCA strategies are superior to reduce risk, but lower than LS strategies in terms of effectiveness to produce returns. While it performs better by investing in less volatile assets, it is better suited to riskier investments compared to LS.

2.3.2. Lump Sum

Lump-sum means investing all funds at the beginning of the period. The advantage of this strategy is that investors are not confused with timing and allocation because all funds have been invested at the beginning. However, this strategy can be detrimental when buying mutual funds when the market is reaching a peak where investors get a price per unit of participation at a price that is also high. If the market reverses course, investors will lose out. (Hidajat, 2014) defined Lump Sum strategy gives results that are generally better than the DCA, but the results of statistical analysis showed that there is no difference between LS investment results with DCA

(Compaire and Sejourne, 2015) defined Lump sum strategy dominates the DCA in about 70% of cases, which keeps a DCA strategy opportunity open in some financial market conditions. According to the study (Panyagometh, 2012) in Long Term Equity Fun in Thailand throughout the seven investment periods, the LS investment at the beginning of the year yielded the highest mean terminal value while the LS investment at the end of the year yielded the highest average Sharpe Ratio. The LS investment at the end of the year had less than 50% chance of outperforming the other strategies.

(Bisceglia and Zola, 2018) found that the average annual returns of the lump-sum investment are, in general, higher than those of the two considered DCA strategies and the percentage of observations in which the lump-sum outperforms both the considered DCA is higher for longer investment time horizons.

3. Research Methodology

3.1 Unit Analysis

The study focuses on data analysis, particularly ETF Index January 2016 through December 2020 price data. Each data is fully tested with Lump Sum and Dollar Cost Averaging investment strategies so return each data is obtained. From the data then analyzed which is the better strategy and factors that affect it.

Result data will test with a pooled-variance t-test to determine whether there is a significant difference between the means (Levine, Sthephan and Szabat, 2017).

Pooled-variance t Test:

$$t_{STAT} = \frac{(\bar{X}_1 - X_2) - (\mu_1 - \mu_2)}{\sqrt{S_p^2 \left(\frac{1}{n_1} + \frac{1}{n_2} \right)}}$$

where,

$$S_p^2 = \frac{(n_1-1)S_1^2 + (n_2-1)S_2^2}{(n_1-1) + (n_2-1)}$$

and S_2^p = pooled variance

\bar{X}_1 = mean of the sample taken from population 1

- \bar{X}_2 = mean of the sample taken from population 2
- S_1^2 = variance of the sample taken from population 1
- S_2^2 = variance of the sample taken from population 2
- n_1 = size of the sample taken from population 1
- n_2 = size of the sample taken from population 2

For a given level of significance, α , in a two-tail test, you reject the null hypothesis if the computed t_{STAT} test statistic is greater than the upper-tail critical value from the t distribution or if the computed t_{STAT} test statistic is less than the lower-tail critical value from the t distribution.

In addition to pooled-variance t test, result data will test with One Way ANOVA.

Table 1. ANOVA Summary Table

Source	Decreases of Freedom	Sum of Squares	Mean Square (Variance)	F
Among Group	c-1	SSA	$MSA = SSA / (c-1)$	$F_{stat} = MSA / MSW$
Within Group	n-c	SSW	$MSW = SSW / (n-c)$	
Total	n-1	SST		

- Where,
- c = number of group
 - n = total number of value in all group
 - SSA = Sum of Square Among-Group
 - SSW = Sum of Square Within-Group Variation
 - SST = Sum of Square Total
 - MSA = Mean Square Among-group
 - MSW= Mean Square Within-group

The table includes entries for the sources of variation (among groups, within groups, and total), the degrees of freedom, the sums of squares, the mean squares (the variances), and the computed F_{STAT} test statistic. The table may also include the p-value, the probability of having an F_{STAT} value as large as or larger than the one computed, given that the null hypothesis is true. The p-value allows you to reach conclusions about the null hypothesis without needing to refer to a table of critical values of the F distribution. If the p-value is less than the chosen level of significance, α , you reject the null hypothesis (Levine, Sthephan and Szabat, 2017).

3.2 Population and Sampling

Populations aim to answer research questions targeted at specific populations, but sampling is required as representative data for those populations. In this study, the target population will be limited to ETF Index January 2016 to December 2020 price data. If the data held is not up to 5 years, it will use the last data from that ETF index. Variable ETFs tested in this research are LQ45X (Premier LQ-45), CIMB Principal Index IDX 30, XIIT (Premier IDX30), XISR (Premier SRI-KEHATI), XIHD (Premier IDX High Dividend 20), XISI (Premier Indonesia SMinfra18).

3.3. Type of Data

This study used primary data and secondary data. Primary data is collected from price data obtained from idx.co.id and investing.com, quantitative research methods aimed at showing the relationship between variables and testing the theory. Researchers analyzed the data, the results obtained later concluded. Conclusions from the results of the study compared to secondary data in articles and journals.

3.4. Data Collection Method

This research using qualitative research. Data will collect from library research by studying books that are related to the title and discussion of research. The data will be processed into a graph for easy representation of results.

3.5. Variable Operationalization

Table 2. Variable Operationalization

Variables	Definition	Item
Return	According to (Windari, 2018), return is the result obtained from the investment by calculating the difference in the share price of the current period with the previous period.	The greater the return obtained the better
Risk	According to (Levisauskaite, 2010), risk can be defined as a chance that the actual outcome from an investment will differ from the expected outcome.	The more variable the possible outcomes that can occur, the greater the risk. Risk is associated with the dispersion in the likely outcome. And dispersion refers to variability.

4. Results

4.1 Data Processing

Variable ETFs tested in this research are LQ45X (Premier LQ-45), CIMB Principal Index IDX 30, XIIT (Premier IDX30), XISR (Premier SRI-KEHATI), XIHD (Premier IDX High Dividend 20), XISI (Premier Indonesia SMinfra18). Before processing the data, the data is displayed in the form of a graph to analyze visually first.

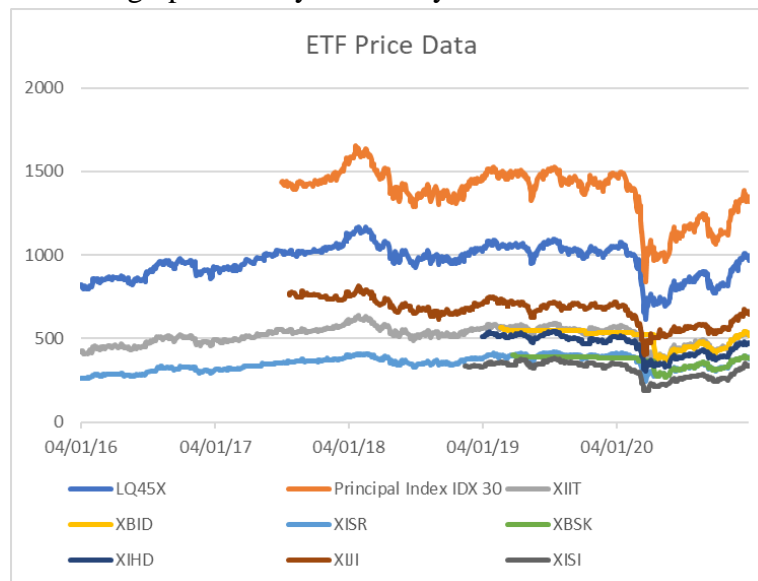


Figure 4.1. ETF Price Data

Visually, all ETFs are at different price vulnerable. Price movements are also different but there are some similarities as in the march 2020 data where the majority of ETFs experience price declines. But after that the price again raise until December 2020.

Each ETF price data is then processed with a simulation of Dollar Cost Averaging (DCA) and Lump Sum (LS) Investment Strategy. DCA is done by simulating buying a number of ETFs of the same value at the beginning of each month. The investment proceeds are then summed up until the end of the investment period so that the average return is obtained. LS is done by simulating buying only at the beginning with the same amount of capital as the end of DCA investment capital. Then at the end of the investment obtained the return value of the LS, by comparing the difference in the final price with the first purchase price.

Table 4.1 Return/loss DCA and LS Investment Strategy

No	ETF	Return/Loss	
		DCA	LS
1	LQ45X (Premier LQ-45)	1,85%	18,29%
2	CIMB Principal Index IDX 30	-2,66%	-6,56%
3	XIIT (Premier IDX30)	2,58%	25,30%
4	XBID (Batavia IDX30)	4,21%	-6,32%
5	XISR (Premier SRI-KEHATI)	9,42%	44,83%
6	XBSK (Batavia Sri-Kehati)	6,40%	-3,99%

7	XIHD (Premier IDX High Dividend 20)	4,17%	-7,63%
8	XIJI (Premier JII)	-2,21%	-15,84%
9	XISI (Premier Indonesia SMinfra18)	10,76%	1,20%
	Average	3,64%	5,47%

Based on table 4.1, different return values are obtained between DCA and LS. DCA earns higher returns on 6 ETFs and LS earns higher returns on 3 ETFs. But overall, the average return of LS is still higher than DCA despite only excelling in LQ45X, XIIT, XISR. LS performance in this research obtained an average return of 5.47% while DCA 3.84%.

4.2 Hypothesis Analysis With Pooled-variance t Test and One-Way ANOVA

Pooled-variance t Test is conducted to test hypotheses against DCA and LS.

Table 4.2 Pooled-variance t Test

Data	
Hypothesizes Difference	0
Level of Significance	0,05
Population Sample 1 (DCA)	
Sample Size	9
Sample Mean	3,84%
Std Deviation	0,04611
Population Sample 2 (LS)	
Sample Size	9
Sample Mean	5,47%
Std Deviation	0,19761

Intermediete Calculation	
Sample 1 Degrees of Freedom	8
Sample 2 Degrees of Freedom	8
Total Degrees of Freedom	16
Pooled Variance	0,0206
Standard Error	0,0676

Difference in Sample Means	-1,64%
t Test Statistic	-0,2422

t-Test higher than Lower Critical

Do not reject the null hypothesis

Two-Tail Test	
Lower Critical Value	-2,1199
Upper Critical Value	2,1199
p-Value	0,8117

p-Value higher than α 0,05

Do not reject the null hypothesis

H0 : return LS is equal or lower than DCA, and

H1 : return LS is higher than DCA

Using Pooled-variance t Test obtained results t Test -0,2422 is higher than Lower Critical Value -2,1199 that means do not reject the null hypothesis and p-Value 0,8117 is higher than Level of Significance α 0,05 that means do not reject the null hypothesis. The hypothesis is insufficient evidence that LS has a higher return than DCA.

Then, One-Way ANOVA is also conducted to test hypotheses against DCA and LS.

Table 4.3 One-Way ANOVA

Source	Decreases of Freedom	Sum of Squares	Mean Square (Variance)	F _{STAT}	p Value	F crit
Among Group	1	0,1208%	0,1208%	0,0587	0,8117	4,4940
Within Group	16	32,9414%	2,0588%			
Total	17	33,0622%				

Level of Significance 0,05

Using One-Way ANOVA obtained results F_{STAT} 0,0587 is higher than F Critical Value 4,4940 that means do not reject the null hypothesis and p-Value 0,8117 is higher than Level of Significance α 0,05 that means do not reject the null hypothesis. The hypothesis is insufficient evidence that LS has a higher return than DCA. The results of Pooled-variance t Test and One-Way ANOVA obtained the same hypothesis.

4.3 Risk

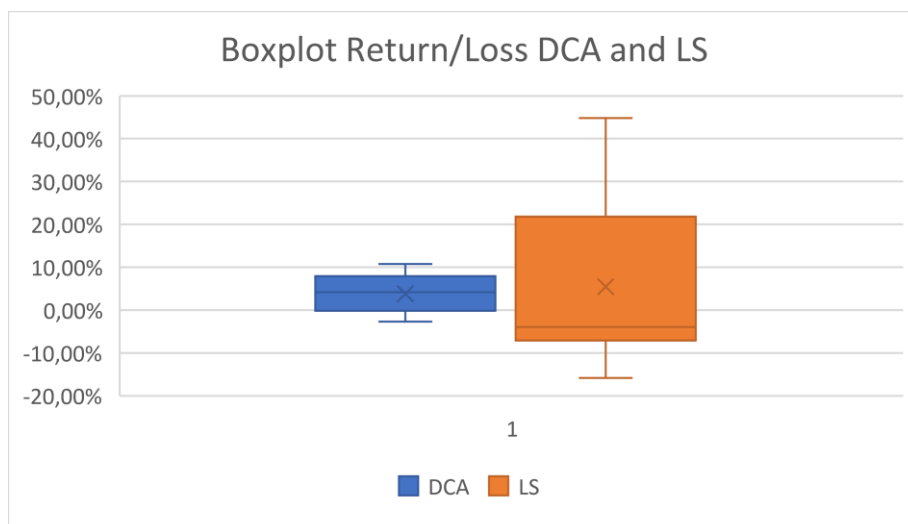


Figure 4.2 Boxplot Return/Loss DCA and LS

Based on boxplot chart analysis, DCA has a tighter distribution of returns. The data is scattered close to the median and the highest and lowest quartile values are not far away. As for LS return, the data is spread far from the median, the highest and lowest quartile are far enough away. The highs and lows are far away, this represents a higher risk profile of LS than DCA. For some return LS can be very high but otherwise can get a high loss anyway. LS has a higher risk because all investment funds are included in the beginning. When there is an investment error, it will lose with a larger amount than DCA. In DCA the risk can be more manage because if encountered a state of decline can again improve the investment portfolio.

5. Conclusion

This study aims to determine average return from the from the Dollar Cost Averaging and Lump Sum Strategies on ETF; analyze the risk of investing with Dollar Cost Averaging and Lump Sum Strategies on ETF. From the results of the study obtained different return values are obtained between DCA and LS. DCA earns higher returns on 6 ETFs and LS earns higher returns on 3 ETFs. But overall, the average return of LS is still higher than DCA despite only excelling in LQ45X, XIIT, XISR. LS performance in this agreement obtained an average return of 5.47% while DCA 3.84%.

Using Pooled-variance t Test obtained results t Test -0,2422 is higher than Lower Critical Value -2,1199 that means do not reject the null hypothesis and p-Value 0,8117 is higher than Level of Significance α 0,05. Using One-Way ANOVA obtained results FSTAT 0,0587 is higher than F Critical Value 4,4940 that means do not reject the null hypothesis and p-Value 0,8117 is higher than Level of Significance α 0,05 that means do not reject the null hypothesis. The results of Pooled-variance t Test and One-Way ANOVA obtained the same hypothesis.

From the results of the analysis, it is known that there is insufficient evidence that LS has a higher return than DCA. Although in LS testing obtained a higher average return, the difference was only 1.64%. LS can be very superior in some cases, in this study on the XISR ETF (Premier SRI-KEHATI), LS obtained a return of 44.83% greater than DCA which is only 9.42%.

Based on boxplot chart analysis, DCA has a tighter distribution of returns. The data is scattered close to the median and the highest and lowest quartile values are not far away. As for LS return, the data is spread far from the median, the highest and lowest quartile are far enough away. The highs and lows are far away, this represents a higher risk profile of LS than DCA. For some return LS can be very high but otherwise can get a high loss anyway.

References

- Bisceglia, M. and Zola, P. (2018) 'Dollar-Cost Averaging With Yearly And Biyearly Installments', *Journal of Applied Management and Investments*, 7(1), pp. 1–14.
- Compaire, P. and Sejourne, B. (2015) 'When should a French Investor use a Dollar-Cost Averaging Strategy When', (July). doi: 10.13140/RG.2.1.1804.6567.
- Fang, W. (2007) 'Dollar-cost Averaging : An Investigation', The University of Nottingham.
- Hidajat, T. (2014) 'Comparison of Stock Mutual Fund Investing Results with Lump Sum Method and Dollar Cost Average : A Case Study of Mutual Fund Panin Dana Maksima', *EBBANK*, 5(2), pp. 1–12.
- Indonesia Stock Exchange (2019) 'IDX Stock Index Handbook V1.1'. Available at: https://www.idx.co.id/media/8572/idx-stock-index-handbook_-_v11_-_desember-2019.pdf.
- Kustodian Sentral Efek Indonesia (2020) 'Peran Strategis KSEI Dalam Meningkatkan Stabilitas Pasar Modal'.
- Kutra, P., Edo Azhara, E. and Gulo, Y. (2019) 'Peranan Exchange-Trade Funds (ETF) untuk Mendorong Pertumbuhan Industri Reksa Dana Dalam Pasar Modal Indonesia', *Jurnal Pasar Modal dan Bisnis*, 1(2), pp. 253–264. doi: 10.37194/jpmb.v1i2.34.
- Levine, D. M., Sthephan, D. F. and Szabat, K. A. (2017) *Statistics for Managers Using Microsoft Excel Eighth Edition*.
- Levisauskaite, K. (2010) 'Investment Analysis and Portfolio Management'.
- Malhotra, N. K. (2010) *Marketing Research An Applied Orientation sixth Edition*.
- Mazumder, I. (2014) 'Investing In Exchange Traded Funds', *APPLIED FINANCE LETTERS*, 03(02), pp. 16–23.
- Merlone, U. and Pilloto, D. (2014) 'Dollar Cost Averaging Vs Lump Sum: Evidence From Investing Simulations On Real Data', *IEEE*, pp. 962–973.
- Panyagometh, K. (2012) 'MACD Based Dollar Cost Averaging Strategy : Lessons from Long Term Equity Funds in Thailand', *Economic and Finance Review*, 2(6), pp. 77–84.
- Pracanda, D. G. S. P. and Abundanti, N. (2017) 'Pembentukan Portofolio Optimal Dengan Menggunakan Model Markowitz Pada Saham Indeks IDX30 Di Bursa Efek Indonesia', *E-Jurnal Management Unud*, 6(2), pp. 802–829.
- Rita, M. R. (2008) 'Exchange Traded Fund (ETF): Inovasi dalam Donia Industri Reksa Dana di Indonesia', *Exchange Traded Fund (ETF): Inovasi dalam Dunia Industri Reksa Dana di Indonesia*, XIV(1), pp. 91–105.
- Windari (2018) 'Pengaruh Karakteristik Perusahaan Terhadap Return Saham Jakarta Islamic Indeks Di Bursa Efek Indonesia', *IMARA*, 2(1).

Relationship Between CEO Characteristics, Corporate Governance, and COVID 19 on Capital Structure and Speed of Adjustment in Indonesian Firms

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ABSTRACT

This study aims to examine the determinants of capital structure and speed of adjustment determinants of manufacturing and trading companies in Indonesia. This study observes a total of 139 manufacturing and trading companies in Indonesia from the period of Q1 2017- Q4 2020. Several theories such as trade-off and pecking order theory are employed as the basic theory of the capital structure. Other theories such as Upper Echelon Theory and agency theory are employed to explain the influence of the CEO's characteristics and corporate governance on a company's financial decisions in Indonesia. In this study, debt-to-asset and long-term debt to market value of asset ratio will be used as a proxy of capital structure. This research combines financial and non-financial factors as determinants of capital structure and speed of adjustment. The explanatory variables include firm-specific characteristics, CEO characteristics, corporate governance, and COVID 19. Moreover, this research employs static and dynamic regression models to fulfill the study objectives. Based on the result, manufacturing and trading companies in Indonesia have 63% and 29% speed of adjustment for total debt and long-term debt respectively. Firm's characteristics are found to be important determinants of capital structure and speed of adjustment. This study also recognizes the importance of some of the CEO's characteristics and corporate governance in defining capital structure decisions. Only CEO's experience and board size show insignificant influence. Moreover, capital structure decision is heavily influenced by COVID 19 pandemic in Indonesia.

Type of Paper: Empirical/ Review

Keywords: Capital Structure; Speed of Adjustment; COVID 19; CEO's Characteristics; Firm-Specific Characteristics; Corporate Governance.

1. Introduction

In Indonesia, several industries like tourism, travel, trading, manufacturing, F&B, airlines, and oil and gas face a severe downturn due to pandemic Covid 19 in 2020. The negative financial impact is caused by the plunge of demand which means the purchasing power of the customer. The low purchasing power is triggered by a high unemployment rate and lower income. However, manufacturing and trading industry as the two biggest contributors of Indonesian GDP are the most affected sectors by Covid 19. The high negative changes caused by a significant decrease in capacity of supply to manufacturing and trading sectors that make the earnings reduced. In addition, manufacturing and trading companies need a high amount of capital and commonly high debt ratio. The capital is needed to finance upcoming projects and a shortage of cash flow (Antoniou et al., 2008). The company will face bankruptcy if the capital structure is inefficient and over-reliance on debt. Therefore, capital structure decision is very important for manufacturing and trading companies in Indonesia especially in COVID 19 pandemic times.

The capital structure decision is a very important issue to consider in the company. Management of the company will consider capital structure before making financial decisions such as debt issuance, share issuance, policy regarding dividend, asset acquisitions, and mergers and acquisitions. Optimum capital structure can be obtained with the best combination of debt and equity which lowers the capital cost and maximize the company's value. The debate over the most determinant factor of capital structure has been started since the theory from (Modigliani & Miller, 1958) about capital structure. The theory stated that income tax expense and bankruptcy cost are irrelevant to the capital structure. However, many scholars found that the theory was irrelevant. After that, a theory about static trade-off introduced by (Alan & Litzner, 1973) stated that the optimum leverage ratio will be attained when there is a trade-off between interest tax shield against bankruptcy cost. Studies conducted by (Alipour et al., 2015; Kakilli, 2015) examines the determinant of capital structure using static trade-off theory. Both studies conclude that several firm characteristics such as tangibility, firm size, profitability, and growth opportunities have significant influence to capital structure.

The static trade-off theory then developed into dynamic trade-off theory. The dynamic theory introduced by (Fischer et al., 1989) stated that a company's actual capital structure will deviate from the optimum capital structure. Company will try to adjust the recent capital structure to be closer to the optimum level. The speed of capital structure adjustment will vary by company, country, and macroeconomic condition. In dynamic capital model, lagged leverage is used to find the speed of adjustment. Study conducted by (Antoniou et al., 2008) reveals the speed of adjustment several developed countries. Speed of adjustment for UK companies is 23%, 33% for German companies, 16% for Japanese companies. In developing countries, the results of previous literature showed that the speed of adjustment is relatively faster. In Indonesian companies, the study conducted by (Darminto., 2008) showed that the average speed of adjustment is 44%. Other studies conducted by (Warmana et al., 2020) concluded that the average speed of adjustment in manufacturing companies in Indonesia is 64%.

This research will investigate whether the COVID 19 pandemic, firm-specific characteristics, CEO characteristics, and corporate governance factors influence the company's capital structure decision and speed of adjustment in manufacturing and trading companies in Indonesia. The timespan of this study will be from the first quarter of 2017 to the last quarter of 2020 and the data will be taken quarterly. Previous study conducted by (Harrison & Widjaja, 2014) only examine the effect of financial crisis in 2008 toward capital structure. This study will focus on current financial crisis caused by Covid 19 and extends the static capital structure model into dynamic one using GMM. This study proves that Covid 19 has negative effect on leverage ratio and accelerates the speed of adjustment. This study also combines two non-financial factors which are CEO characteristics and good corporate governance, and examine the direct influence of the combinations toward capital structure and speed of adjustment. Based on Upper Echelon Theory, the characteristics of CEO affect the company's strategy and the level of the output (Hambrick, 1986). In Indonesia, few studies combine both non-financial ratio

as determinants of capital structure. In addition, previous studies in Indonesia conducted by (Nilmawati et al., 2021; Wardhana et al., 2015) did not use dynamic capital structure model. This study proves the significant effect of CEO characteristics(age, experience, and education) and corporate governance practice(institutional ownership, board size, and board independence toward capital structure decision.

The result of the study will help the company to design proper corporate governance and CEO hiring process to gain the most optimum capital structure that fits the financial goal of the company. Good corporate governance practice helps the company avoid agency problems while a proper CEO hiring process will increase the efficiency of employees. For government, this study recommends to should providing financial stimulus during COVID 19 pandemic to increase the financial flexibility of the companies.

The rest of this paper will be structured as follows. Section 2 reviews the literature and empirical findings from previous studies. Section 3 reviews the data and methodology of the study. Section 4 discusses the finding, results, and robustness test of the study. Section 5 discusses the conclusion of the study and some implication to real business and government practices.

2. Literature Review

The objective of the study is to examines the influence of firm-specific characteristics, CEO characteristics, corporate governance, and COVID 19 towards capital structure and speed of adjustment. Figure below examines the relationship between the variables:

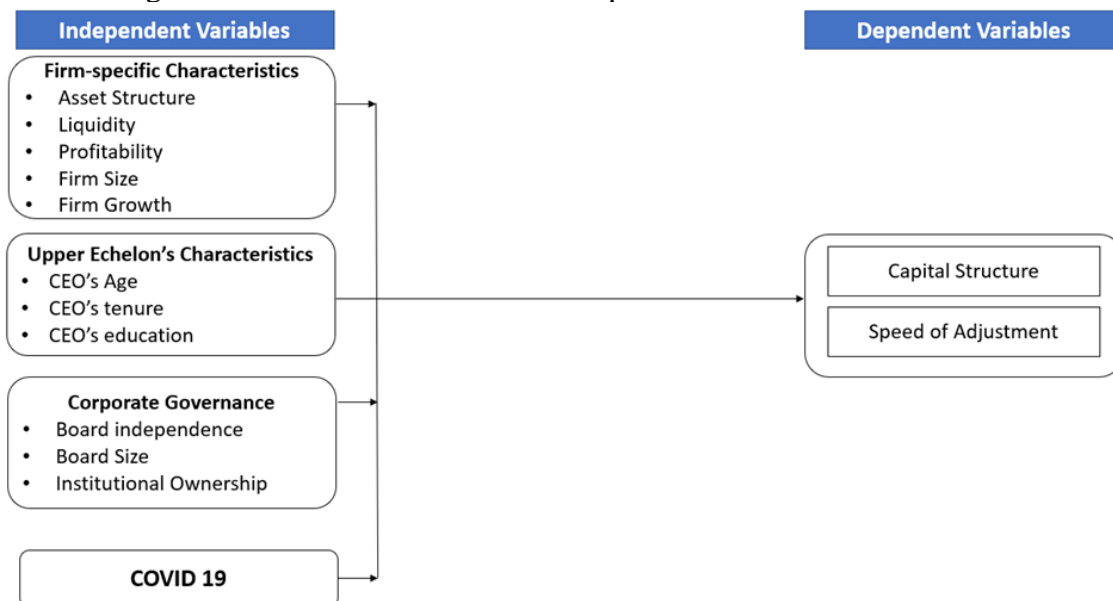


Figure 1. Theoretical Framework

2.1 Dynamic Capital Structure

The previous static trade-off theory only focuses on one particular period and eliminates the time effect and transaction cost related to recapitalization(Abdeljawad et al., 2013). The static model also did not include the adjustment behavior of the company. Therefore, (Fischer et al., 1989) introduced the dynamic model of capital structure. The dynamic capital structure model recognizes the deviation toward optimal leverage and companies are trying to achieve the optimal leverage ratio with various adjustment costs to recapitalize. The adjustment cost will be higher if the deviation toward the optimal structure is higher. Therefore, the companies will periodically rebalance their capital structure toward the optimal level to lower the cost.

In developed countries, a study conducted by (Flannery & Rangan, 2006) observed the adjustment behavior of US non-financial firms. The result indicates that the average speed of adjustment in US non-financial firms is 30% annually. The study found that both under and over-leveraged firm adjust their capital structure to reduce the deviation from the targeted ratio. In other research, a study conducted by (Antoniou et al., 2008) observed the speed of adjustment behavior in G5 countries. The result implied that bank-oriented countries such as Japan and Germany adjust their capital structure slowly due to low deviation cost from an optimum capital structure. Germany and Japan do not need to rely on debt financing to signal good quality to investors unlike market-oriented countries such as the UK and the US. The average speed of adjustment of Japanese firms is 16%, while US and UK firms have 32% speed of adjustment.

In developing countries, the results of previous literature showed that the speed of adjustment is relatively faster. Studies conducted by (Ezeani, 2019) in Nigeria non-financial firms showed a high speed of adjustment which is 63%. In Indonesian companies, the study conducted by (Darminto., 2008) showed that the average speed of adjustment is 88% in two years. In the study, it is suggested that under- and over-leveraged companies in Indonesia make a speedy adjustment because the cost of deviation is high. Other studies conducted by (Warmana et al., 2020) concluded that the average speed of adjustment in manufacturing companies in Indonesia is 64%. The study implied that manufacturing companies in Indonesia have higher deviation costs and financial flexibility to alter their capital structure.

2.2 Research Hypotheses

2.2.1 Profitability and Capital Structure Decision

Based on pecking-order theory, profitable companies use retained earnings as the main source of financing due to low information asymmetry (Myers & Majluf, 1984). They will generate a high amount of retained earnings, thus external funding will not be needed. Therefore, profitable companies are less interested in debt-financing. Concerning speed of adjustment, study conducted by (Lemma & Negash, 2014) observed several countries in Africa. The result implied that company with high profitability tends to adjust its capital structure more frequently than a low-profit company. The company is more flexible and better accessibility to external funding. Based on the previous studies, the hypothesis will be:

H1a: Profitability will have negative and significant influence toward capital structure.

H1b: Profitability will have positive and significant influence toward speed of adjustment.

2.2.2 Liquidity and Capital Structure Decision

Studies conducted by (Alipour et al., 2015) examines a negative influence of liquidity toward the debt ratio of the company following pecking order theory. Companies with high liquidity prefer to use equity financing from internal funding and reduce the reliance on debt financing. The result indicates that firms with high liquidity prefer to use their current assets such as cash and receivables to fund their daily activities and operations. Hence, their reliance on debt financing is lower. Based on the previous studies, the hypothesis will be:

H2a: Liquidity will have negative and significant influence toward capital structure.

2.2.3 Growth Opportunity and Capital Structure Decision

Studies conducted by (Alipour et al., 2015) examines a negative influence of growth opportunity toward the debt ratio of the company. The result indicates that firms that have massive growth will rely more on equity financing since they have sufficient internal funding

for their operation rather than using debt financing. The companies with higher growth will try to minimize the risk of bankruptcy and unable to repay their liabilities by utilizing the internal funding of the company. Concerning speed of adjustment, study conducted by (Drobetz & Wanzenried, 2006) concluded that firms with high growth have more speedy adjustment. The result implied that companies with high growth opportunities can easily change the composition of capital structure to raise funds for the new projects. A company could choose several alternatives as a source of financing. Therefore, increase the speed of adjustment. Based on the previous studies, the hypothesis will be:

H3a: Growth Opportunity will have negative and significant influence toward capital structure.

H3b: Growth Opportunity will have positive and significant influence toward speed of adjustment.

2.2.4 Firm Size and Capital Structure Decision

Based on (Harrison & Widjaja, 2014), firm size has a negative relationship with the debt ratio of the company. The result indicates that firms with bigger sizes prefer to rely more on equity financing since they are more stable, sufficient cash flows, and better credit ratings. Concerning speed of adjustment, a study conducted by (Drobetz & Wanzenried, 2006) concluded that larger firms have more speedy adjustment. The result implied that larger firms have relatively lower fixed costs regarding capital structure adjustment. In addition, larger firms have a lower degree of asymmetric information and higher accessibility to issue new debt and/or equity. Therefore, increase the speed of adjustment. Based on the previous studies, the hypothesis will be:

H4a: Firm Size will have negative and significant influence toward capital structure.

H4b: Firm Size will have positive and significant influence toward speed of adjustment.

2.2.5 Tangibility and Capital Structure Decision

Based on (Alipour et al., 2015), the higher tangibility will influence higher debt ratio of the company. The result indicated that the company that has a higher percentage of fixed assets in their total asset will rely more on debt financing since the company can put their fixed assets such as buildings and land as collateral to borrow money from financial institutions. The high value of fixed assets will decrease the risk that the company would not be able to pay its liabilities. Concerning speed of adjustment, a study conducted by (Shan et al., 2019) argues that companies with high fixed assets will decrease the speed of adjustment. The studies argued higher fixed assets will have a higher collateral value. A high collateral value is being assumed to decrease the financial distress cost. The financial distress cost will decrease the cost from deviation from optimum leverage. Hence the speed of adjustment will decrease. Based on the previous studies, the hypothesis will be:

H5a: Tangibility will have positive and significant influence toward capital structure.

H5b: Tangibility will have negative and significant influence toward speed of adjustment.

2.2.6 CEO's age and Capital Structure Decision

In the study of Upper Echelon Theory conducted by (Hambrick, 1986), older managers tend to create more conservative decisions. There are three assumptions regarding the conservative stance of older CEO more than younger CEO. First, older CEO's physical stamina has been deteriorating so that they have less ability to create innovation. Second, an older manager has greater commitment and more attached to the status quo of the company. The third one is older managers is searching for financial and career security and seek more benefit for their retirement plan.

Based on (Bertrand & Schoar, 2003) argued that older CEO are risk-averse so that they create less aggressive financial decisions. Therefore, older CEO prefer low financial leverage and high cash holdings. In addition, that companies that employ older CEO tend to has lower operating leverage which has lower risk. Concerning speed of adjustment, a study conducted by (Shan et al., 2019) argues that companies with older CEO will decrease the speed of adjustment. The older CEO viewed the adjustment process is too expensive and increase the bankruptcy risk of the company. Based on the previous studies, the hypothesis will be:

H6a: CEO's age will have negative and significant influence toward capital structure.

H6b: CEO's age will have negative and significant influence toward speed of adjustment.

2.2.7 CEO's education and Capital Structure Decision

In upper echelon theory conducted by (Hambrick, 1986), there are three assumptions regarding top management's education. The first one is that a CEO with a higher level of education will create strategies based on innovation. Second, the CEO's degree of education will not affect the profitability and growth of the company. However, a company that employs a CEO with a lower degree of management education causes greater variability of performance compared with a CEO with a higher degree of management education. The third one is that company that employs a higher degree of management education will have greater complexity of administration such as planning systems, structure, and budgeting.

A study conducted by (Bertrand & Schoar, 2003) argued that CEO with higher educational level tends to choose more aggressive financing strategies, thus rely more on debt financing. Moreover, CEO with high education level will be more confidence in making financing strategies. Concerning speed of adjustment, a study conducted by (Chua et al., 2020) argues that CEO education have positive relationship with speed of adjustment. They argue that CEO with a master's degree is a risk-taker and well-informed about the external environment of the companies. Based on the previous studies, the hypothesis will be:

H7a: CEO's education will have positive and significant influence toward capital structure.

H7b: CEO's education will have positive and significant influence toward speed of adjustment.

2.2.8 CEO's experience and Capital Structure Decision

In Upper Echelon Theory conducted by (Hambrick, 1986), CEO that spent longer tenure in one specific company is reluctant to make innovation, adapting to new technology, and pursue less risky and diverse investment due to limited perspectives. Moreover, the cognitive and perspective of longer-tenured CEO will be similar with older CEO, they want to protect their future incentive for their retirement plan. A study conducted by (Matemilola et al., 2018) argues that CEO tenure has a positive and significant impact on the capital structure. That implied that CEO with longer tenure has a strong relationship with stakeholders that allow CEO to make a risky investment. Moreover, CEO with more experience has better confidence to increase leverage ratio to decrease their income tax. Concerning speed of adjustment, a study conducted by (Frank & Goyal, 2011) argues that CEO's experience have negative relationship with speed of adjustment. The study implied that CEO with longer experience is risk-averse and reluctant to make a change in capital structure. Based on the previous studies, the hypothesis will be:

H8a: CEO's experience will have negative and significant influence toward capital structure.

H8b: CEO's experience will have negative and significant influence toward speed of adjustment.

2.2.9 Institutional Ownership and Capital Structure Decision

Based on the study conducted by (Wardhana et al., 2015), institutional ownership has inverse relationship with leverage ratio. This implied that institutional ownership in developing countries prefer to monitor the management directly to reduce the agency problems. The institutional firm tends to invest in low leverage companies to avoid high bankruptcy risk. In addition, institutional ownerships in developing countries do not have diversified investment portfolios and risk-averse. Concerning speed of adjustment, study conducted by (Liao et al., 2015) argued that company with high institutional ownership tends to have a faster speed of adjustment. The result implied that the corporate governance quality is better when the company has high institutional ownership. Hence, good corporate governance will push the company to decrease the deviation between capital structure and optimal leverage. Based on the previous studies, the hypothesis will be:

H9a: Institutional Ownership will have negative and significant influence toward capital structure.

H9b: Institutional Ownership will have positive and significant influence toward speed of adjustment.

2.2.10 Board Size and Capital Structure Decision

Based on study conducted by (Wen et al., 2002), a larger board size will decrease the leverage ratio of the company. The result implied that companies with a big board will give bigger pressure on the managers to decrease the leverage ratio to increase the performance of the company. Concerning speed of adjustment, study conducted by (Liao et al., 2015) argued that that company with large board size tends to have slower speed of adjustment. The result implied that the bigger the board size, the quality of corporate governance will lower, thus reluctant to make changes in its capital structure and keep its leverage ratio low. Based on the previous studies, the hypothesis will be:

H10a: Board Size will have negative and significant influence toward capital structure.

H10b: Board Size will have negative and significant influence toward speed of adjustment.

2.2.11 Board Independence and Capital Structure Decision

Based on study conducted by (Alves et al., 2015), independent commissioners will increase the leverage ratio of the company. This implied that an independent board leads the company to reduce the degree of information asymmetry and therefore reduce the cost to issue debt to the bank. Moreover, independence commissioners tend to decrease the amount of free cash flow available due to high-interest payments. Concerning speed of adjustment, study conducted by (Liao et al., 2015), the result implied that company with a high percentage of the independent board tends to have a faster speed of adjustment. The result implied that the bigger percentage of an independent board, the quality of corporate governance will be higher, thus tends to decrease the deviation between capital structure and optimum level. Based on the previous studies, the hypothesis will be:

H11a: Board Independence will have positive and significant influence toward capital structure.

H11b: Board Independence will have positive and significant influence toward speed of adjustment.

2.2.12 COVID 19 and Capital Structure Decision

Financial Crisis is defined as a situation where there is a downturn in the global economy and a relatively high unemployment rate. By that definition, COVID 19 caused a financial crisis in

2020. Both financial crises share some similarities such as market volatility, moral hazard, bankruptcy, unemployment, and reliance on government intervention. Based on the study conducted by (Mouton & Smith, 2016), there is a positive relationship between financial crisis and the debt ratio of the company. They argued that companies need to increase the debt ratio in order to survive in a financial crisis. Concerning speed of adjustment, study conducted by (Soekarno et al., 2015) argued that company is reducing its speed of adjustment due to higher adjustment costs after the financial crisis incurred. The slowing global economy in financial crisis will be lowering the performance of the companies and decreasing the value of the asset so that the companies reluctant to change their leverage ratio to survive. Based on the previous studies, the hypothesis will be:

H12a: COVID 19 will have positive and significant influence toward capital structure.

H12b: COVID 19 will have negative and significant influence toward speed of adjustment.

3. Research Methodology

3.1 Data Source

The objective of this study to observe the change of capital structure and speed of adjustment in quarterly basis. The data sample includes the quarterly financial report of Indonesia's manufacturing and trading companies from the first quarter of 2017 until the last quarter of 2020. The data is being collected from the annual report and quarterly financial report and obtained from Indonesian Stock Exchange website (www.IDX.co.id) and company's website. This study uses 139 trading and manufacturing companies as a sample due to the availability of data.

3.2 Proxy of Variables

This study will use two approaches of leverage to determine the company's capital structure. The first ratio is the total debt ratio. In the first ratio, this study applies book value of total debt. This ratio is commonly used as the indicator of the capital structure of the company in developing countries such as Malaysia, Turkey, and Indonesia (Kakilli, 2015; Shan et al., 2019; Warmana et al., 2020). To test the robustness of the model, the second ratio which is long-term debt ratio will be used. For the long-term debt ratio, this study will use the market value of total assets following the study conducted by (de Jong et al., 2008). The short-term debt ratio will be not used as a capital structure proxy since it contains trade payable which has different determinants.

Table 1. Dependent Variables Operationalization.

Variables	Definition
Profitability	The ration of EBIT to total assets
Tangibility	The ratio of fixed assets to total assets
Liquidity	The ratio of current asset to current liability
Growth Opportunity	The percentage of sales growth
Firm Size	Natural logarithm of Total Assets
CEO's age	The age of CEO adjusted by the current year
CEO's education	Five-point rating scale. 1 = Diploma or lower, 2= Bachelor's degree, 3= Professional qualification, 4= Master's degree, and 5= Doctorate
CEO's experience	Number of years that person spent as CEO and director
Board Independence	The ratio of independent commissioners to total board of commissioners

Institutional Ownership	The ratio of shares owned by Institution to shares outstanding
Board Size	Total number of board of directors
COVID 19	Dummy variable for COVID 19

3.3 Regression Models

To satisfy the study objectives, this study uses static and dynamic capital structure model. In static model, the model examines the determinant of optimum capital structure. The static model will be formulated in equation below:

$$\text{Leverage}_{i,t} = \alpha + \beta_1 \text{GOV}_{i,t} + \beta_2 \text{CEO}_{i,t} + \beta_3 \text{COVID19}_{i,t} + \beta_4 X_{i,t} + e_{i,t} \quad (1)$$

In the dynamic capital structure model, the model examines the capital structure adjustment and speed of adjustment determinant. The dynamic model will be formulated in equation below:

$$\text{Leverage}_{i,t} = \alpha + (1 - \theta)\text{Lev}_{i,t-1} - \alpha_1(\text{GOV} * \text{Lev}_{i,t-1}) - \alpha_2(\text{CEO} * \text{Lev}_{i,t-1}) - \alpha_3(\text{COVID19} * \text{Lev}_{i,t-1}) - \alpha_4(X_{i,t} * \text{Lev}_{i,t-1}) + e_{i,t} \quad (2)$$

In the last equation, it can be seen that the interaction between all explanatory variables and speed of adjustment is negative. It means that the interpretation of the results from the dynamic model should be done in the opposite manner. For example, a positive sign means that there is an inverse relationship between a particular explanatory variable and speed of adjustment (Shan et al., 2019) or the other way around.

In the dynamic model, lagged value of leverage ratio will be used as one of the independent variables. The lagged variable will be used to examine the speed of adjustment of manufacturing and trading companies. The dynamic model in study employs two-step GMM model. In dynamic panel data, it is assumed that all explanatory variables are not completely exogenous (Ezeani, 2019). That means that there is a correlation between explanatory variables and error terms or so it called endogen. In previous panel data, like the common effect model and fixed-effect model, it is assumed that all variables are exogen, which means that all variables are uncorrelated with error terms. The dynamic panel data use an instrumental variable to mitigate the possibility of endogeneity arise (Anderson & Hsiao, 1982). To test the validity of two-step GMM model, two tests such as Sargan and second autocorrelation tests will be conducted. If the p-value of Sargan test is higher than 5%, the explanatory variables are valid. In second-order autocorrelation, the p-value have to be higher than 5% which indicates that the model is free from second-order autocorrelation. If the dynamic model satisfied all the validity test, the model is free from endogeneity problem and valid.

4. Results and Discussion

4.1 Descriptive statistics

Table 2. Descriptive Statistics.

Variables	Mean	Maximum	Minimum	Std deviation
Debt to Asset	0.5315	0.99	0.0035	0.205
Long-term debt to asset	0.1048	0.76	0.0010	0.1478
Profitability	0.0373	0.7278	-0.4822	0.0764
Liquidity	2.7561	303.2813	0.224	8.5026

Sales growth	0.0853	22.381	-0.9834	0.6954
Tangibility	0.3619	0.854	0.0008	0.1997
Size	12,791,145,896,618	366,740,000,000,000	42,082,606,466	33,955,987,602,846
Age	56.1321	81	25	10.0874
Education	2.66	5	1	1.1196
Experience	19.5013	49	0.5	11.5394
Institutional ownership	0.7354	0.997	0.01	0.276
Board Size	5.1326	13	2	2.0918
Board Independence	0.4009	0.8333	0.2	0.0971
Total Observations: 2224				

Table 2 captures the summarize of descriptive statistic for all samples in this study. The first dependent variable, the debt to asset ratio shows the mean value of 0.5315 for manufacturing industries trading companies along with the highest value of 0.99 and lowest value of 0.0035. This implies that both manufacturing and trading companies in Indonesia have a relatively strong financial structure with moderate risk. Since the debt ratio is below 0.4, both companies rely more on equity to finance the company's assets. Meanwhile, the highest value of 0.99 indicates that the company is at risk of bankruptcy. The second dependent variable, long-term debt to market value of asset shows the mean value of 0.1048 along with the highest value of 0.76 and lowest value of 0.001. The long-term debt ratio is relatively low compare to the debt ratio. This implies that both manufacturing and trading companies rely more on short-term debt to finance their asset.

Profitability shows the mean value of 0.0373 which are moderate. Liquidity shows the mean value of 2.76 This shows that both companies are highly liquid which indicates good financial health with a high ability to pay short-term obligations. Sales growth shows the mean value of 0.0853 which are moderate growth. CEO's age, education, and experience show mean values of 56.13, 2.66, and 19.50. These results indicate that CEO in Indonesian Firms is rather experienced and mature. On the other hand, Institutional ownership, board size, and board independence show mean values of 0.735, 5.13, and 0.40 The high value of institutional ownership means that shares owned by the institution in Indonesia are higher than the shares own by a manager or individual. Institutions such as investment banks, mutual funds, and pension funds that are knowledgeable in the capital market tend to buy shares of well-performed companies with good financial ratios. This indicates that both manufacturing and trading companies in Indonesia are in a good and healthy financial position.

4.2 Determinants of Capital Structure

Table 3. Determinants of Capital Structure

Variables	Debt to Asset			Long-term Debt to Market Value of Asset		
	Manufacturing Companies	Trading Companies	Overall	Manufacturing Companies	Trading Companies	Overall
PROF	-0.2701*** (0.0000)	-0.3265*** (0.0000)	-0.2704*** (0.0000)	-0.614** (0.0404)	-0.2088*** (0.0001)	-0.1195*** (0.0000)

LIQ	-0.0007*** (0.0000)	-0.0014** (0.0409)	-0.0007*** (0.0000)	0.0003* (0.0852)	0.0006 (0.3093)	0.0002 (0.1447)
GROWTH	0.0239*** (0.0000)	-2.4705 (0.9942)	0.0065*** (0.0028)	0.0028 (0.4434)	-0.005* (0.0663)	-0.0042** (0.051)
SIZE	0.0987*** (0.0000)	0.1975*** (0.0000)	0.1013*** (0.0028)	0.06273*** (0.0000)	0.0131* (0.0927)	0.024*** (0.0000)
TANG	0.0521** (0.0344)	0.2133*** (0.0012)	0.0632*** (0.0008)	0.1711*** (0.0000)	0.0316** (0.0346)	0.1278*** (0.0000)
CEO_AGE	-0.0016* (0.058)	0.0003 (0.8789)	-0.0008* (0.0953)	0.0014** (0.0314)	-0.001 (0.3806)	0.0007 (0.9246)
CEO_EDU	0.0057 (0.1827)	0.0181* (0.0787)	0.0015 (0.6707)	0.013*** (0.0072)	0.0218*** (0.0052)	0.055 (0.9247)
CEO_EXP	0.0003 (0.5974)	0.0006 (0.8594)	0.0002 (0.6933)	0.0041 (0.5627)	0.0001 (0.9296)	0.002 (0.2452)
INSOWN	-0.2222 (0.2278)	-0.1201*** (0.0097)	-0.041** (0.0245)	-0.132 (0.5727)	-0.1474*** (0.0000)	-0.067*** (0.0002)
BSIZE	-0.0041** (0.0823)	0.0119** (0.0103)	0.0009 (0.6329)	-0.0011 (0.6383)	0.0034** (0.037)	0.0007 (0.7154)
BDIND	0.0487 (0.1525)	-0.076 (0.1955)	0.017 (0.5594)	-0.0717** (0.0488)	-0.0051* (0.0636)	-0.0366 (0.807)
COVID19	-0.0101*** (0.0033)	-0.0232*** (0.0029)	-0.0118*** (0.0003)	0.0253*** (0.0000)	0.0284*** (0.0000)	0.0263*** (0.0000)
Industry dummy			0.1045*** (0.0002)			-0.039* (0.0661)
R-squared	0.1905	0.9173	0.1507	0.862	0.1568	0.1291
Hausmann-Test	1.0000	0.0000	1.0000	0.0000	1.0000	1.0000
Figures in brackets are p-value. (***): 1% level, (**) : 5% level, and (*): 10% level of significance						

Table 3 captures the determinants of capital structure. Profitability has a negative and significant influence on the capital structure of manufacturing and trading companies. The result implies that companies with high profitability prefer lower leverage and utilize retained earnings. The result is in line with the pecking order theory. Liquidity has a negative and significant influence on the debt-to-asset ratio of manufacturing and trading companies. The result is in line with the pecking order theory. The result indicates that firms with high liquidity

prefer to use their current assets such as cash and receivables to fund their daily activities and operations. However, liquidity has an insignificant relationship with the long-term debt to asset ratio.

For manufacturing companies, growth opportunities have a positive and significant influence on the debt-to-asset ratio. The results indicate that companies that have high growth will rely more on debt financing to support the massive expansion of assets and sales due to insufficient amounts of retained earnings. For trading companies, the influence is negative and significant toward the long-term debt ratio. The result implies that trading companies prefer to utilize the internal funds for expansion purposes. Firm Size has a positive and significant influence on the capital structure of manufacturing and trading companies. The result indicates that bigger companies have a bigger value of assets, hence the ability to pay their liabilities is higher so that they will rely more on debt financing. Tangibility has a positive and significant influence on the debt-to-asset and long-term debt asset ratio of manufacturing and trading companies. The result indicates that companies with high tangibility have higher collateral value, hence higher accessibility to debt financing.

The age of the CEO has a significant effect only on the manufacturing industry. CEO age has a negative influence on the debt ratio and a positive influence on the long-term debt ratio. The result implies that older CEO pursue lower-risk investments. CEO's education has a positive and significant influence on the capital structure of manufacturing and trading companies. The result implies that CEOs with higher educational backgrounds pursue more aggressive financing decisions that generate a higher return, thus rely more on debt financing. Moreover, they are more confident and better communication skills to access bank loans. Meanwhile CEO's experience does not have a significant influence on the capital structure of manufacturing and trading companies.

Institutional ownership only has a positive and significant relationship with the capital structure of trading companies. The result implies that institutional owners in Indonesia prefer monitoring the firm directly rather than using debt as a monitoring tool. For manufacturing companies, board size has a negative and significant influence on capital structure. The result implies that manufacturing companies with big board give bigger pressure on the managers to decrease the leverage ratio to increase the performance of the company. On the other hand, the influence is negative in trading companies. The result implies that trading companies with bigger BOD prefer to increase their value with debt financing due to higher profitability. Board independence has a negative and significant influence on the long debt ratio of manufacturing and trading companies. The result indicates that independent commissioners push the company to pursue lower leverage to decrease the bankruptcy risk that can harm their reputation. However, board independence has an insignificant relationship with the debt to asset ratio.

During COVID 19 pandemic, manufacturing and trading companies lower their debt ratio. In a pandemic, creditors and suppliers face liquidity problems. Hence, they push the company to pay the loan which decreases the debt ratio. On the other hand, the long-term debt ratio is higher during the pandemic. Companies face liquidity problems in pandemics so they have to choose long-term debt to finance their operation. Moreover, companies tend to extend the credit period from the bank to avoid penalties. Trading companies have a bigger debt ratio than manufacturing companies. The plausible explanation is that creditors perceive trading companies have lower risk than manufacturing. Moreover, the type of asset owned by trading companies is more liquid so that creditors grant more loans especially short-term. However, manufacturing has higher long-term debt to market value of asset ratio. Manufacturing companies have a higher value of the collateral which increases the accessibility to long-term liability.

4.3 Speed of Adjustment of Capital Structure

Table 4. Speed of Adjustment of Capital Structure

	Variables	Debt to Asset		LTD to Asset	
		Pre-Covid 19	Post Covid 19	Pre-Covid 19	Post Covid 19
Manufacturing Companies	Lagged Leverage	0.3826	0.2855	0.7368	0.1263
	Speed of Adjustment	0.6174	0.7145	0.2632	0.8737
	Half life(years)	0.7215	0.5530	2.2693	0.3350
Trading Companies	Lagged Leverage	0.3662	0.2433	0.4697	0.3374
	Speed of Adjustment	0.6338	0.7567	0.5303	0.6626
	Half life(years)	0.6900	0.4904	0.9173	0.6380
Overall	Lagged Leverage	0.3671	0.3006	0.7051	0.1895
	Speed of Adjustment	0.6329	0.6994	0.2949	0.8105
	Half life(years)	0.6917	0.5767	1.9837	0.4167

Table 4 captures the speed of adjustment toward optimum capital structure before and during Covid 19 pandemic. The result shows that in Indonesia, the speed of debt ratio adjustment of manufacturing companies is 61.74% and for trading companies is 63.38%. Manufacturing trading companies need 0.721 years and 0.69 years to adjust to half of the optimum debt to asset ratio. As for robustness check, the speed of long-term debt ratio adjustment of manufacturing companies is 26.32% and for trading companies is 53.03%. Manufacturing trading companies need 2.26 years and 0.91 years to adjust to half of the optimum long-term debt to asset ratio. The speed of adjustment varies between industry and type of debt due to different costs and benefits of adjustment (Ezeani, 2019).

The result shows that during the pandemic, the speed of debt ratio adjustment of manufacturing and trading companies increase to 71.45% and 75.67% respectively. Manufacturing trading companies need 0.55 years and 0.49 years to adjust to half of the optimum debt to asset ratio. As for robustness check, the speed of long-term debt ratio adjustment of manufacturing companies is 87.3% and for trading companies is 66.2%. Manufacturing trading companies need 0.33 years and 0.63 years to adjust to half of the optimum long-term debt to asset ratio. The result implies that Indonesian manufacturing and trading companies have a faster speed of adjustment during the pandemic.

4.4 Determinants of speed of adjustment of capital structure

Table 5. Determinants of speed of adjustment of capital structure

Variables	Debt to Asset			LTD to Market Value of Asset		
	Manufacturing Companies	Trading Companies	Overall	Manufacturing Companies	Trading Companies	Overall
Lev(t-1) x PROF	-0.4385*** (0.0000)	-0.5731*** (0.0000)	-0.508*** (0.0000)	-0.2188*** (0.0000)	-0.2192*** (0.0000)	-0.3098*** (0.0000)
Lev(t-1) x GROWTH	0.0278*** (0.0000)	0.0075 (0.3288)	0.0118** -0.0296	0.001*** (0.0000)	0.0358*** (0.0000)	0.0063*** (0.0000)
Lev(t-1) x SIZE	-0.0478*** (0.0000)	-0.0212** (0.0287)	-0.059*** (0.0000)	0.0293*** (0.0000)	0.0041 (0.603)	0.0832*** (0.0000)
Lev(t-1) x TANG	-0.2667*** (0.0000)	-0.1818*** (0.0004)	-0.344*** (0.0016)	-0.0171* (0.0632)	-0.1255** (0.023)	-0.1931*** (0.0000)
Lev(t-1) x CEO_AGE	0.0014 (0.1286)	0.0007 (0.8146)	0.0015 (0.2843)	0.0007*** (0.0000)	0.0022 (0.2585)	0.0067*** (0.0000)
Lev(t-1) x CEO_EDU	-0.0366* (0.0955)	-0.003 (0.8728)	-0.0212* (0.0732)	-0.0014*** (0.0000)	-0.0754*** (0.0000)	-0.0033* (0.0746)
Lev(t-1) x CEO_EXP	-0.002** (0.0314)	-0.0047** (0.0353)	-0.0025** (0.0219)	0.0001 (0.807)	0.0042*** (0.0000)	0.0003 (0.1178)
Lev(t-1) x INSOWN	-0.1124*** (0.0000)	-0.0181** (0.0456)	-0.224*** (0.0000)	-0.7274*** (0.0000)	-0.0015 (0.9704)	-0.5408* (0.0633)
Lev(t-1) x BSIZE	-0.0121*** (0.0000)	-0.0046 (0.8795)	-0.0081 (0.7392)	-0.0451*** (0.0000)	-0.0014 (0.1147)	-0.0495*** (0.0000)
Lev(t-1) x BDIND	-0.1771*** (0.0000)	-0.0088** (0.022)	-0.176*** (0.0000)	-0.8426*** (0.0000)	-1.2043*** (0.0000)	-0.8331*** (0.0000)
AR(1)	0.0059	0.0592	0.1373	0.0309	0.1245	0.0026
AR(2)	0.3476	0.1717	0.3395	0.6009	0.8232	0.4731
Prob(J-statistic)	0.3244	0.2876	0.1845	0.4988	0.3496	0.3436
Figures in brackets are p-value. (***) : 1% level, (**) : 5% level, and (*) : 10% level of significance						

Table 5 captures the summarize of determinants of speed of adjustment toward optimum capital structure. Profitability has a positive and significant influence on the speed of capital structure adjustment of manufacturing and trading companies. The result implies that companies with high profitability generate high retained earnings. Therefore, they have enough funds to make

a faster adjustment. Growth opportunities proxied by sales growth have a negative and significant influence on the speed of capital structure adjustment of manufacturing and trading companies. The result implies that companies with high growth have a great variation of company's value. The variation will increase the risk of the company, hence increase the difficulty in adjusting the capital structure

Firm Size proxied by natural logarithm of asset has a positive and significant influence on the speed of debt ratio adjustment of manufacturing and trading companies. The result implies that bigger firms have a lower degree of asymmetric information, companies then have higher accessibility to issue new debt and equity. However, the speed of long-term debt adjustment is lower for bigger firms. The result implies that big firms reluctant to make adjustments for long-term debt due to lower financial distress costs and high cost of adjustment. Tangibility has a positive and significant influence on the speed of capital structure adjustment of manufacturing and trading companies. The result indicates that companies with high tangibility have higher collateral value, hence higher flexibility and accessibility in both equity and debt markets.

The age of the CEO has a significant and negative effect only on the speed of long-term debt adjustment. The result implies that older CEO perceives adjustment cost of long-term debt adjustment is costly and provide minimum benefit for their retirement plan. CEO's education has a positive and significant influence on the speed of capital structure adjustment of manufacturing and trading companies. The result implies that CEOs with higher educational concern about the benefit of adjusting the capital structure. They see the benefit is exceeding the adjustment cost, therefore opting to make the speedy adjustment. CEO's experience has a positive and significant influence on the speed of debt ratio adjustment of manufacturing and trading companies. More experienced CEO are more knowledgeable about the internal and external business environment of the company which creates awareness to make speedy debt adjustments. However, the influence on the long-term debt ratio is negative. The result implies that more experienced CEO will only adjust when the adjustment cost is low.

Institutional ownership and board independence have a positive and significant influence on the speed of capital structure adjustment of manufacturing and trading companies. Institutional owners and independent commissioners will push the company to lower the deviation toward the optimum capital structure. Therefore, the company must make a faster adjustment. Board Size has a positive and significant influence on the speed of capital structure adjustment of manufacturing and trading companies. A higher size of BOD will help the company to decrease the adjustment cost since directors have larger networks. The larger network will decrease the cost of external financing and better access to the debt and equity market.

5. Conclusion

This research aims to examine the determinant of capital structure and speed of adjustment determinant of manufacturing and trading companies in Indonesia. This study also examines the speed of adjustment of capital structure in manufacturing and trading companies. This research combines financial and non-financial factors as determinants of capital structure and speed of adjustment. Determinants of capital structure and speed of adjustment include firm-specific characteristics, CEO characteristics, corporate governance, and COVID 19. In this research, debt-to-asset and long-term debt to the market value of asset ratio will be used as a proxy of capital structure. Moreover, this research employs a static and dynamic regression model to fulfill the study objectives. The findings in this study suggests that optimum capital structure and speed of adjustment can be influenced by non-financial factors such as CEO's age, CEO's education, board independence, and institutional ownership.

For the companies, this research helps them to identify the importance of corporate governance and CEO characteristics so that they can enhance the efficiency of capital structure decisions. For institutional ownership, companies may consider increasing the incentives or dividends to encourage

the institution to buy their shares. For the board of director size and independent commissioners, companies can increase the minimum requirement for the board size and number of independent commissioners to enhance the accessibility to external funds. For CEO age and education, companies should put more attention to academic qualifications and mandatory retirement age in their hiring policy. For the government, they should keep providing financial stimulus such as lower tax and interest rate during COVID 19 pandemic to increase the financial flexibility of the companies which decrease the bankruptcy risk. The stimulus can also attract more foreign investors and compete with other developing countries. Moreover, the government should monitor the amount of lending and borrowing of companies from banks and other financial institutions to avoid companies to be bankrupt.

This study has some limitations. First, this research is conducted only in the manufacturing and trading companies listed on Indonesian Stock Exchange. For further studies, it is recommended to analyze different sectors such as infrastructures, energy, and technology which can be considered due to limited studies on those sectors. Moreover, it is better to analyze other developing countries with similar business environments such as Malaysia and Thailand to give more insight and comparability between capital structure decisions in those countries with Indonesia. Second, this study only examines the financial data from the period of Q1 2017 to Q4 2020. It is better for further studies to expand the time period of the study especially the period of Covid 19 pandemic to enhance the understanding of the determinant of capital structure decision during pandemic. Lastly, this study only covers some of non-financial factors as determinants of capital structure decision. To deepen the study about upper echelon theory and corporate governance, it is better to add different proxies of CEO characteristics such as gender, expertise, and ownership which may influence the capital structure decisions.

References

- Abdeljawad, I., Mat-Nor, F., Ibrahim, I., & Abdul-Rahim, R. (2013). Dynamic Capital Structure Trade-off Theory : Evidence from Malaysia , *International Review of Business Research Papers* Dynamic Capital Structure Trade-off Theory : Evidence from Malaysia Islam Abdeljawad *, Fauzias Mat-Nor **, Izani Ibrahim *** and Ruzita. *International Review of Business Research Papers*, 9(6), 102–110.
- Alan, K., & Litzenber, R. (1973). a State-Preference Model of Optimal Financial Leverage. *The Journal of Finance*, Vol. 28(No. 4 (Sep., 1973)), 911–922.
- Alipour, M., Mohammadi, M. F. S., & Derakhshan, H. (2015). Determinants of capital structure: An empirical study of firms in Iran. *International Journal of Law and Management*, 57(1), 53–83. <https://doi.org/10.1108/IJLMA-01-2013-0004>
- Alves, P., Couto, E. B., & Francisco, P. M. (2015). Board of directors' composition and capital structure. *Research in International Business and Finance*, 35, 1–32. <https://doi.org/10.1016/j.ribaf.2015.03.005>
- Anderson, T. W., & Hsiao, C. (1982). Formulation and estimation of dynamic models using panel data. *Journal of Econometrics*, 18(1), 47–82. [https://doi.org/10.1016/0304-4076\(82\)90095-1](https://doi.org/10.1016/0304-4076(82)90095-1)
- Antoniou, A., Guney, Y., & Puadyal, K. (2008). The Determinants of Capital Structure: CapitalMarket-Oriented versus Bank-OrientedInstitutions. *Journal of Financial and Quantitative Analysis*, 43(1), 59–92. <https://doi.org/10.1017/S0022109000002751>

- Bertrand, M., & Schoar, A. (2003). Managing with Style: The Effect of Managers on Firm Policies. *The Quarterly Journal of Economics*, 118(4).
- Chua, M., Razak, N. H. A., Nassir, A. M., & Yahya, M. H. (2020). Does ceo education influence the target leverage and speed of adjustment? *Journal of Critical Reviews*, 7(12), 59–68. <https://doi.org/10.31838/jcr.07.12.10>
- Darminto., A. H. M. (2008). Pengujian Teori Trade-Of Dan Pecking Order Dengan Satu Model Dinamis Pada Perusahaan Publik Di Indonesia. *International Research Journal of Business Studies*, 1(1). <https://doi.org/10.21632/IRJBS.1.1.24>
- de Jong, A., Kabir, R., & Nguyen, T. T. (2008). Capital structure around the world: The roles of firm- and country-specific determinants. *Journal of Banking and Finance*, 32(9), 1954–1969. <https://doi.org/10.1016/j.jbankfin.2007.12.034>
- Drobtetz, W., & Wanzenried, G. (2006). What determines the speed of adjustment to the target capital structure? *Applied Financial Economics*, 16(13), 941–958. <https://doi.org/10.1080/09603100500426358>
- Ezeani, E. (2019). *Determinants of Capital Structure and Speed of Adjustment in Nigerian Non-financial Firms. January.*
- Fischer, E. O., Heinker, R., & Zechner, J. (1989). Dynamic Capital Structure Choice: Theory and Tests. *The Journal of Finance*, 44(1), 19–40. <https://doi.org/10.1111/j.1540-6261.1989.tb02402.x>
- Flannery, M. J., & Rangan, K. P. (2006). Partial adjustment toward target capital structures. *Journal of Financial Economics*, 79(3), 469–506. <https://doi.org/10.1016/j.jfineco.2005.03.004>
- Frank, M. Z., & Goyal, V. K. (2011). Corporate Leverage: How Much Do Managers Really Matter? *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.971082>
- Hambrick, D. C. (1986). Upper Echelons : The organization as a reflection of its top managers. *Academy of Management Review*, 9(2), 193–206.
- Harrison, B., & Widjaja, T. (2014). The determinants of capital structure: comparison between before and after the financial crisis. *Economic Issues*, 19(2), 53–80.
- Kakilli, A. S. (2015). The determinants of capital structure: Evidence from the Turkish manufacturing sector. *International Journal of Economics and Financial Issues*, 5(1), 158–171.
- Lemma, T. T., & Negash, M. (2014). Determinants of the adjustment speed of capital structure: Evidence from developing economies. In *Journal of Applied Accounting Research* (Vol. 15, Issue 1). <https://doi.org/10.1108/JAAR-03-2012-0023>
- Liao, L. K. C., Mukherjee, T., & Wang, W. (2015). Corporate governance and capital structure dynamics: An empirical study. *Journal of Financial Research*, 38(2), 169–192. <https://doi.org/10.1111/jfir.12057>
- Matemilola, B. T., Bany-Arifin, A. N., Azman-Saini, W. N. W., & Nassir, A. M. (2018). Does top managers' experience affect firms' capital structure? *Research in International Business and Finance*, 45(October), 488–498. <https://doi.org/10.1016/j.ribaf.2017.07.184>
- Modigliani, F., & Miller, M. (1958). The Cost of Capital , Corporation Finance and the Theory of Investment Franco Modigliani ; Merton H . Miller. *The American Economic Review*, 48(3), 261–

- Mouton, M., & Smith, N. (2016). Company determinants of capital structure on the JSE Ltd and the influence of the 2008 financial crisis. *Journal of Economic and Financial Sciences*, 9(3), 789–806. <https://doi.org/10.4102/jef.v9i3.71>
- Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics*, 13(2), 187–221. [https://doi.org/10.1016/0304-405X\(84\)90023-0](https://doi.org/10.1016/0304-405X(84)90023-0)
- Nilmawati, N., Untoro, W., Hadinugroho, B., & Atmaji, A. (2021). *The Relationship Between CEO Characteristics and Leverage : The Role of Independent Commissioners*. 8(4), 787–796. <https://doi.org/10.13106/jafeb.2021.vol8.no4.0787>
- Shan, C. M., Hisyam, N., Razak, A., Nassir, A., & Yahya, M. H. (2019). *Ceo Age and The Dynamic Capital Structure : Evidence from Malaysia*. 2(2), 13–28.
- Soekarno, S., Kitri, M. L., & Utomo, S. (2015). The speed of adjustment to capital structure target before and after financial crisis: Evidence from Indonesian state owned enterprises. *International Journal of Applied Business and Economic Research*, 13(7), 5375–5387.
- Wardhana, L. I., Tandelilin, E., & Mada, U. G. (2015). Institutional Ownership and Agency Conflict Controlling Mechanism. *Journal of Indonesian Economy and Business*, 26(3), 389–406. <https://doi.org/10.22146/jieb.6265>
- Warmana, G. O., Rahyuda, I. K., Purbawangsa, I. B. A., & Artini, N. L. G. S. (2020). Investigating Capital Structure Speed of Adjustment (SOA) of Indonesian Companies for Corporate Value. *Global Journal of Flexible Systems Management*, 21(3), 215–231. <https://doi.org/10.1007/s40171-020-00235-9>
- Wen, Y., Rwegasira, K., & Bilderbeek, J. (2002). Corporate governance and capital structure decisions of the Chinese listed firms. *Corporate Governance*, 10(2), 75–83. <https://doi.org/10.1111/1467-8683.00271>

ANALYSIS OF THE EFFECT ZMIJEWSKI (X-SCORE), SPRINGATE (S-SCORE), GROVER (G- SCORE) METHODE AND GOOD CORPORATE GOVERNANCE ON FINANCIAL DISTRESS FOR COAL COMPANIES

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ABSTRACT

This study to identify and analyze the accuracy model of Financial Distress between the results of the Zmijewski model, Springate model, Grover model, Firm Size and Good Corporate Governance. The model used by investors, creditors and the company itself who will invest in the company and evaluate its financial performance. The sample of this study is 105 coal companies, collected from the Indonesia Stock Exchange for the period 2016 - 2020 and selected using the purposive sampling method. The data used in this study is the financial statements of each company. The data obtained were tested by logistic regression. This study shows that the Zmijewski, Springate and Grover models have a significant impact and can be used to predict financial distress conditions. However, the Grover Model is the most appropriate model for predicting financial distress conditions because it has the highest level of accuracy test compared to other models. Financial ratio analysis is shown based on the testing of each model. Firm Size and Gender diversity as additional variables to see the company's impact on Financial Distress.

Type of Paper: Review

Keywords: *Financial Distress, Zmijewski, Springate, Grover, Firm Size, Gender Diversity.*

1. Introduction

Financial distress is a condition that indicates the condition in which the company's cash flow at that time is very low and the company is suffering losses will not yet result in bankruptcy (Purnanandam, 2008).

Darsono and Ashari (2005) mentioned the factors that cause bankruptcy, including internal and external factors. Internal factors are factors that come from within the company such as management capabilities, capital imbalances that are owned by debt, and moral hazard. While external factors are factors that come from outside the company, such as difficulty of raw materials, relationships with creditors, business competition, economic conditions globally and others.

In 2020, there has been a spread of the covid-19 pandemic virus that caused commodity production from coal to decrease by 11%. The cause there are three factors namely, first the demand or consumption of coal decreases. Second, there is a decrease in coal prices. Third, there are limited access or mobility of employees and logistics mining companies during the pandemic.

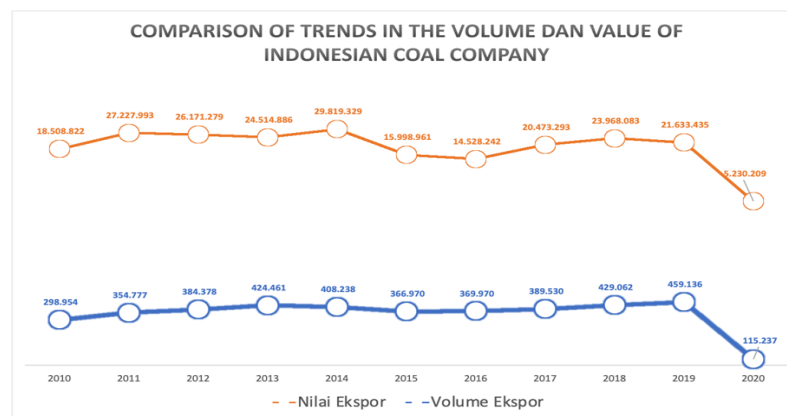


Figure 1.1 Comparison of Trends in the Volume & Value of Indonesian Coal Company

Source : Indoanalisi, 2020

Financial distress occurs because the company is unable to manage and maintain the stability of its company's financial performance which stems from a failure to promote its products resulting in a decrease in sales so that with revenues decreased from the least sales allows the company to suffer operational losses and net losses for the current year. From the losses that occur will result in capital deficiency due to the decrease in the value of the retained profit used

to make dividend payments to shareholders, so that the total equity as a whole will also experience deficiencies (Brahmana, 2007).

The purpose of this study is to predict some of the many coal companies that have the potential to experience financial distress and how many of the best research models can predict financial distress in coal companies in Indonesia.

To avoid bankruptcy, companies will place attention to maintaining their business by maintaining the liquidity and solvency of the company and avoiding bankruptcy of their company. In addition, the additional explanatory power of corporate governance variables is also an important predictor to consider. Zmijewski, Springate, Grover and several corporate governance indicators can be used to determine the early stages of bankruptcy on the listing of coal companies in Indonesia. Previous studies have been conducted in Indonesia to evaluate the risk of bankruptcy. From the beginning, this bankruptcy risk prediction is necessary in order for the company to survive and also contribute to managers, investors, creditors, other stakeholders and also the government.

Good governance can be seen from the corporate governance mechanism in the company. In this study, researchers used board variables and gender diversity. The first corporate governance mechanism of the company is the board of directors. The board of directors is a board that has been appointed as the head or someone who has full control over the company in order to lead an operation in a company. The implementation of good governance in the variables of the board of directors is an obligation for the company because if the number of boards of directors is getting larger then the potential for financial distress is smaller. This means that the company relies heavily on the number of boards in the management of these resources. If the number of boards in the company is very large then the resources are very good and will be profitable in doing business in the company. Thus resulting in the company's performance will be better so as to avoid the possibility of financial distress. Miglani et al., (2015), Darrat, Gray, Park, & Wu (2016), Mayangsari (2015), Iwasaki (2014) found that the board of directors had a negative effect on financial distress. The growing number of boards of directors will lower the company's financial distress. Research from Wardhani (2016) found that the board of directors had a positive effect on financial distress. This research proves that the more the board of directors the more likely it is to occur financial distress.

The purpose of this study is to compare the financial ratio analysis of the Zmijewski, Springate, Grover and Corporate Governance models of coal companies listed on the IDX for the period 2016 - 2020.

2. Literature Review

2.1. Financial Distress

A company's financial condition is not always in good condition. Sometimes the company experiences a decrease in performance that affects the company's financial management. Financial distress is a condition where the company's finances are in an unhealthy state. This condition occurs before the occurrence of bankruptcy and problems that cannot be solved without making a change in the size of the company's operations or structure. Financial distress is a very serious liquidity problem.

According to Hanafi (2007), Financial distress can be described from two extreme points, namely short-term to insolvable liquidity difficulties. Short-term financial difficulties are usually short-term, but can develop into severe. Indicators of financial difficulty can be seen from cash flow analysis, corporate strategy analysis, and company financial statements.

According to Bringham and Gapensi (1993), financial distress is divided into several types, namely:

1. Economic Failure
2. Business Failure
3. Financial Failure

Insolvency can be distinguished into 2 parts, namely:

- a. Technical insolvency
- b. Bankruptcy Insolvency

2.2. Financial Distress Analysis Model

Analysis of the condition of the company's financial difficulties is done to obtain an early warning of bankruptcy can be known then the better for the management to make improvements and anticipate various possibilities that will occur. Therefore, various analyses were developed to predict the initial anniversary of the company's bankruptcy.

2.2.1. Springate Model

The springrate bankruptcy prediction model (S-Score) model was developed by Springate (1978) using multidiscrimination analysis, using 40 companies as samples. This model is used to predict bankruptcy with an accuracy rate of 92.5% (Hadi,2008). The models produced by Springate are:

$$\mathbf{S = 1.03A + 3.07B + 0.66C + 0.4D}$$

Description :

A = working capital / total asset

B = net profit before interest and taxes / total asset

C = net profit before taxes / current liabilities

D = sales / total asset

2.2.2. Zmijewski Model

According to Hadi (2008), Zmijewski (1984) uses ratio analysis that measures a company's performance, performance and liquidity for its prediction model. Zmijewski used probit analysis applied to 40 companies that had gone bankrupt and 800 companies that were still surviving at the time. Models that have been successfully developed are:

$$\mathbf{X = - 4,3 - 4,5X_1 + 5,72X_2 - 0,004X_3}$$

Description :

X₁ = ROA (Return on Asset)

X₂ = Leverage (Debt Ratio)

X₃ = Liquidity (Current Ratio)

2.2.3. Grover Model

Grover's model was a model that Jeffrey S. Grover 1968 ized by making changes to the design and valuation of altman models that later added new financial ratios. Jeffrey conducted research on 70 companies in 1982-1996 with 35 healthy companies and more relenting (Rachaprima,2015). The models that were successfully developed are:

$$\mathbf{G = 1,650X_1 + 3,404X_2 - 0,016X_3 + 0,057}$$

Description :

X₁ = working capital / total asset

X₂ = net profit before interest and taxes / total asset

X₃ = ROA (Return On Assets)

2.3. Good Corporate Governance

Good corporate governance is a system that will direct and control a company with the aim that a company can achieve a balance between the power of authority and to ensure that the company continues to exist and remains responsible for stakeholders (Hendriani, 2011). The implementation of good corporate governance has the aim to ensure that the company's managers always make the right decisions and do not make decisions based on their own interests, and also aims to protect the company's stakeholders (Haddad et al., 2011).

2.3.1. Gender Diversity

In this study, researchers used board variables, and gender diversity variables. First, the board of director variable is a measurement measured using indicators of the number of members in the board of directors within the company. Second, the variable gender diversity is a measurement measured by calculating the number of female boards of directors in the company divided by the number of commissioners and directors. For this matter, it can also be conveyed that there is a gender influence in the mechanism of decision making and delivery within the company.

The theory of resource dependency assumes that female directors bring to the board spectrum and experience. Existing literary bodies document that female directors are more risk averse (Frag & Mallin, 2016). Similarly, Huang and Kisgen (2013) in Frag & Mallin (2016) found that female CEOs are less likely to rely on long-term debt and to make acquisitions. They also suggest that Female CEOs tend to prefer stock options earlier than male CEOs and this suggests that male CEOs are more confident with regards to company decisions. Another opinion submitted by Adams and Funk (2012) in Frag & Mallin (2016) found that women are better and care universally but are less power-oriented than their male counterparts. More importantly, they found that female directors were more at risk of liking than male directors. As such, female directors are unlikely to be able to direct and tend to avoid greater risk-taking in decisions.

Here's the calculation model to identify gender diversity:

$$\text{Gender Diversity} = \frac{\text{Total Of Women Board Of Director and Commisioner Members}}{\text{Total of BOC and BOD Members}}$$

2.4. Firm Size

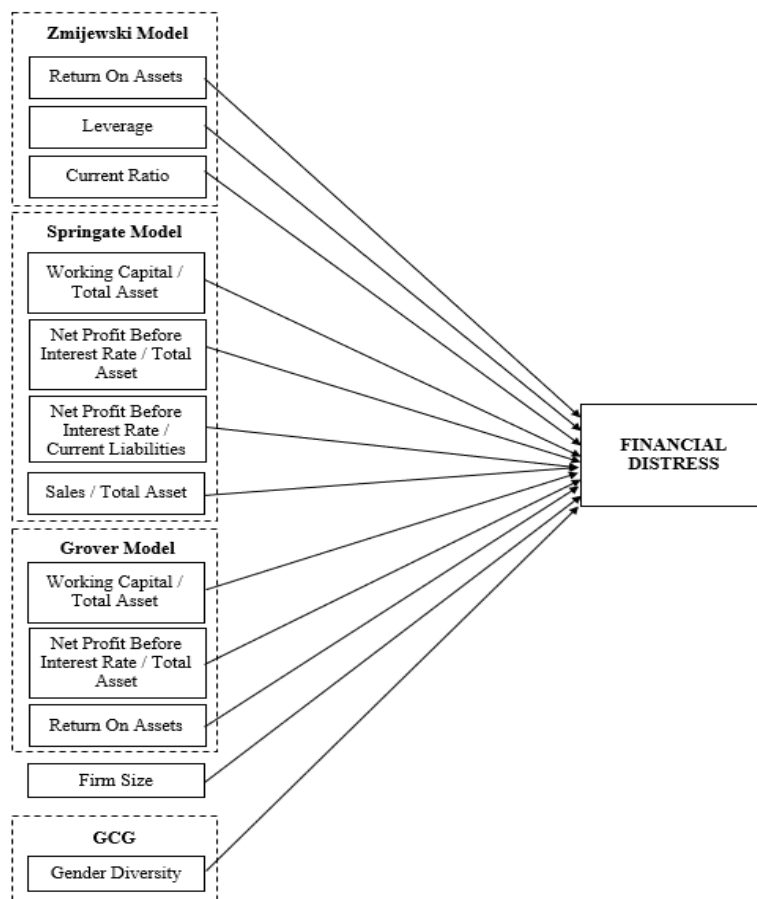
The size of the company shows the size of the company indicated or assessed oleh the number of assets, total sales, the amount of profit earned, and the amount of tax expense (Brigham & Houston, 2014 in Hartanti, 2019). The size of the company is getting bigger showing the value of assets in the company, so that the company is able to meet the debt that is short-term and long-term in the future. The size of the company is measured by the value of the total number of assets, which is converted into a natural logarithm with the aim of simplifying the value without reducing the portion of the value (Rahayu & Sopian, 2017).

Here's the calculation model to identify the size of the company:

$$\text{Firm Size} = \text{Ln} (\text{Total Asset})$$

2.5. Framework

Base on framework, the research paradigm that can be made is :



2.6. Hypothesis

Based on theoretical exposure and previous research, a hypothesis can be formulated as a temporary answer in this study as follows:

H₁ : ROA has a significant negative relationship with Financial Distress.

H₂ : Leverage has a significant relationship with Financial Distress.

H₃ : Current Ratio has a significant negative relationship to Financial Distress.

H₄ : Working Capital to Total Asset has a significant relationship with Financial Distress.

H₅ : EBIT to Total Asset has a significant relationship with Financial Distress.

H₆ : EBIT to Current Liabilities has a significant relationship with Financial Distress.

H₇ : Sales to Total Asset has a significant relationship with Financial Distress.

H₈ : The size of the Company has a significant negative relationship with financial distress.

H₉ : Gender Diversity has a significant positive relationship with financial distress.

3. Research Methodology

Sugiono (2015) explained that the sample is part of the number of characteristics that the population has. If the population is large and researchers are unlikely to study everything in the population, for example, the funding, energy and time, then the study can use samples taken from that population.

In sampling techniques conducted by this study using Purposive sampling. Sugiono (2015) revealed that purposive sampling is a sample collection technique with certain considerations.

Selection of samples using purposive sampling is a sample that has special criteria, namely:

- Coal companies listed on the Indonesia Stock Exchange for the period 2016 - 2020.
- Coal companies which publishes its full financial statements in the period 2016 – 2020.
- Coal companies that experienced a decline in the share price or stock price movement for 2 consecutive years.

3.1. Research Model

The entire coal company will be measured according to this research model.

Model Equation 1 Zmijewski Model :

$$\text{X-Score} = \alpha + \beta_1\text{ROA} + \beta_2\text{LVRG} + \beta_3\text{CR} + \beta_4\text{FS} + \beta_5\text{GD}$$

Research model will follow this figure below :

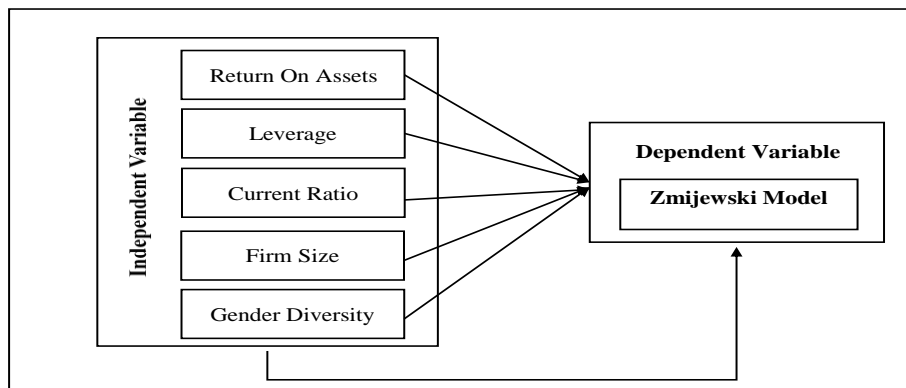


Figure 3.1 Model (1) Equation All Coal Companies Financial Distress

Model Equation 2 Springate Model :

$$S\text{-Score} = \alpha + \beta_1 WCTA + \beta_2 NPTA + \beta_3 NPCL + \beta_4 SLTA + \beta_5 FS + \beta_6 GD$$

Research model will follow this figure below :

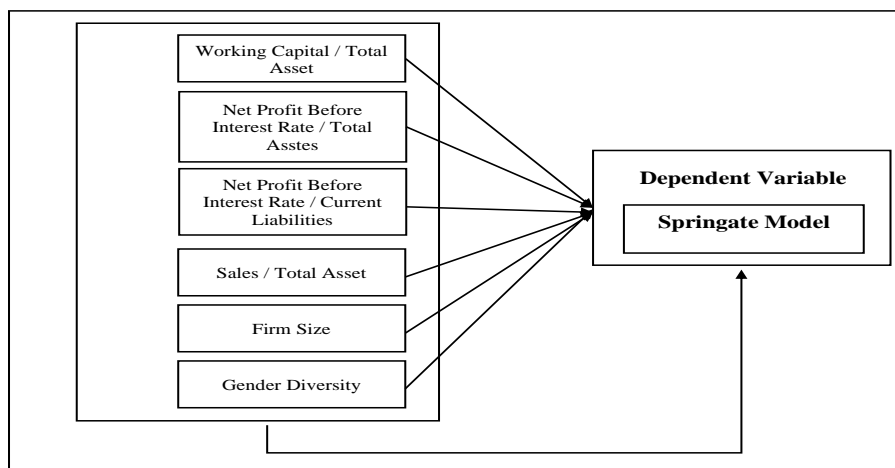


Figure 3.2 Model (2) Equation All Coal Companies Financial Distress

Model Equation 3 Grover Model :

$$G\text{-Score} = \alpha + \beta_1 WCTA + \beta_2 NPTA + \beta_3 ROA + \beta_4 FS + \beta_5 GD$$

Research model will follow this figure below :

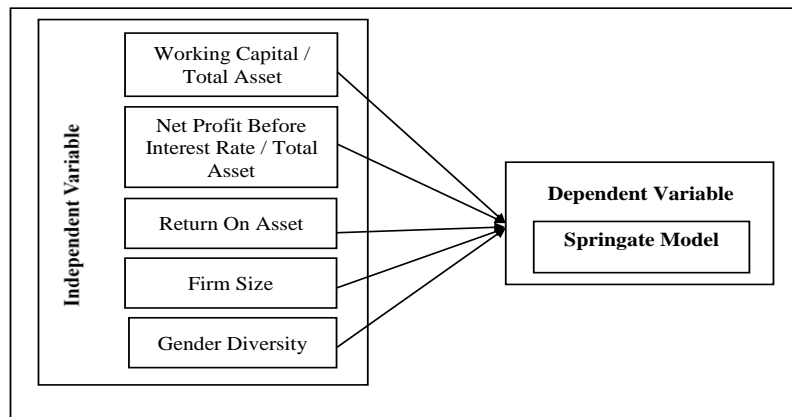


Figure 3. 3 Model (3) Equation All Coal Companies Financial Distress

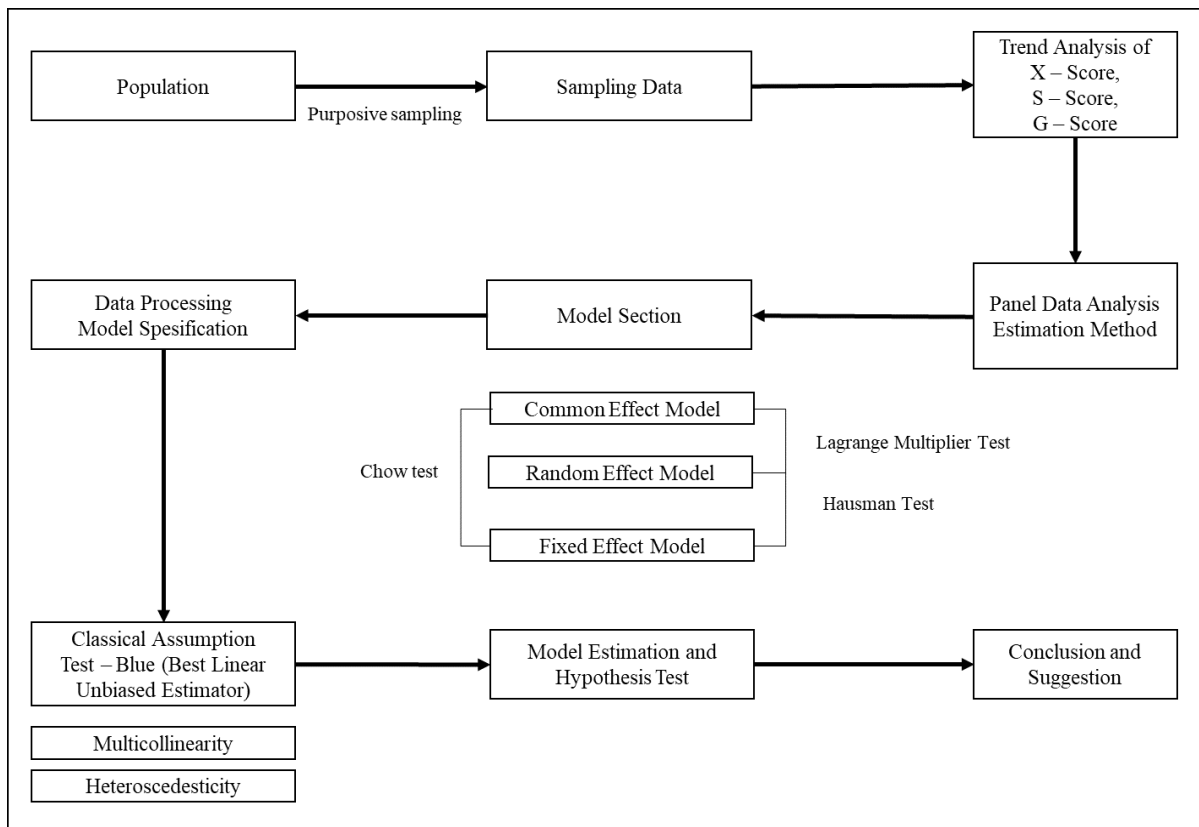
3.2. Operational Variable

This study uses a financial ratio consisting of 7 (seven) different variables and indicators of corporate governance as an independent variable. Analysis of the financial ratio and corporate governance will be measured based on 3 (three) methods namely Zmijewski, Springate and Grover. This variable will be used as a bound variable.

Table 3.1 Operationalization of Research Variables

No	Variable	Model	Connotation	Measurement
1	Return On Asset	Zmijewski & Grover	ROA	Net Income / Total Asset
2	Leverage	Zmijewski	LVRG	Total Liabilities / Total Asset
3	Current Ratio	Zmijewski	CR	Current Asset / Current Liabilities
4	Working capital / Total Asset	Springate & Grover	WCTA	Working capital / Total Asset
5	Net Profit before Interest rate/ Total Asset	Springate & Grover	NPTA	Net Profit before Interest rate/ Total Asset
6	Net Profit Before Taxes / Current Liabilities	Springate	NPCL	Net Profit Before Taxes / Current Liabilities
7	Sales / Total Asset	Springate	SLTA	Sales / Total Asset
8	Firm Size	Zmijewski, Springate & Grover	FS	Ln (Total Asset)
9	Gender Diversity	Zmijewski, Springate & Grover	GD	Total Of Women Board Of Director and Commisioner Members / Total of BOC and BOD Members

3.3. Summary of Workflow



4. Results

Regression result analysis helps evaluate the functional relationship between two variables namely X and Y, therefore uncertain variables can be calculated to allow possible predictions of events and targets. The main purpose of regression analysis is to estimate the random value of a variable (z) depending on the variable you set (or fixed) (x and y).

The biggest benefit of using regression in your research is that it gives you a holistic picture of the results (more detailed than inference alone and provides algorithms for estimation and optimization of potential data. This study uses regression panel data. Data panel regression implies a mix of cross-sectional data with a time series that calculates a cross-section of the same unit at various periods.

In this study, each hypothesis was used on 3 different equation models. The first model is for the Zmijewski Analysis method, the second the Springate Analysis method and the third the

Grover Analysis method. Each hypothesis will be evaluated on all four regression analysis models.

Table 4.1 Summary Regression

Variable		Zmijewski	Springate	Grover
ROA	Coefficient	4,5375		0,4497
	Probability	0,0002		0,0606
LVRG	Coefficient	0,8852		
	Probability	0,1695		
CR	Coefficient	-0,0055		
	Probability	0,3540		
WCTA	Coefficient		-0,2743	1,2141
	Probability		0,1144	0,0000
NPTA	Coefficient		3,0897	3,1021
	Probability		0,0000	0,0000
NPCL	Coefficient		0,6650	
	Probability		0,0000	
SLTA	Coefficient		0,5898	
	Probability		0,0000	
FS	Coefficient	0,0430	0,0036	0,0079
	Probability	0,1659	0,6363	0,1349
GD	Coefficient	1,2607	0,4259	0,3756
	Probability	0,6248	0,5100	0,4061

Based on the regression table above, it can be concluded that each model of analysis method has a tendency level than the variables studied in it. For further review of each analysis model such as Zmijewski, Springate and Grover will be explained next.

Return On Asset and Financial Distress

In the review of the model Zmijewski to give the results of the influence of ratio analysis in it is able to describe the relationship of the independent variable with variable dependent in this case the independent variable consists of Return On Asset which is conveyed that the probability value of ROA Against Financial Distress is 0.0002, where this value < 0.05 which can be concluded that H₁ is accepted, with the explanation Return on Asset has a significant negative relationship to financial distress.

Grover's model also implemented research using ROA variables as independent variables to assess financial distress. For grover model ROA produced is $0.0606 > 0.05$, which can be concluded that H₁ Rejected, which means ROA has no significant negative relationship to financial distress.

Leverage and Financial Distress

From the review of the Zmijewski model, to give the result of the influence of analysis ratio for variable leverage to dependent variable namely financial distress, shown with a value of 0.1695 which is the value of this > 0.05 , so it can be concluded that H_2 is rejected, which means leverage has no significant relationship to Financial distress.

Current Ratio and Financial Distress

From the review of the model Zmijewski, to give the results of the influence of analysis ratio for variable current ratio to dependent variable namely financial distress, shown with a value of 0.3540 which is the value of this > 0.05 , so it can be concluded that H_3 is rejected, which means leverage has no significant relationship to Financial distress.

Working Capital to Total Asset and Financial Distress

From the review of the Springate model, to provide the results of the influence of analysis on working capital to total assets on independent variables, namely financial distress is shown with a value of 0.1144 which states this value > 0.05 so that it can be concluded that H_4 is rejected, which means Working Capital to Total Asset has no significant relationship to Financial Distress.

From Grover's model review, for the value of working capital to total assets $0.0000 < 0.05$, which means H_4 is accepted, where Working Capital to Total Asset has a significant relationship to Financial Distress. The results of the grover method are contrary to the results of the springate model.

EBIT to Total Asset and Financial Distress.

From the review of springate model, to provide the results of the analysis of EBIT to total assets to variable independent namely financial distress is shown with a value of 0.0000 which states this value < 0.05 so that it can be concluded that H_5 accept, which means EBIT to Total Asset has a significant relationship to Financial Distress.

From grover model review, for the value of EBIT to Total Asset shows a value of 0.000 which this value < 0.05 , so it can be concluded that EBIT to Total Asset has a significant relationship to financial distress. Springate and Grover's results show the same values and finishes.

EBIT to Current Liabilities and Financial Distress

From the review of the Springate model, to provide the results of the analysis of EBIT to Current Liabilities to variable independent namely financial distress is shown with a value of 0.0000 which states this value < 0.05 so that it can be concluded that H_6 is received, which means that EBIT to Current Liabilities has a significant relationship to Financial Distress.

Sales to Total Asset and Financial Distress

From the review of the Springate model, to provide the results of the influence of analysis on Sales to Total Asset terhadap variable independent namely financial distress is shown with a value of 0.0000 which states this value < 0.05 so that it can be concluded that H_7 is accepted, which means Sales to Total Asset has a significant relationship to Financial Distress.

Firm Size size and Financial Distress

Firm Size is calculated using the natural logarithm formula of the total asset. How much the company has in terms of assets to generate returns and to cover its debt is measured in this ratio. When measuring the size of the company as a determinant of the risk of bankruptcy in all coal companies, in the results received the company size test is included as an independent variable in the Zmijewski method, Springate and Grover showed different results at a significant nominal rate, the value produced from each model is 0.1659 for Zmijewski, 0.6363 for Springate and 0.1349 for Grover. This value means that H_8 Rejected, firm size has no significant relationship to financial distress.

Gender Diversity

Based on the results of this study on gender diversity variables to financial distress can be shown from three methods of analysis, namely Zmijewski, Springate and Grover which states that there is a positive relationship to financial distress. However, it does not significantly affect this is reflected in the resulting value of each – the model against gender diversity which is 0.6248 for Zmijewski, 0.5100 for Springate and 0.4061 for Grover which means H_9 is rejected, where gender diversity does not have a significant positive relationship to financial distress. It can also make it clear that the existence of women in a company by decision does not have a big impact. It may also be influenced where for this sat female leaders are still very few both in the composition of the Board Of Directors and board of commissioners.

5. Discussion

5.1. Model Zmijewski

The results of the accuracy of the model can be seen and explained based on the table below:

Table 5.1 Accuracy of the Zmijewski Model

Zmijewski		
Years	Correct Prediction	Sample
2016	21	21
2017	20	21
2018	19	21
2019	18	21
2020	18	21
Total	96	105
Level Of Accuracy	91,43%	

	Error Type I	Error Type II
Total	0	9
Jumlah Sample		105
Level Of Error	0,00%	8,57%

Tabel 5.1 describes the overall calculation for 105 samples, consisting of sample categories 0 and 1. From the table above can be seen that the zmijewski model produces an accuracy rate of 91.43%.

5.2. Model Springate

The accuracy of the model can be seen and explained based on the table below:

Table 5.2 Springate Model Accuracy

Springate		
Years	Correct Prediction	Sample
2016	21	21
2017	19	21
2018	18	21
2019	18	21
2020	19	21
Total	95	105
Level Of Accuracy	90,48%	

	Error Type I	Error Type II
Total	9	1
Jumlah Sample		105
Level Of Error	8,57%	0,95%

Table 5.2 describes the overall calculation for 105 samples, consisting of sample categories 0 and 1. From the table above, it can be seen that springate model produces accuracy rate of 90.48%.

5.3. Model Grover

The accuracy of the model can be seen and explained based on the table below:

Table 5.3 Accuracy of Springgate Models

Grover		
Years	Correct Prediction	Sample
2016	20	21
2017	19	21
2018	20	21
2019	20	21
2020	20	21
Total	99	105
Level Of Accuracy	94,29%	

	Error Type I	Error Type II
Total	4	2
Jumlah Sample	105	
Level Of Error	3,81%	1,90%

Table 5.3 describes the overall calculation for 105 samples, consisting of sample categories 0 and 1. From the table above, it can be seen that grover model produces accuracy rate of 94.29%.

The results of the analysis and discussion above also showed that based on the calculation of the overall accuracy of the sample, the Zmijewski model produced an accuracy rate of 91.43%, the Springgate model produced an accuracy rate of 90.48% and the Grover model produced an accuracy rate of 94.29%.

This result shows that grover model gives a fairly high result and accuracy compared to the other 2 models zmijewski and springgate which is 94.29 %. This result is supported by the results of research from Hastuti (2015) in his study Grover Model also has the same result with an accuracy rate of 91.30%. This is also supported by other research conducted by Gusni, Wiludjeng and Silviana (2019) grover model research results have an accuracy rate of 88.24% compared to other models in his research.

6. Conclusion

Based on the results of this study are:

1. Based on the results of the analysis of the influence of ratio contained in each - each model shows several results:

a. Return On Asset

The results of Zmijewski's model in this study show that ROA has a significant negative influence on Financial distress. This result is in contrast to grover model where ROA has no influence on financial distress.

b. Leverage

The results of the Zmijewski model in this study show that Leverage does not have a significant influence on financial distress.

c. Current Ratio

The results of the Zmijewski Model in this study show that the Current Ratio has no influence on Financial Distress.

d. Working Capital to Total asset

The results of springate model in this study show that Working Capital to Total Asset has no significant influence on Financial Distress. This is in contrast to those produced by Grover's model which shows that WCTA has a significant influence on financial Distress.

e. Net Profit Before Interest Rate to Total Asset

Springate model results show that NPAT has a significant influence on Financial Distress. This is in line with the results of the Grover model.

f. Net Profit Before Interest Rate to Current Liabilities

The results of the management of the springate model showed that NPCL had an influence on Financial Distress.

g. Sales to Total Asset

Springate model results show that SLTA has no influence on Financial Distress.

h. Firm Size

Of the three models Zmijewski- Springate and Grover - have shown that there is no significant impact on Financial Distress.

i. Gender Diversity

From Zmijewski, Springate and Grover stated that gender diversity has no significant impact on financial distress.

2. For accuracy test of each analysis model Zmijewski has an accuracy value of 91.43%, Springate accuracy value of 90.48% and Grover accuracy value of 94.29%.
3. From 3 (three) analysis models above concluded that grover model has accuracy 94.29% to mprediski financial distress with sample data of 105 companies with the method of assessing the consistency of grover test statement against the sample company.
4. Gender diversity in this study emphasized the number of women in leadership positions. And from the results that can be conveyed that for this variable does not affect significantly on financial distress. It can be believed that women in the company's management structure have no influence on the survival of the company.

Suggestions for research can contain the following points:

1. Further research is increasing the number of company samples, so it does not focus only on coal companies listed on the Indonesia Stock Exchange.

2. Further research is also expected to provide better analysis and detail related to usage and also the level of accuracy of the management of the model Zmijewski, Springate and Grover.
3. Add other variables that were not included in this study that may have an influence on financial distress
4. Inconsistencies in the results processed from each method of analysis, allows for further research.

Reference

- Almarita, S & Kristanti, F.T. (2020). Analisa Good Corporate Governance dan Ukuran Perusahaan terhadap Financial Distress. *Akuntabilitas*, 4 (2), 155 – 170.
- Damayanti, L.D, Yuniarta, G.A & Sinarwati, N.K. (2017). Analisa Pengaruh Kinerja Keuangan, Ukuran Komite Audit dan Kepemilikan Manajerial Terhadap Prediksi Financial Distress (Studi Pada Perusahaan Manufaktur yang Terdaftar Di Bursa Efek Indonesia Periode (2011 – 2015). *e-Journal S1 Ak Universitas Pendidikan Ganesha*, 7 (1).
- Farag, H & Mallin, C. (2016). The Influence of CEO demographic characteristics on corporate risk taking: evidence from Chinese IPOs. *The European Journal of Finance*. <http://dx.doi.org/10.1080/1351847X.2016.1151454>.
- Fathonah, A.N. (2018). The Effect of Gender Diversity and Age Diversity on Financial Performance. *Jurnal Riset Akuntansi dan Keuangan*, 6 (3), 373 – 380.
- Fatmawati, M. (2012). Penggunaan The Zmijewski Model, The Almant Model, dan The Springate Model Sebagai Prediktor Delisting. *Jurnal Keuangan dan Perbankan*, 16 (1), 56 – 65.
- Graham, J.R, Harvey, C.R & Puri, M. (2013). Managerial Attitude and Corporate Action. *Journal of Financial Economic*, 109, 103 – 121.
- Guritno, Y. (2013). Pengaruh Financial Ratio dan Firm Size Terhadap Financial Distress serta Return Saham. *Busniess & Management Journal*, 10 (2), 127 – 138.
- Gusni, Wiludjeng, S.S.P. & Silviana. (2019). Predicting Financial Distress : A Case Study of Indonesia Coal Firms. *Global Business and Management Research: An International Journal*, 11 (1), 186 – 194.
- Harianti, R & Paramita, S.R.A. (2019). Analisa Faktor Internal terhadap Financial Distress Sektor Barang, Jasa, dan Investasi yang Go – Public pada Periode 2013 – 2014. *Jurnal Ilmu Manajemen*, 7 (4), 984 – 993.

- Hastuti, R.T. (2015). Analisa Komparasi Model Prediksi Financial Distress Almant, Springate, Grover dan Ohlson pada Perusahaan Manufaktur yang Terdaftar di Bursa Efek Indonesia Periode 2011 – 2013. *Jurnal Ekonomi*, 20 (3), 446 – 462.
- Lienanda, J & Ekadjaja, A. (2019). Faktor yang Mempengaruhi Financial Distress pada Perusahaan Manufaktur yang terdaftar BEI. *Jurnal Multiparadigma Akuntansi*, 1 (4), 1041 – 1048.
- Muflihah, I.Z. (2017). Analisis Financial Distress Perusahaan Manufaktur di Indonesia dengan Regresi Logistik. *Majalah Ekonomi_ISSN No. 1411-9501*, 22 (2), 254 – 269.
- Ningrum, A & Hatane, S.E. (2017). Pengaruh Corporate Governance terhadap Financial Distress. *Business Accounting Review*, 5(1), 241 – 252.
- Purnajaya, K.D.M & Merkusiwati, N.K.L.A. (2014). Analisis Komparasi Potensi kebangkrutan dengan Metode Z- Score Altman, Springate dan Zmijewski pada Industri kosmetik yang terdaftar di Bursa Efek Indonesia. *e – Journal Akuntansi*, 7 (1),
- Purnanandam, A. (2008). Financial Distress and Coorporate risk management: Theory and Evidence. *Journal of Financial Economics*, 87 (3), 706 – 739.
- Rahayu, P.W & Sopian, D. (2017). Pengaruh Rasio Keuangan dan Ukuran Perusahaan terhadap Financial Distress (Studi Empiris pada Perusahaan Food dan Beverage I Bursa Efek Indonesia. *Jurnal Akuntansi dan Keuangan*, 1 (2).
- Safitri, A & Hartono, U. (2014). Uji Penerapan Model Prediksi Financial Distress Almant, Springate, Ohlson dan Zmijewski pada Perusahaan Sektor Keuangan di Bursa Efek Indonesia. *Jurnal Ilmu Manajemen*, 2 (2), 328 – 337.
- Yudawisastra, H.G & Febrian, E. Ph.D. (2019). Financial Distress Indication in Mining Sector Companies in LQ45 in Indonesia. *Global Business and Management Research: An International Journal*, 11 (1), 203 – 208.

Analysis of Financial Distress Determinants and the Role of Corporate Governance for Risk Mitigation on Listed Indonesian Manufacturing Companies : COVID-19 Pandemic

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ABSTRACT

Corona Virus (COVID-19) pandemic has prompted a tremendous financial loss. Indonesia is also reported to have impacted by COVID-19 as there were declining on GDP for two consecutive quartal, in which COVID-19 pandemic existed, which may lead to Bankruptcy. Therefore, early prediction of bankruptcy is needed to prevent companies' failure, and predictive tool of financial distress is needed for companies. Financial distress is a phrase used in corporate finance to indicate a situation where trouble breaks or breaches commitments to a company's stakeholders. If financial distress cannot be relieved, bankruptcy may result. Altman Z-Score is one of financial distress prediction tools, that was found by Edward Altman (1986) and has been widely used to identify financial distressed companies in many industries across countries. Financial distress in this study was carried out at listed manufacturing companies, as the economic backbone of Indonesia. The purpose of this research is to look after the impact of COVID-19 on financial distress, and to determine the financial ratio and corporate governance estimator of financial distress using panel data regression analysis method. It is found that, COVID-19 pandemic statistically impacted financial distress of manufacturing companies in Indonesia and Return on Equity (ROE), firm size, institutional ownership is negatively affected financial distress of manufacturing companies while Debt to Asset (DAR) and independent commissionaire negatively affected financial distress of manufacturing companies in Indonesia. The measurement will also be aggregated into its sub-sector which consist of consumer goods industry, miscellaneous industry and basic and chemical industry.

Type of Paper: Empirical

Keywords: *Financial Distress, Corporate Governance, COVID-19, Manufacturing Industries, Financial ratios.*

1. Introduction

Up to now, the world is facing the existence of the corona virus (COVID-19). Global recession has predicted by IMF to be as bad as global financial crisis on 2007-2008. Meanwhile, in the context of Indonesia's economy, the COVID-19 pandemic has also had a significant impact on reducing Indonesia's economic growth. Indonesia has entered a stage of economic recession. One of the effects of the economic recession is the possibility of company bankruptcy due to the company's inability to sell, resulting in a decline in company profits and disruption of company operations (Achim et al., 2012; Smrčka et al., 2013).

Early prediction of bankruptcy is a needed tool to prevent company's failure, and predictive tool of financial distress is needed for companies. Financial distress is a phrase used in corporate finance to indicate a situation where trouble breaks or breaches commitments to a company's stakeholders. Altman Z-Score is one of financial distress prediction tools, that was found by Edward Altman (1986) and has been widely used to identify financial distressed companies in many industries across countries.

Possibility of company bankruptcy is also affected by financial ratios. This is as stated in the research by Thim et al., (2011) that pointed out that profitability, liquidity, and growth and risk are considered important and negatively correlated with financial distress while solvency and company size are negatively correlated on Malaysia manufacturing firms. Meanwhile, another research has been done to look after ROE on the correlation with Z-SCORE in Taiwan and Hongkong manufacturing firms (See Liang & Pathak, 2019) they focused on the use of return on equity (ROE) to study the impact of financial ratios on the financial distress and found that ROE is positively significant with Altman-Z score, which means the higher the value will be less likely for a company to go bankrupt.

Beside financial ratios, previous studies (Altman et al., 2017; Liang et al., 2016) stated that combining financial ratio and non-financial ratio to measure financial distress is effective on predicting bankruptcy risk of firms. Precisely, Liang et al., (2016) stated that a better predictor of bankruptcy to combine financial ratios and corporate governance indicators than to use financial ratios and corporate governance indicators alone. Corporate governance may affect the accuracy of financial and accounting disclosures used to measure the true state of the company.

The purpose of this research is to look after financial distress of a company in times of COVID-19 pandemic, and to determine the estimator of financial distress, that the data was taken from Q4 2018 to Q2 2020, and will be divided to terms, before and during COVID-19 pandemic. Our view is that the main value lies in recognizing the symptoms of financial distress long before the liquidation disaster begins. For regulators such as the OJK, IDX, and BI can be used as reference material in deciding rescue policies for companies whose positions are threatened with bankruptcy due to the COVID-19 Pandemic carried out such as providing credit restructuring policies to companies experiencing financial distress problems.

2. Literature Review

2.1 COVID-19 Impacts

2.1.1 COVID-19 Impact on Global Economy

The Organization for Economic Cooperation and Development (OECD) and the International Monetary Fund (IMF) have warned that the economic impact of the virus is already greater than that of the global financial crisis of 2008(OECD, 2020; Parliament et al., 2011). The United Nations (UN) also expects that the flow of unfamiliar direct speculation may be between 30% and 40%, causing further damage to low-paid countries (Ezalia et al., 2020). The International Labor Organization (ILO) also said about 200 million people could lose their jobs, calling them "the most extreme urgency since the Second World War." The economic downturn has disastrous consequences for business growth and profitability worldwide. In particular in the administrative, friendly and assembly sectors, the loss of talented human capital and revenue are falling sharply.

2.1.2 COVID-19 Impact on Indonesian Economy

Indonesian economy has been impacted by COVID-19 pandemic. Transport, tourism, industry, health and other sectors are impacted. Different countries have adopted "blockade" arrangements to prevent the further spread of COVID-19, with the purpose of disrupting financial activities and squeezing the development of world currencies in subsequent financial developments, including Indonesia.

The downturn of GDP in the first and second quarters that tends to decline is inseparable from the influence of the corona virus (COVID-19) pandemic which has lasted long.

Variable	Impact
Workers	1.5 million workers experience a break
Purchasing Managers Index (PMI)	Below level 50
Flight	> 12,703 flights at 15 airports cancelled
Air Service	Loss of revenue amounted to Rp 207 billion
Tourist	Dropped drastically by 6,800 per day
Hotel and Restaurant	Occurrence of decreased occupancy rate around 6,000 hotels in Indonesia reached 50%
Import	Down 3.7% year to date (YTD)
Inflation	Inflation of 2.96% year on year (yoy)

Table 1. Impact of COVID-19 losses in Indonesia per August 2020

2.2. Bankruptcy

2.2.1 Bankruptcy Theory

In the past 51 years, bankruptcy prediction has been extensively studied in the financial literature (since Altman published a multivariate analysis model for multivariate prediction of corporate bankruptcy risk in 1966)(Barboza et al., 2017; Du Jardin, 2015; López Iturriaga & Sanz, 2015). Bankruptcy is defined in several various ways: a bankruptcy is the demise of a corporation, total loss, business of losers, the decline of the workers' hopes, and the end of all you used to have.

According to PerPu (Government Rule in place of Law) No. 1 year 1998 is a debtor who has two or more creditors and fails to pay at least one outstanding debt and collectible, shall be deemed bankrupt by approved court order either by his own request or by the request of one or more creditor(s).

According to Mackevičius et al., (2018) corporate bankruptcy is a situation under which bankruptcy proceedings have been launched in court or creditors execute extrajudicial company bankruptcy proceedings. In financial and accounting studies, bankruptcy has become essential. The causes of bankruptcy are important to understand. Several researchers have developed in recent decades models for assessing bankruptcy probabilities. Generally, these trials attempt to model the use of available financial statements to compare samples of non-bankrupt and bankrupt firms in order to estimate the likelihood of bankruptcy filing by those firms (Wu et al., 2010).

2.3 Financial Distress

Financial distress is the first sign of bankruptcy. The ambiguity of the sustainability of the business in the future suggests this (Zmijweski, 1984). If the company's liability is higher than the company's assets and the company cannot meet its commitments to creditors at maturity, the company is considered bankrupt.

Altman on 1968 pioneered the use of a multivariate tool, called the Z-Score that forecast the probability for bankruptcy. The model displayed strong predictive ability in financial crisis firms, as calculated by Z-Score. There are also other studies that have developed similar predictive models using different sets of financial ratios(Lau, 1987; Ohlson, 1980; Zmijweski, 1984), but Z-Score that was pioneered by Altman still considered as the best predictive calculation for financial distress. Recently, the Z-score model has stood the test and is still quite important to the corporate world today, Sherbo and Smith's (2013) concluded.

2.3.1. Altman Z-SCORE and the Evolution.

Altman is a predictive tool that analysts frequently use to anticipate financial suffering. Some results (Ashraf et al., 2019; Chava & Jarrow, 2008; Reisz & Perlich, 2007) argued that the model Z-Score was the best adapted to early stage distress and was effective in predicting short-term distress.

Altman bankruptcy model has been implemented as a predictive methodology for forecasting a bankruptcy model by Multiple Discriminant Analysis (MDA). There are actually three separate variation formulas for bankruptcy prediction and their key distinction is sectoral measurement; the initial model, the model for private businesses, and the model for emerging-market non-production.

2.3.1.1. Original Altman Model

In 1968, the original Altman was introduced. As an indicator of bankruptcy, this model is widely used all over the world. For the publicly traded company, the original Altman Theory was applicable (Ashraf et al., 2019; Ezalia et al., 2020; Imelda & Alodia, 2017; Steinker et al., 2016).

$$Z=1.2X_1 + 1.4X_2 + 3.3X_3 + 0.6X_4 + 0.999X_5.....(1)$$

Where :

X1 = Working capital divided by Total Asset

X2 = Retained Earning divided by Total Asset

X3 = Earnings before Interest and Tax divided by Total Asset

X4 = Market Value of Equity divided by Total Liabilities

X5 = Sales/ Total Asset

2.3.1.2. Altman Model for Private Firm

In 1984, his theory was revised by Altman to be modified to calculate the use of private corporations (Pozzoli & Paolone, 2016; Rim & Roy, 2014). He had his initial model changed. As the equation is found below,

$$Z=0.717X_1 + 0.847X_2 + 3.107X_3 + 0.42X_4 + 0.998X_5.....(2)$$

Where :

X1 = Working capital divided by Total Asset

X2 = Retained Earning divided by Total Asset

X3 = Earnings before Interest and Tax divided by Total Asset

X4 = Book Value of Equity divided by Total Liabilities

X5 = Sales/ Total Asset

2.3.1.3. Altman Model for non- Manufacturers and Emerging Market

Until 1995, Altman continued to extend his research, describing the latest refinement of his original model ideal for non-manufacturing and emerging market companies. One major difference is to be explained in his equation below on the variables, which are only four.

$$Z=6.56X_1 + 3.26X_2 + 6.72X_3 + 1.05X_4.....(3)$$

$$Z=3.25 + 6.56X_1 + 3.26X_2 + 6.72X_3 + 1.05X_4.....(4)$$

Where :

X1 = Working capital divided by Total Asset

X2 = Retained Earning divided by Total Asset

X3 = Earnings before Interest and Tax divided by Total Asset

X4 = Book Value of Equity divided by Total Liabilities

The determinants of the Altman Original Model (1968) are used in this analysis as the calculation of the financial ratio to predict bankruptcy, since this study includes the measurement of Indonesian manufacturing firms. In addition, some researchers who calculate the prediction of bankruptcy of manufacturing firms have also used the original Altman Z-Score model (1968) in other countries (Imelda & Alodia, 2017; Steinker et al., 2016)

2.4 Determinants of Financial Distress

Altman (1968) performed a preliminary review utilizing Multiple Discriminant Analysis (MDA) approach to forecast bankruptcy (Lau, 1987; Ohlson, 1980; Zmijewski, 1984). A new research blends Good Corporate Governance (GCG) and Financial Ratio as independent variables for forecasting bankruptcy risk Liang et al. (2016) proposed in their analysis the bankruptcy prediction model which is more reliable between financial ratio and corporate governance than one which uses either financial ratio or corporate governance only.

2.4.1 Financial Ratio and Financial Distress

Trade-off hypothesis was often used in literature to describe the determinants of financial distress. The Pecking order hypothesis was often used to clarify whether a company is in financial trouble. This hypothesis notes that companies first exhaust the internal source of funding before moving to the external source of funds (debt and equity) to maintain the firm's viability and value.

This research will conduct financial ratio measurement to make the prediction estimation of financial distress which contain of profitability which will be measured using Return on Equity (ROE), leverage ratio which will be measured using Debt to Asset Ratio (DAR) and firm size which will be measured using natural logarithm of Total Asset.

2.4.2 Corporate Governance Practices and Financial distress

On 2016, Altman did observations on how to improve the accuracy of the estimation of his models and how to improve its accuracy over more than one or two years for longer horizons. Financial and non-financial factors are mixed in the most precise long-range prediction outcomes. This is also confirmed by Liang et al., (2016) who discovered in their analysis that the model of bankruptcy prediction that blends financial ratio (FR) and corporate governance practices (CGP) is more precise than the one that only uses either FR or CGP.

Improved compliance with corporate governance standards may boost rent redistribution between owners and management and also enhance financial efficiency of a company. Keputusan Menteri Badan Usaha Milik Negara Nomor: KEP-117 / M-MBU/2002 concept of good corporate governance is governance as a mechanism or framework that can be used by companies to improve their operating performance and their transparency in order to achieve long-term shareholder value.

2.5 Hypothesis Development

2.5.1. Financial Ratio and Financial Distress

X1- Return on Equity and Financial Distress

Previous research shown results that ROE has significant negative effect on financial distress, which means the higher profit a company has, will result on the less likelihood of a firm to go bankrupt (Fredrick, 2019; See Liang & Pathak, 2019; Tesfamariam, 2014; Thim et al., 2011). Therefore, the hypothesis on this research is made as follow

H₁ : ROE has significant negative relationship with financial distress

X2 – Debt to Asset Ratio and Financial Distress

Leverage is the fund source debt the business utilizes to manage its investments outside the cash or stock source. Analysis performed by Alifiah (2014); Thim, Choong, & Nee (2011); Vätavu (2015); Andre (2013) ; Udin et al., (2017) and Marlin (2012) found a positive impact on the state of financial distress, which means the greater the leverage will increase the possibility on financial distress of a firm. Therefore, H₂ is taken as follow

H₂ : Debt to Asset Ratio has significant positive relationship with financial distress

X3 – Firm Size and Financial Distress

Various studies have been done to prove that the greater asset that belong to company will put them in a safe position and far from the possibility of facing financial failure or financial distress. Big businesses typically have greater access to capital markets, as it is simpler to increase funding with reduced rates and lower restrictions than smaller firms, which indicates the dependence on internal funds would decline with the company's rising scale. Moreover, firm which have large size are often not born at base. It usually takes a lot of time before an organization becomes a major company. Large firms tend to have sufficient assets to provide cash for operating activities. Small firms are therefore more likely to fail (Moulton & Thomas, 1993; Dawley et al, 2003). For these reasons, the following hypothesis is made

H₃ : Firm Size has significant negative relationship with financial distress.

2.6.2. Corporate Governance and Financial Distress

Institutional Ownership

Institutional ownership is the portion of stocks that is owned by any organizational or corporate institution(David et al., 1989). Institutional investors have a significant role to play in corporate governance, especially in their ability to track, collect and influence company policies and results(Guo & Qi, 2008) and provide better monitoring for companies in times of need and could therefore formulate the following hypothesis as also followed by previous research that institutional ownership has significant positive effect on firm performance, which contribute to bankruptcy potential (Hanani & Dharmastuti, 2015; Husada & Tjandrawinata, 2013; Murwaningsari, 2006)

H₄: Institutional Ownership has significant negative relationship with financial distress

Commissionaires Independent

Indonesian firms have a dual board composition composed of the supervisory (BOC) and executive bodies (BOD). The primary role of the BOC is to supervise the company's BOD. As an effect of its position and independence, independent commissioners id claimed to possess a higher tendency to ensure transparency(Ajinkya et al., 2005). Independent commissioners tend to provide better monitoring for financially-distressed companies because of their smaller probability of having conflicts of interest(Fich & Slezak, 2008).

H₅: Independent commissioners has significant negative relationship with financial distress

Board Size

The board size applies to the number of members of the board. Larger number of boards might have problems of balance, resulting in greater control by their representatives to satisfy their personal needs to the disadvantage of the company's general interest. The characteristics of a smaller board will be invaluable in times of financial difficulty (Fich & Slezak, 2008). This is also supported by current finding in Indonesia from consumer good sectors that board size is positively affected bankruptcy risk (Hanani & Dharmastuti, 2015)

H₆: Board size has significant relationship positive with financial distress

3. Research Methodology

The quantitative methodology was taken in this study and used secondary data. Data are collected using various sources of financial reports and database (IDX, Yahoo Finance, Bloomberg Data). Financial report of the firms also limited from Q4 2018 to Q2 2020. The analysis was also carried out by testing three sectors (Basic and chemical industry, Miscellaneous industry and chemical industry) of manufacturing companies and manufacturing sectors as whole, to find out which sectors were most predominantly affected by the COVID-19 Pandemic.

3.1 Research Model and Framework

The model is shown below and will be conducted in 4 equations models which consist of (1) Manufacturing sectors, (2) Basic and Chemical sub-sector, (3) Miscellaneous industry sub-sector, (4) chemical industry sub-sector.

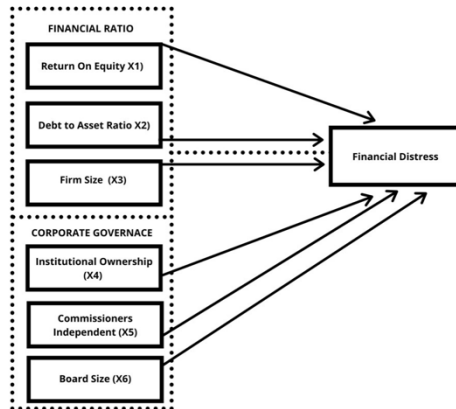


Figure 1. Research Model

No.	Variables	Connotation	Measurement
1	Return on Equity	ROE	Net Income/Shareholder's Equity
2	Debt to Asset Ratio	DAR	Total Liabilities/Total Asset
3	Firm Size	FIRMSIZE	ln(Total Asset)
4	Institutional Ownership	INSOWN	Total Share Ownership by Institution/Total number of outstanding shares
5	Independent Commissionaires	INDCOM	Number of Independent Commissioners/Total Commissioners
6	Board Size	BOARDSIZE	Number of Board Director
7	COVID-19 Crisis	DUMMY	Dummy, Q4 2018-Q4 2019 = 0 ; Q1-Q2 2020 = 1
8	Financial Distress	FD	$Z\text{-SCORE} = 1,2X_1 + 1,4X_2 + 3,3X_3 + 0,6X_4 + 0,999X_5$

Table 2. Operationalization of Research Variables

3.2. Method of Data Analysis

Panel data regression model is used in this research, using the help of a computer statistical application program *Eviews* 9.0. Suitable model testing is also conducted to determine which approach is better used.

4. Results

The data in this research is purposive sampling. The data gathered from 58 manufacturing companies in Indonesia, that are conclude of 10 miscellaneous, 28 consumer goods industries, and 20 chemical industries. The analysis conducted using Eviews 9 and have obtained 402 unbalanced panel data.

4.1 Trend Analysis

Table 3. Trend Analysis of Z-Score

Sectors	Period						
	Q42018	Q12019	Q22019	Q32019	Q42019	Q12020	Q22020
All Manufacturing	5,5588	5,3195	5,1908	5,3904	5,1523	4,2707	4,8914
Sub-sector miscellaneous industries	3,02913	3,0777	3,097048	3,048078	3,075526	2,614549	2,764299
Sub-sector consumer goods industries	7,439254	7,243707	6,938052	7,349063	6,872257	5,648704	6,711634
Sub-sector chemical industries	4,191057	3,746418	3,791592	3,819567	3,78282	3,16952	3,406736

Table 4. Paired T-Test Analysis

Sectors	t Stat	t Critical two-tail	Condition	Conclusion
Manufacturing Sectors	3.030495205	2.002465459	T1 accepted	Significance decrement
Miscellaneous sub sectors	2.331474032	2.262157163	T1 accepted	Significance decrement
Consumer Goods sub sectors	2.089705441	2.051830516	T1 accepted	Significance decrement
Chemical Industries sub sectors	2.289166192	2.093024054	T1 accepted	Significance decrement

Table from trend analysis shows that there was decrement on Z-SCORE, which shows that it is more likely form a firm to undergo financial distress. It is also proven by Paired T-Test analysis that shows the decrement on every sub-sectors and manufacturing sector as whole, is significant. From the data, it can be concluded that the existence of COVID-19 pandemic affected financial distress of companies on manufacturing sectors.

4.2 Regression Result

Table 5. Regression Analysis Result

Z-SCORE		Model 1		Model 2		Model 3		Model 4	
		All Manufactures		Basic and Chemical Industry		Miscellaneous Industry		Consumer Goods Industry	
Dummy	Coefficient	-0.852221	-0.843708	-0.571818	-0.591586	-0.51993	-0.413074	-1.034444	-1.0806620
	Probability	0.000***	0.000***	0.0006***	0.0003***	0.0234**	0.0497**	0.0004***	0.0002***
ROE	Coefficient	2.068807	2.151626	11.20865	10.825580	1.770503	7.382558	2.18050	2.398702
	Probability	0.0081***	0.0062***	0.0987*	0.1084	0.8402	0.3567	0.0393**	0.0226**
DAR	Coefficient	-15.36440	-15.00003	-10.30144	-10.559999	-6.768013	-5.630026	-18.60697	-18.22512
	Probability	0.0003***	0.0000***	0.0000***	0.0000***	0.0685*	0.0250**	0.0000***	0.0045***
FIRMSIZE	Coefficient	0.700759	0.778813	0.41254	0.60100	-0.576475	0.177633	-0.581445	0.710441
	Probability	0.0285**	0.0046***	0.1310	0.0072***	0.5137	0.5776	0.6753	0.1763
INSOWN	Coefficient	3.332668		-0.5755582		5.349096		3.404069	
	Probability	0.1000*		0.7309		0.0864*		0.765	
INDCOM	Coefficient	-4.2530420		0.99484		-2.961307		-8.586156	
	Probability	0.0203**		0.5686		0.5222		0.0128**	
BOARDSIZE	Coefficient	0.085806		0.221975		0.1493333		-0.054581	
	Probability	0.6263		0.2314		0.6100		0.8784	
R-Squared		0.221111	0.20516	0.309764	0.298367	0.940692	0.1333979	0.92796	0.225214

(***) : 1% significant level (**) : 5% significant level (*) : 10% significant level

Based on table regression above, it can be taken that dummy variable which is the existence of COVID-19 has significantly negative relation with Z-SCORE. This indicates that when the COVID-19 does not exist, that measure by 0, will increase the Z-SCORE points. Therefore, the existence of COVID-19 pandemic has been proven by statistic measurement bring manufacturing industries to a condition of higher probability on facing bankruptcy.

The impact of COVID-19 in Indonesian manufacturing might due to the reducing of purchasing power on this pandemic condition, people tend to save more of money than, because people get prepared of being jobless since many companies are hardly hit by this condition. Some operation factors might also be the reason why COVID-19 negatively affect bankruptcy risk, supply chain bottleneck due to close border on some exporting countries, for example, China and Europe. Factories get more of attention from SATGAS (SatuanGugusTugas) COVID-19 since they became one of some huge cluster transmissions in Indonesia, factories face reality to choose between reducing their operator which means it also reduces time operation and availability of finish goods to sell, or spend more of money to conduct regular COVID-19 test and evaluation of their workers which need extra much money to spend.

4.2.1. Financial Ratio and Financial Distress

Return on Equity

In this research return on equity shows positive relation with Z-SCORE, which means if ROE rises by 1 percent will increase the Z-SCORE based on the value of coefficient beta depends on the sectors of company measured above. Therefore, when indicating financial distress, ROE

will have negative relation to financial distress, the higher ROE, will impact on the decreasing likelihood of firm to go bankrupt. More effective control of investments by owners will deliver greater profits and optimum utilization of funds.

H1 is accepted for manufacturing sectors, specifically on consumer goods sub-sector companies and basic chemical industry. The other sub-sector may not have significant relation of ROE to financial distress might because consumer goods and chemical industry which are the driver of profitability in term of ROE, at the measured quartal consumer goods industry has the highest value among other sub-sector industry of manufacturing sectors, the difference between them nearly 4%.

Debt to Asset Ratio

The high valuation debt against a percentage of assets often means a high risk that the assets utilized by the firm cannot offset the entire debt meaning that the company is more liable for taking back or covering its debts. In this research this ratio is consistently have significant negative relation with Z-SCORE. The greater the leverage, the greater the risk of financial distress.

This finding is also supported with pecking order theory. The principle of the pecking order was also used to describe whether a corporation is failing financially. In this principle, business exhaust the internal capital before switching to the external resource (debt and equity) to maintain the viability and value of the company. According to Wesa and Otinga (2018), the inference of this hypothesis is that increasing usage of foreign sources of funds will impact the business adversely if not wisely utilized and the risk of financial distress of businesses is increased.

Firm Size

Firm size is the natural logarithm of total asset. How huge the company in term of its asset to generate return and to cover its debt is measured in this ratio. When measuring firm size as determinant of bankruptcy risk on all manufacturing firms, the result shows that firm size has significant positive relation with Z-SCORE. This means the bigger the assets that the firm has, will increase the number of Z-SCORE and decrease the possibility of manufacturing companies to go bankrupt.

But, this result is inconsistent, when being disaggregated to three sub-sectors, firm size is only being significant estimator of bankruptcy risk on all manufacturing when measured altogether. The insignificance might happen probably because even when the companies do not have a huge amount of total asset, they have strong capital or investing so that they may subsidize one another division to avoid bankruptcy. In addition, it is needed to consider whether the assets on two other subsectors has been used effectively to improve financial condition of company, this condition might lead to the condition where company's size is not a significant predictor of financial distress.

4.5.2. Corporate Governance and Financial Distress

Institutional Ownership

In this research, institutional ownership is found to have significant positive relation with Z-SCORE on manufacturing companies as whole, this might explain that the higher ownership belongs to institution will affect companies to less likely to go bankrupt. Theoretically, institutional who own shares have extra motivation and resources to track management to boost firm output to prevent financial distress. Institutional owners often rely on the long-term and their massive shareholdings make the stock less marketable and tend to retain them as long as possible. Therefore, they are advised to track management to enhance their long-term efficiency to avoid the possibility of financial hardship.

In addition, there is inconsistent result when measuring 3 sub-sectors on manufacturing industries, there is insignificant relation on chemical and consumer goods sub-sectors and basic chemical industry. There are speculations about why this discovery can be seen in Indonesian companies. Bathala, Moon and Rao (1994, listed on Charfeddine&Elmarzougui, 2010) claimed that in some countries, institutional investors do not want to actively participate in decision-making. They are inclined to the company's exit strategy, which means that if management is disappointed, they would rather sell the stock. Based on previous findings, it is presumed that Indonesian institutional investors on consumer goods industry and chemical industries are not as active as expected in the management of firms. This is sometimes caused by the fact that most institutional investors are index funds that are more concerned in attaining high returns for the index fund holders than making the company perform well (Fich & Slezak, 2008).

Independent Commissionaires

This result on this research signifies that the increment on the number of independent commissioners will lead to decrement of Z-Score significantly, which means the greater number of commissioners independent will increase the likelihood of financial distress on manufacturing companies. Despite the discrepancy with previous studies results (Chang 2009; Jaikengkit 2004; Cotter, Shivdasani, Zenner 1997), arguing that independent commissioners have positive effects on the company's success or worth, a variety of experts have clarified why often independent commissioners could increase a company's likelihood to fall on bankruptcy. Fich & Slezak (2008) reported that although independent commissioners enable better supervision, when financial distress is factored in the analysis, non-independent commissioners might have a greater motivation to resolve financial distress due to the higher probability of bankruptcy. Bhagat & Black (2002) and Ritchie (2007) revealed that the degree of engagement shared with non-independent commissioners provides them with deeper information, insight and insights on the management and priorities of the companies under which they operate relative to independent commissioners.

When divided into three sub sectors number of independent commissioners only significant for consumer goods industry. This analysis struggled to show the independent commissioner's effect on the likelihood of financial crisis at those sub sectors. This is exacerbated by the comparatively limited number of independent commissioners. This limited share of independent commissioner leaves independent commissioner unwilling to control management practices. Other causes that trigger outcome discrepancies are attributed to the presence of an independent commissioner solely as a formality. Under the statute, the required number of independent commissioners is around 30% of all commissioners, but the findings revealed that independent commissioners have little impact on the likelihood of financial hardship

Board Size

In this research the result is consistent, that board size has no significant relationship with Z-SCORE, which means it does not determine the likelihood of manufacturing firms to go bankrupt, taking consideration of COVID-19 pandemic. Therefore, it can be concluded that, the number of directors in a company does not really matter, what matters might possibly, their knowledge and their character on handling the company, being a good decision maker and cooperative on leading the company, doing good monitoring on their companies. Ineffective supervision can produce imminent financial distress. In the long run, cumulative inadequate monitoring can also cause financial distress.

Conclusion

COVID-19 pandemic has affected financial distress likelihood of manufacturing companies in Indonesia, included all sectors in manufacturing industries. Return on Equity (ROE) which is the measurement of profitability, Debt to Asset Ratio (DAR) which is the measurement of leverage, Institutional ownership which is stock belongs to institution and firm size have significant positive relationship with ALTMAN Z-SCORE, which means the increment of ROE will decrease likelihood of companies to go bankrupt.

Independent commissioners show negative relationship with ALTMAN Z-SCORE, which the higher number of independent commissioners in manufacturing companies in Indonesia will increase financial distress likelihood of companies while board size shows no significant result.

References

- Achim, M. V., Mare, C., & Borlea, S. N. (2012). A Statistical Model of Financial Risk Bankruptcy Applied for Romanian Manufacturing Industry. *Procedia Economics and Finance*, 3(December), 132–137. [https://doi.org/10.1016/s2212-5671\(12\)00131-1](https://doi.org/10.1016/s2212-5671(12)00131-1)
- Ajinkya, B., Bhojraj, S., & Sengupta, P. (2005). The association between outside directors, institutional investors and the properties of management earnings forecasts. *Journal of Accounting Research*, 43(3), 343–376. <https://doi.org/10.1111/j.1475-679x.2005.00174.x>
- Altman, E. I., Iwanicz-Drozowska, M., Laitinen, E. K., & Suvas, A. (2017). Financial Distress Prediction in an International Context: A Review and Empirical Analysis of Altman's Z-Score Model. *Journal of International Financial Management and Accounting*, 28(2), 131–171. <https://doi.org/10.1111/jifm.12053>
- Ashraf, S., G. S. Félix, E., & Serrasqueiro, Z. (2019). Do Traditional Financial Distress Prediction Models Predict the Early Warning Signs of Financial Distress? *Journal of Risk and Financial Management*, 12(2), 55. <https://doi.org/10.3390/jrfm12020055>
- Barboza, F., Kimura, H., & Altman, E. (2017). Machine learning models and bankruptcy prediction. *Expert Systems with Applications*, 83, 405–417. <https://doi.org/10.1016/j.eswa.2017.04.006>
- Chava, S., & Jarrow, R. A. (2008). Bankruptcy prediction with industry effects. *Financial Derivatives Pricing, December 2000*, 517–549. https://doi.org/10.1142/9789812819222_0021
- David, P., Kochhar, R., & Levitas, E. (1989). *Academy of Management Journal*, 41(2), 20–20.
- Du Jardin, P. (2015). Bankruptcy prediction using terminal failure processes. *European Journal of Operational Research*, 242(1), 286–303. <https://doi.org/10.1016/j.ejor.2014.09.059>
- Ezalia, E., R. I. E., Elizabeth, G., My, W. A. N. H., Norhanim, A., Wahidah, A., Ym, C., Rahimah, A.,

- Chin, J. G., Juliana, I., Hamid, A., Gunasagaran, K., Amir, J., John, P., Azmi, A., Mangantig, E., Hockham, C., Ekwattanakit, S., Bhatt, S., ... Mary Anne Tan, J.-A. (2020). No 主観的健康感を中心とした在宅高齢者における 健康関連指標に関する共分散構造分析Title. *Orphanet Journal of Rare Diseases*, 21(1), 1–9. <https://doi.org/10.1155/2010/706872>
- Fich, E. M., & Slezak, S. L. (2008). Can corporate governance save distressed firms from bankruptcy? An empirical analysis. *Review of Quantitative Finance and Accounting*, 30(2), 225–251. <https://doi.org/10.1007/s11156-007-0048-5>
- Fredrick, I. (2019). Firm specific determinants of financial distress: Empirical evidence from Nigeria. *Journal of Accounting and Taxation*, 11(3), 49–56. <https://doi.org/10.5897/jat2019.0333>
- Guo, B. N., & Qi, F. (2008). Alternative proofs for inequalities of some trigonometric functions. *International Journal of Mathematical Education in Science and Technology*, 39(3), 384–389. <https://doi.org/10.1080/00207390701639516>
- Hanani, R. T., & Dharmastuti, C. F. (2015). How do corporate governance mechanisms affect a firm's potential for bankruptcy? *Risk Governance and Control: Financial Markets and Institutions*, 5(1), 61–71. <https://doi.org/10.22495/rgcv5i1art6>
- Husada, R., & Tjandrawinata, R. R. (2013). The Healthcare System and the Pharmaceutical Industry in Indonesia. *The New Political Economy of Pharmaceuticals*, December 2018. <https://doi.org/10.1057/9781137315854.0012>
- Imelda, E., & Alodia, C. I. (2017). The Analysis of Altman Model and Ohlson Model in Predicting Financial Distress of Manufacturing Companies in the Indonesia Stock Exchange. *Journal of Accounting and Finance (IPJAF)*, 1(1), 51–63. www.ipjaf.omjpalpha.com
- Lau, A. H.-L. (1987). A Five-State Financial Distress Prediction Model. *Journal of Accounting Research*, 25(1), 127. <https://doi.org/10.2307/2491262>
- Liang, D., Lu, C. C., Tsai, C. F., & Shih, G. A. (2016). Financial ratios and corporate governance indicators in bankruptcy prediction: A comprehensive study. *European Journal of Operational Research*, 252(2), 561–572. <https://doi.org/10.1016/j.ejor.2016.01.012>
- López Iturriaga, F. J., & Sanz, I. P. (2015). Bankruptcy visualization and prediction using neural networks: A study of U.S. commercial banks. *Expert Systems with Applications*, 42(6), 2857–2869. <https://doi.org/10.1016/j.eswa.2014.11.025>
- Murwaningsari, E. (2006). Responsibilities dan Corporate Financial Performance Dalam Satu Continuum. *Jurnal Akuntansi Dan Keuangan*, 11(1), 30–41.
- OECD. (2020). The impact of the coronavirus (COVID-19) crisis on development finance. *Tackling Coronavirus (COVID-19) Contributing to a Global Effort*, 100(6), 468–470. <http://www.oecd.org/termsandconditions>
- Ohlson, J. A. (1980). Financial Ratios and the Probabilistic Prediction of Bankruptcy. *Journal of Accounting Research*, 18(1), 109. <https://doi.org/10.2307/2490395>
- Parliament, E., States, M., Podimata, R. A., Ftt, T., Ftt, T., Kong, H., Ftt, A., & Eu-wide, P. (2011). *Press release IMF. 20120523*, 32–33.
- Pozzoli, M., & Paolone, F. (2016). An Overlook at Bankruptcy Prediction in Italy in 2016: An Application of the Altman's Model on Failed Italian Manufacturing Companies In The 2016-First Quarter. *International Journal of Accounting and Financial Reporting*, 6(2), 293. <https://doi.org/10.5296/ijafr.v6i2.10339>
- Reisz, A. S., & Perlich, C. (2007). A market-based framework for bankruptcy prediction. *Journal of Financial Stability*, 3(2), 85–131. <https://doi.org/10.1016/j.jfs.2007.02.001>
- Rim, E. K., & Roy, A. B. (2014). Classifying Manufacturing Firms in Lebanon: An Application of Altman's Model. *Procedia - Social and Behavioral Sciences*, 109, 11–18. <https://doi.org/10.1016/j.sbspro.2013.12.413>

- See Liang, F., & Pathak, S. (2019). An Analysis of Z-Scores & Performance: Manufacturing Companies in Hong Kong. *Asian Journal of Business and Management*, 7(2), 28–34. <https://doi.org/10.24203/ajbm.v7i2.5709>
- Smrčka, L., Arltová, M., & Schönfeld, J. (2013). Reasons for the failure to implement financial rehabilitation procedures in insolvent reality. *Politická Ekonomie*, 61(2), 188–208. <https://doi.org/10.18267/j.polek.894>
- Steinker, S., Pesch, M., & Hoberg, K. (2016). Inventory management under financial distress: an empirical analysis. *International Journal of Production Research*, 54(17), 5182–5207. <https://doi.org/10.1080/00207543.2016.1157273>
- Tesfamariam, Y. (2014). *The Determinants of Financial Distress in the Case of Manufacturing Share Companies in Addis Ababa-Ethiopia*. 1–86.
- Thim, C. K., Choong, Y. V., & Nee, C. S. (2011). Factors affecting financial distress: The case of Malaysian public listed firms. *Corporate Ownership and Control*, 8(4 D), 345–351. <https://doi.org/10.22495/cocv8i4c3art3>
- Wu, Y., Gaunt, C., & Gray, S. (2010). A comparison of alternative bankruptcy prediction models. *Journal of Contemporary Accounting and Economics*, 6(1), 34–45. <https://doi.org/10.1016/j.jcae.2010.04.002>
- Zmijweski, M. E. (1984). Methodological Issues Related to the Estimation of Financial Distress Prediction Models. *Journal of Accounting Research*, 22, 59–82.

Organizational Learning, Knowledge Management, Dynamic Capability, Innovation Capability, Industry 4.0 Implementation and Firm Performance

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ABSTRACT

Today, we are stand on the brink of a technological revolution, also known as the Fourth Industrial Revolution, or Industry 4.0 (I4.0), which represents a comprehensive technological development within all industries. Industry 4.0 consists of key pillars, such as artificial intelligence, machine learning, cloud computing, big data analysis as well as augmented reality and virtual reality. Because of the impact that earlier industrial revolutions had on organizations, we can say that I4.0 also will bring changes in organization with regards to work and tasks. Furthermore, with high-level technology also requires company's employees to attain new knowledge, these changes itself will only be affective from dedication from both employees and management. Several countries have recently set up local initiatives to advance Industry 4.0 implementation and deployment. In Germany where this concept was born this program was called "High-Tech Strategy 2020", in Indonesia it's called making Indonesia 4.0, "Roadmap to Industry 4.0" created by President Joko Widodo. In response to the phenomenon, Indonesia as one of the emerging industrial countries, is taking a firm step by releasing its roadmap, namely Making Indonesia 4.0. The roadmap seeks to prepare Indonesia to capitalize on the gains of Industry 4.0 by focusing on the country's goals, which are expected to be settled by 2030.

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1. Introduction

The German scientist group Acatech in 2011 first introduced the word "Industry 4.0," which marks the beginning of the fourth industrial revolution during the Hanover fair in Germany in 2011. The fourth industrial revolution work with the use of new technology in the manufacturing sectors, as well as the invention of machine and many more technological revolutions that has followed to replaced Manpower with machine power and has gain massive interest in the global production industry (Kagermann, et al 2013). It is said that Industry 4.0 is seen as the next-generation production platform for the fourth industrial revolution, with its emphasis on cyber-physical systems. Lately, industrial economies, technological advancement, emerging trends, globalization and increasing consumer demands have changed the organization's model, framework, and management approaches (Ibarra et al., 2018). For firms to successfully transition from machine-dominated production to digital manufacturing, it is critical to prioritize knowing the characteristics and intricacies of industry 4.0. Businesses must conduct an in-depth assessment of their current positions and functions in Industry 4.0 in order to achieve a successful transformation and produce a well-defined road map (Oztemel & Gursev, 2018). Industry 4.0 has become a modern business paradigm, in addition to its advantages Ibarra et al., (2018), this includes alterations to the organization's logic or philosophy of operation. According to Schwab (2016), the extraordinary speed of Industry 4.0's arrival has no precedence, compared to the previous three industrial revolutions. Industry 4.0 is progressing exponentially rather than with linear speed (Schwab, 2016).

According to Kagermann et al., (2013), several countries have recently set up local initiatives to advance Industry 4.0 implementation and deployment. In Germany where this concept was born this program was called "High-Tech Strategy 2020", in the United States it was established as "Advanced Manufacturing Partnership", in China the "Made in China 2025", in

France “La Nouvelle France Industrielle” and “Towards Industry 4.0” (Rumo à Indústria 4.0), in Indonesia it’s called making Indonesia 4.0, “Roadmap to Industry 4.0” created by President Joko Widodo. Indonesia, as one of the developing industrial countries, is responding forcefully by announcing its roadmap, called Making Indonesia 4.0. The strategy aims to position Indonesia to capitalize on the benefits of Industry 4.0 by concentrating on the country's 2030 ambitions (perindustrian, 2018).

Indonesia is likewise dealing with the ramifications of the Industrial Revolution, which occurred in several countries at the same time. World Economic Forum's readiness for Future Production Report stated that Indonesia is still behind in terms of production structure when it comes to embracing Industry 4.0. This is because they are classified as nascent countries in driver and structure of production, which means that their existence has only just begun, that they have great potential, but that they must work much harder than other countries (Hidayat & Yunus, 2019). Indonesia has been implementing 4.0 for almost nine years, but it is still considered relatively slow (Ellitan, 2020). According to the World Economic Forum published 12 components in 2018 to assess a country's readiness to join the 4.0 industrial age. Indonesia ranks 48th in institutional growth, 71st in infrastructure, 50th in ICT adoption, 51st in macroeconomic stability, 95th in health, 62nd in skills, 51st in commodity sector, 82nd in labor market, 52nd in financial market, 52nd in financial system, 8th in market size, 30th in business dynamism, and 68th in innovation capability (Kemenkeu, 2019).

2. Literature Review

2.1 Organizational Learning

Organizational learning theory conceptualizes organizational behaviour in terms of information creation and uncertainty reduction (Sullivan & Nonaka, 1986). At the very least, organizational learning has been a part of our lexicon since Cangelosi and Dill (1965) explored the subject more than 30 years ago. Although its popularity has increased substantially in recent years (Crossan & Guatto, 2006), little agreement or consensus on what the term means or its fundamental nature has arisen (Huber, 1991). That organizations learn is a concept that has arrived at an important milestone, which took nearly half a century to establish its base on pioneering work in physics and biology, cybernetics and psychology, organizational sciences

and management practice (Mirvis, 1996). Moreover, the convergence has been hampered in large part by the fact that different academics have applied the concept of organizational learning, or at the very least the terminology, to disparate areas (Crossan et al, 1999). In today's rapidly changing environment, learning is seen as the only long-term competitive edge (De Geus, 1988), and companies that are more successful are those who learn faster than their competitors. As a result, organizational learning has been seriously considered as new organizational paradigms in recent years (Alsabbagh & Khalil, 2017). Moreover, OL is critical for businesses working in uncertain contexts to adapt more rapidly than their competitors to unanticipated occurrences (Garvin et al., 2008), this is due to the quick pace of technology advancement, like the advancements of globalization, and which has increased corporate competitiveness since in the 1990s, but this area of organizational learning grew significantly (Y. Wang & Ellinger, 2008). This research adopts Jerez-Gomez et al., (2005) assessment scale to assess an organization's capability for learning in the manufacturing sector of Indonesia. The measurement scale developed by Jerez-Gómez et al., (2005).was validated and implemented in subsequent investigations and proven to be valid and reliable. (Alsabbagh & Khalil, 2017). These dimensions, which we refer to as managerial commitment, systems perspective, openness and experimentation, and knowledge transfer and integration, summarize the previously mentioned aspects as necessary elements for an organization to learn and serve as the foundation for our organizational learning structure model (Jerez-Gómez et al., 2005).

2.1.1 Managerial commitment

Managerial commitment refers to the promotion of individual competence and learning among an organization's personnel, as well as the organization's capacity to adapt to changing external conditions. Knowing the importance of learning, management should work to create an environment where the acquisition, creation, and transfer of knowledge are all valued. (Senge, 1990) also, management should embrace education and foster a culture that views the acquisition, development, and transfer of knowledge as essential values (Jerez-Gómez et al., 2005).

2.1.2 System Perspectives

System perspectives is sometimes referred to as system thinking, and it is the fifth and most critical discipline in Senge's (1990) model of a learning organization. The organization should be considered as a system made of various sectors that work together to achieve its goals

(Alsabbagh & Khalil, 2017), to put it another way, open communication, discussion, and discourse are encouraged. For instance, fluid communication is reliant on the existence of adaptable communication technologies that ensure the accuracy and availability of the information being transmitted. (McGill & Slocum, 1993). Thus, the term "systems perspectives" refers to fostering collaborative activities and building member relationships based on information sharing, shared identity, and a shared vision (Pham & Hoang, 2019).

2.1.3 Openness and experimentation

Apart from learning, companies and leaders really need to be able to detect trends and to make decisions to the largest possible range of prospects. This openness in particular takes two forms, both unusual in companies today (McGill et al., 1992), firstly, openness forces managers to relinquish their control requirement and openness in the second sense is cultural-functional humility (McGill et al., 1992). As a result, openness and experimentation foster the introduction of new ideas and points of view, both internal and external, allowing for the ongoing renewal, growth, and advancement of individual knowledge (Emden et al., 2005).

2.1.4 Knowledge Transfer and Integration

The fourth and most critical component is knowledge transfer and integration (Pham & Hoang, 2019), which refers to two activities that are closely linked but occur concurrently rather than sequentially, such as: Knowledge transfer and integration within the organization (Jerez-Gómez et al., 2005). First, it is necessary to begin with internal dissemination of knowledge acquired at an individual level through communication and interaction between organizational members, which is made possible by an adaptive information system that ensures that information is easily accessible. (McGill & Slocum, 1993). The second type of teamwork is team learning, which raises the group above the individual, allowing for the transfer, interpretation, and integration of individual knowledge (Senge, 1990).

2.2 Knowledge Management

In today's knowledge economy, businesses refer to themselves as companies that are always learning and leveraging knowledge (Smith et al., 2005). The corporate world has been undergoing a transition from an era of natural resources to an era of knowledge. The world is transitioning from an era of natural resources to one of knowledge, focused on research and development, skills development, and education (Si Xue, 2017), also the demand for

knowledge management grew out of the awareness that rigid organizational structures are incapable of adapting to the fast changes that occur in today's marketplaces (Soo et al., 2002). Today's organizations are seen as "knowledge reservoirs" (Davenport, 1993), as a result, much emphasis has been placed on the establishment and improvement of organizational knowledge (Mehta & Bharadwaj, 2015; Nonaka & Hirotaka, 1995) investigated how information is created, utilized, and disseminated inside companies, as well as how this knowledge contributes to the dissemination of innovation. On a more fundamental level, knowledge management should be viewed as a type of working method and philosophy (Gao et al., 2018). Knowledge management (KM) is the process of acquiring, managing, and sharing an organization's employees' knowledge capital while knowledge sharing within an organization improves current business processes, introduces more efficient and effective business processes, and eliminates duplicate business processes (Bhojaraju, 2005).

2.3 Dynamic Capabilities

Over recent years, the dynamic capacity concept gained a great deal of attention. With more than 200 publications since 2011, the DC construct has been a widely discussed topic in the area of strategic management (Gremme & Wohlgemuth, 2017). Firms' competitive advantage is thought to be founded on particular mechanisms, which are produced by the asset roles of the firm and the evolution pathways that the firm has chosen or inherited (Shuen, 1997). In today's global economy, the environment of organizations becomes more volatile, and a firm's dynamic skills for expanding and renewing its resources and organizational capacities must be robust (Teece et al., 1997). In a major publication by Teece et al. (1997), the first formal definition of DCs was provided and it paved the way for productive study in the subject of strategic management studies (Garrido et al., 2019). Thus, It is the ability of a company's "integrate, build, and reconfigure internal and external skills in response to rapidly changing environments" that is referred to as its "dynamic capabilities." Teece et al., (1997), Grant (1996) also defines dynamic capacity as the prior strategic process by which managers modify their own base of resources acquire and shed resources and combine them to produce new value-creating strategies, for instance the research of Kogut and Zander, (1992) defines dynamic capability as "combinative capacities" which businesses employ to aggregate and acquire knowledge resources and to synthesize and implement new mechanisms. By contrast, dynamic capabilities enable a business to continuously refresh its operational capabilities and therefore establish a sustainable competitive advantage (Protogerou et al., 2011).

2.4 Innovation Capability

Organizations must be innovative to maintain a competitive edge. This may be accomplished through the development of new goods, processes, novel marketing strategies, and organizational techniques. To be innovative, an organization's innovation capabilities must be developed and enhanced (Calik et al., 2017), which implies adjustments to current routines and configurations; these changes enable the business to discover novel methods of combining its resources, and to the degree that its new routines are difficult to replicate, it will take some time for a rival to replicate that combination (Mcgrath et al., 1994). Innovation is a primary engine of economic growth and a critical factor in both national and firm-level competitiveness (Hogan and Coote, 2014), therefore innovation may be defined as an endeavor to reconcile the irreconcilable' and is enabled by the capacity to connect thoughts, facts, or insights that no one else has before connected (Syrett & Lammiman, 2002). Extending this reasoning, innovation is the process of 'creating knowledge' through the re-combination or extension of existing knowledge, which is compatible with the notion of knowledge creation Parashar & Sunil, (2005), this validates SubbaNarasimha, (2001) claim that organizations require knowledge that can be applied in a variety of circumstances. He invented the term 'dynamic competence,' which refers to knowledge's potential for variety. According to Quinn, (1999) when two previously disassociated thought matrices of thinking come together for the first time, innovation happens. Similarly defined, knowledge creation entails creating fresh connections gradually or profoundly between previously unconnected parts or by discovering unique ways to combine previously linked elements (Nahapiet & Ghoshal, 1998). Nonaka's innovation approach, the socialization, externalization, combination, internalization (SECI) model, is likewise focused on recombining existing information in novel ways to generate new ideas or innovations. The idea is that innovation is fundamentally a knowledge production process (Nonaka & Hirotaka, 1995).

2.5 Industry 4.0

Despite the fact that the concept is not new and has been on the agenda of academic study for many years with many interpretations, the term "Industry 4.0" has only recently been introduced and is rapidly gaining acceptance not only in academic circles but also in industrial society (Oztemel & Gursev, 2018). Industry 4.0 or fourth industry revolution according to Kagermann et al., (2013) is transforming the strategy, organization, business model, value and supply networks, in addition to processes, goods, skills and contacts between companies.

Industry 4.0 has produced new possibilities to be controlled and managed so that both company and society may have a beneficial influence. Industry 4.0 is a disputed process by definition, owing to the supporting technologies that enable it to exist and the opportunities that accompany it (Büchi et al., 2020). The term "fourth Industrial Revolution" was introduced in 1988 to describe the methods through which discoveries evolve into innovation as a result of scientists working on manufacturing teams, and prior to 2012, this term was used more commonly in the development and use of nanotechnology (Hung et al., 2012). Many developed countries were in the forefront of the Fourth Industrial Revolution, which was established in a German public-private initiative to construct smart factories through the integration of physical objects and digital technologies (Keller et al., 2014). Therefore, the term "industry 4.0" refers to the advancement of technology from prior embedded systems to cloud-based computing platforms. Embedded systems, semantic machine-to-machine communication, the Internet of Things, and cloud computing are technological concepts that are integrating the physical world with the virtual world, and this is the major goal of Industry 4.0, according to the World Economic Forum (Xu et al., 2018).

2.6 Firm Performance

The idea of firm performance must be differentiated from the wider structure of operational productivity (Santos & Brito, 2012) due to the primary objective of organization science is to ascertain the factors that influence corporate performance (Barney, 2001). In today's business environment, when rivalry among firms has gotten increasingly fierce, businesses must differentiate themselves from their competitors in order to retain customer relationships Sun and Kim (2013), therefore managers are increasingly being pressed to consider their organization's environmental and social performance in addition to profitability (Pagell and Gobeli, 2009). While customer satisfaction may be an antecedent of financial performance, isn't it also a result of financial performance? This is subjective, as it is determined by how one defines firm performance (Santos and Brito, 2012), also rising number of businesses claim to place a premium on their employees' well-being – and there is a growing sector of businesses offering items linked to employee well-being (Krekel et al., 2019). Additionally these factors to examine are customer and employees satisfaction, Customers want businesses to meet their

expectations when it comes to goods and services (Fornell et al., 1996). In order to do this, businesses must first understand their customers' demands, then eliminate flaws and enhance the perceived quality and value added of their goods (Santos and Brito, 2012), thus the intention to pay and the value produced by a firm thereby improve customer satisfaction (J.B. Barney & Clark, 2017). On the other hand, employee satisfaction is proportional to human resource practices investments. This group places a premium on well-defined job descriptions, investment in training, career development opportunities, and favorable incentive schemes (Harter et al., 2002).

3. Research Methodology

3.1. Figure Research Model and the Relevant Theories for Each Construct.

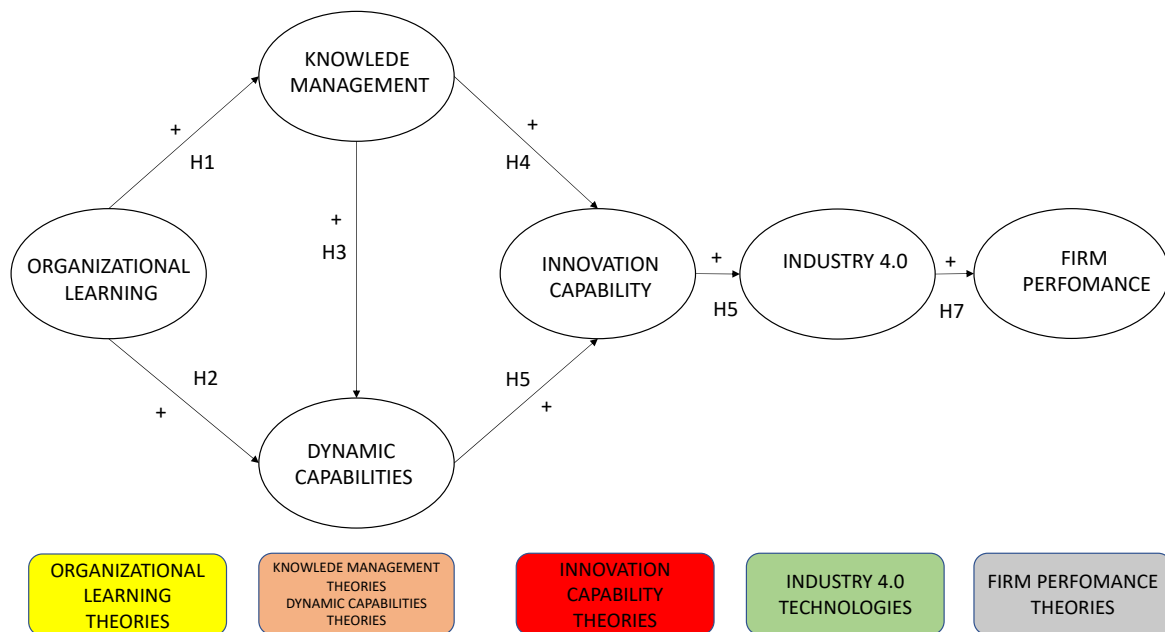


Figure 3.1. Research Model and the Relevant Theories for Each Construct.

The study examines the relationships between organizational learning, knowledge management, dynamic capability, Innovation Capability, and firm performance as they relate to Industry 4.0 implementation. Firstly, the study examines the relationship between organizational learning of the organization on knowledge management and dynamic capability. Secondly, the study examines the relationship towards knowledge management, dynamic

capability, Innovation Capability. Thirdly, the study looks at the relationship of Dynamic Capability and Industry 4.0. Lastly, the study looks at the relationship of Industry 4.0 towards the firm performance construct. The type of study conducted is the quantitative and descriptive. This study adopts the “positivism” research philosophy, as the hypotheses that are used in this study is constructed through a logical synthesis based on previous studies and literature review to establish the relationship between each of the constructs. The study’s research paradigm is deductive, which is obtaining a conclusion by analysis of data to test whether the hypotheses are true or false, with a research strategy that focuses on primary data taken via survey and/or questionnaires. Therefore, this study used cross-sectional survey based on primary data, collected from the various staffs in manufacturing companies in Indonesia. The questionnaire was adapted from previous studies and its reliability was checked and found satisfactory.

3.1 Data Collection

The sample for this study comprises of two hundred and seventy-one (271) of manufacturing companies in Indonesia. The survey was also distributed via online and In-house questionnaire direct visit to workplace where respondents we given a QR scan link to google forms due to the current Covid-19 pandemic and empirical data was collected from a total of 271 respondents.

3.1.1. Sampling Method

First the researcher will set up the criteria for the research questions to be formulated, then specify the various individuals or companies. From this data set, the study will focus on the sample generated using the Slovins approach. Secondly, the researcher determined the sampling design and the appropriate sample size by specifying the manufacturing companies that are duly adapting to Industry 4.0 approach. Finally, the researcher will execute the sampling process.

3.1.2 Sampling Procedures

As previously mentioned in the research context section above, the population of this study are the people working in the manufacturing industry in Indonesia. A probability sampling analysis was used in combination with judgment sampling to analyse the implementation of industry 4.0 in the manufacturing industry.

3.1.3 Measure Data Collection

In order to obtain proper consent from the targeted companies for the current study, researchers initially called and emailed the companies to obtain their permission to gather data. Once the formal authorization had been secured, the study survey was distributed to the companies that had agreed to participate. The participants were informed and briefed on the contents of the questionnaire so that they could understand it before completing it in its entirety. So other where sent via LinkedIn and WhatsApp using google forms.

3.1.4. Research Instruments

The research instruments used in this study can be seen in Table 3.1 below.

3.1 Table Research Instruments

Table 3.1. Research Instruments.

Construct/Variable	Dimension	Observed Variable	Source
Organizational Learning (OL)	Managerial Commitment System Perspectives Openness and Experimentation Knowledge Transfer and Integration	5 variables 3 variables 4variables 4 variables 16 Variables	(Jerez-Gómez et al., 2005)
Knowledge Management	Internal acquisition mechanisms Codification & control mechanism External acquisition mechanisms Knowledge absorption Access to knowledge Personal interactions TOTAL	2 Variables 2 Variables 2 Variables 2 Variables 2 Variables 2 Variables 12 Variables	(Silva and Odelius, 2018)
Dynamic Capabilities	Sense Seize Managing Threats and Reconfiguration TOTAL	3 Variables 3 Variables 3 Variables 9 Variables	(Ivan et al., 2020)
Innovation Capabilities	Product Innovation Process Innovation Organizational Innovation Marketing Innovation Innovation culture Innovation resource TOTAL	2 Variables 2 Variables 2 Variables 2 Variables 2 Variables 2 Variables 12 Variables	(Calik et al., 2017)

Industry 4.0	Big Data Smart Factory Cyber-Physical Systems IOT TOTAL	3 Variables 3 Variables 3 Variables 3 Variables 12 Variables	(Imran, Hameed and Haque, 2018)
Firm Performance	Employee Satisfaction Customer Satisfaction Growth TOTAL	3 Variables 3 Variables 3 Variables 9 Variables	(Santos and Brito, 2012)
	Total	70 Variables	

4. Results

As outlined in the previous chapter, this study's unit of analysis manufacturing industry in Indonesia, which is stratified into levels that involve low to top level executives/managers within the organization. The total number of respondents that answered, including those who failed screening, is 271 respondents. This yields to a 27.1 % response rate. After further screening using the SPSS Statistics software, 12 respondents who are marked to be outliers according to their Mahalanobis Distance are removed. The final respondents, as mentioned before, is 259 people. The process of screening will be discussed later in another subchapter with more detail.

4.1 Demographic Data of Respondents

Males made up the majority of responses (71 percent), while females made up approximately 29 percent of the sample. This indicates that majority of manufacturing firms are dominated by men. The respondents are mostly in the age group of 30-39 (38.2% of total respondents), followed by Other ages are between 20-29 years (27 percent of the total sample), 40 to 49 years (20.8 percent of the total sample) and 50 to 59 years (11.6 percent of the total sample), 60 and above years (2.3 percent of the total sample). From the above data it can be seen that there are lots of middle age and young people in the manufacturing sector in Indonesia. Bachelor's degree level had the highest of (33.6%) and most have at least a high school degree (32%), followed by diploma of (28.2%), Only 5% of the respondents have attained a master's degree, and similarly only 1.2% of the respondents have a doctorate degree. Majority of the respondents' low level staffs (52.9%), whereas other positions accounted for; middle management (23.2%), CEO/Founder (14.7%), and finally top management accounted for (9.3%). Base on the size of organization, there are 44.8% of the respondents worked in a

company with more 1000 in terms of size of organization. Followed by 16.6% under (500-1000), 14.7% under (0-50), (200-500) 12.7 % whereas for (50- 200) is 11.2%.

4.2 Data Analysis

Pre-data analysis measures such as pilot testing, data screening and cleaning, verifying normality and collinearity, and reliability analysis were used to enhance the measurement and validate the data for Structural Equation Modelling (SEM) analysis in this study. First, the survey measurement was piloted to confirm the accuracy of the questions and scale items. As a result, the questionnaire, which consisted of 75 items, was distributed online to 26 respondents via Google Forms. Researcher check for outliers using SPSS statistics and 7 outliers were found. After the pilot test a focus group discussion was conducted as well with respondents who participated in the pilot test phase, the researcher discovered that certain items were unintelligible to respondents due to being written in a second language (Bahasa). Cronbach's Alpha values for each construct exceeded 0.961, the constructs demonstrated reasonable efficiency, and the item was subsequently accepted. Furthermore, final data of 271 sample is evaluated, first researcher screened for missing data using SPSS, and no missing data was found with all variables show "0= zero", means there is no missing data for each variables, secondly data accuracy was determined using minimum and maximum results, all answers are within the specific theoretical range (1-5), indicating the accuracy of data entry. Third researcher checked for outliers again, outliers were found and using the Mahalanobis Distance. The study tested for outliers in multivariate data by calculating the Mahalanobis Distance (D2) and calculating the significance of D2 (Probability of D2). This test reveals the presence of outliers if the probability of D2 is less than 0.01. Additional 12 respondents were judged to be outliers and were thus removed from the sample, leaving a total of 259 respondents.

4.3 Descriptive Statistics Analysis

The descriptive statistics function of SPSS Version 26 from IBM is used to examine the data in this study. Result shows that most of the respondents are neutral on Organizational Learning, for managerial commitment, with a mean of 3.6, compared to system perspective with have the highest with mean of 3.8, followed by openness & experimentation 3.7 and knowledge transfer & integration dimension 3.7 for mean. Although they are neutral, it can be seen that respondents are more likely to partake in organizational learning activities in the organization. It is important to note that none of the respondents answered below 3 for organizational learning,

indicating that their organizations are all in the part of learning in a certain degree. The Cronbach's Alpha for OL construct is 0.916.

The respondents are still a bit high on knowledge management, with a construct mean of 3.7, with highest being internal acquisition mechanism with a mean of 3.78, followed by knowledge absorption and access to knowledge with a mean of 3.77 and 3.72 respectively and lastly external acquisition mechanism and codification and control dimension was 3.65 and 3.61. The results display that most of the respondents are exposed to knowledge management practices within and outside the organization, this indicates most of the respondents perform knowledge management. The Cronbach's Alpha for KM construct is 0.908.

Dynamic capability which is one of the core elements in Industry 4.0 which is expected to be high had an average mean of 3.76, with seizing as the highest with 3.8, followed by managing threats and sensing at 3.75 and 3.71. However, some of the respondents from the result indicates that organization does not exhibit dynamic capability, with a minimum value of 1 and maximum value of 5. But with the construct mean of 3.7 average views their organization has dynamic capability to some extent. This shows that organization is aware of the changes within the environment and are responding to those changes like sensing, seizing, and analysing the threats of industry 4.0. The Cronbach's Alpha for DC construct is 0.897.

In the aspect of Innovation capability most of the respondents are innovation capability exposed with a construct average of 3.7. It can be seen that the strongest dimension of innovation capability is organization innovation at 3.81 and marketing innovation of 3.80 respectively. Followed by Product innovation, process innovation, innovation resources, and lastly innovation culture. This indicates that respondents possess innovative capabilities, with marketing innovation as the highest dimension indicates that respondents are likely to value the outcome of their products to customers in regard to appearance of the product. The Cronbach's Alpha for IC construct is 0.902.

When it comes to industry 4.0 with the construct mean being 3.6. It shows that organization is leaning towards industry 4.0 implementation, with Cyber -security systems as the highest with 3.8 followed by smart factory and big data at 3.7 which have similar means and lastly Internet of things. It could be seen that the organizations are implementing industry 4.0 gradually with average score on the mean. This means respondent's organizations provides the ability to handle challenges, obstacles, and threats. The Cronbach's Alpha for I construct is 0.904.

As for the construct firm performance with construct mean being 3.6. This value indicates that the respondents perceive that their businesses are performing within average. With customer satisfaction as the highest dimension with 3.78 followed by employee satisfaction and growth. The result doesn't really mean the organizations are not performing since firm performance is not measured by profit performance rather than employee's perspectives. With customer satisfaction as the highest dimension, it can be said that the outcome of industry 4.0 which is rapid changing customer demands and preference, this is in line with the manufacturing industry able to satisfy these demands. The Cronbach's Alpha for FP construct is 0.909.

4.3.1. Normality

To conduct an analysis of the data using the appropriate tests (parametric or nonparametric), the data's normality must first be established. The data is determined to be non-normal (sig score 0.05) using the Kolmogorov-Smirnov and Shapiro-Wilk normality tests. This indicates that data are investigated more thoroughly when nonparametric tests are used. The outcome is shown in Table 4.3 below.

4.3.1. Table Normality Test Result

Table 4.3.1 Normality Test Result

Variables	Kolmogorov-Smirnova		Shapiro-Wilk	
	Statistic	Significance	Statistic	Significance
OL	.169	0.000	.942	0.000
KM	.220	0.000	.909	0.000
DC	.229	0.000	.914	0.000
IC	.191	0.000	.923	0.000
I	.216	0.000	.927	0.000
FP	.193	0.000	.916	0.000

4.3.2 Correlations

Additionally, to the aforementioned characteristics, the study discusses the relationship between the variables in the research model via their correlations. This data would be used to refine the research model's analysis. To test the link between the model's variables, we used Spearman's (non-parametric) correlation. As shown in Table 4.4 below, the data indicates that the variables are significantly correlated to each other ($P < 0.01$). The results

showed that organizational learning is correlated with knowledge management, dynamic capability and Innovation capability ($\rho = 0.585, 0.556, 0.516$, respectively) but also with industry 4.0 and firm performance ($\rho = 0.526, 0.514$, respectively).

Knowledge management is related to dynamic capability, innovation capability and industry 4.0 ($\rho = 0.658, 0.628, 0.545$, in order), but also with firm performance ($\rho = 0.471$). Dynamic capability is related to innovation capability, industry 4.0 ($\rho = 0.723, 0.657$, in order), as well as firm performance ($\rho = 0.594$). Innovation capability is correlated with industry 4.0 and firm performance ($\rho = 0.675, 0.635$), and lastly industry 4.0 is correlated with firm performance ($\rho = 0.677$).

4.3.2. Table Spearman's Rho Correlation Test Results

4.3.2. Table 4.3.2 Spearman's Rho Correlation Test Results.

	Variable	Mean	SD	1	2	3	4	5	6
1	Organizational Learning	3.61	0.91	1					
2	Knowledge Management	3.73	0.87	0.585**	1				
3	Dynamic Capability	3.75	0.82	0.556**	0.658**	1			
4	Innovation Capability	3.76	0.86	0.516**	0.628**	0.723**	1		
5	Industry 4.0	3.6	0.86	0.526**	0.545**	0.657**	0.675**	1	
6	Firm performance	3.6	0.92	0.514**	0.471**	0.594**	0.635**	0.677**	1
**Correlation is significant at the 0.01 level (2-tailed).									

4.3.3. Hypotheses Testing Results

There are 11 hypotheses that this study is examining, which are: (1) the relationship between organizational learning and knowledge management (2) the relationship between organizational learning and dynamic capability; (3) the relationship between knowledge management and dynamic capability; (4) the relationship between knowledge management and innovation capability; (5) relationship between dynamic capability and innovation capability; (6) the relationship between innovation capability and industry 4.0; (7) the relationship between industry 4.0 and firm performance. The result of the hypothesis testing

shows that all 7 hypotheses are supported. Based on the structural model analysis done by LISREL, below is structural and T-value Measurement model.

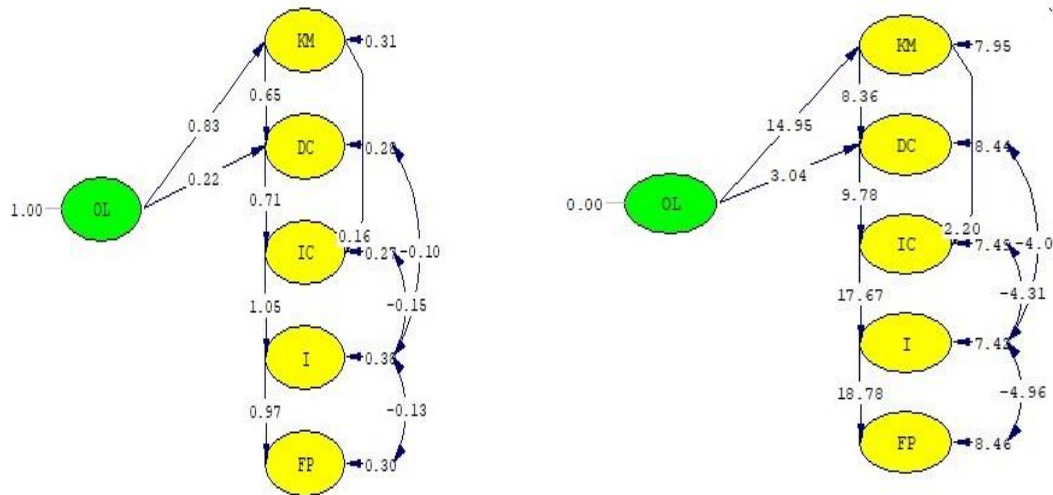


Figure 4.3. Left: Structural coefficient of the model. Right: t-value of the model.

4.3.4. Table Hypothesis Testing Results

Table 4.3.4. Hypothesis Testing Results.

Code	Hypothesis	Structural Coefficient	T-values	Hypothesis Test Result
H1	Organizational learning has a positive relationship towards knowledge management	0.83	14.96	Supported
H2	Organizational learning has a positive relationship towards Dynamic Capability	0.22	3.04	Supported
H3	Knowledge management has a positive relationship towards dynamic capability	0.65	8.36	Supported
H4	Knowledge management has a positive relationship towards innovation capability	0.31	7.95	Supported
H5	Dynamic capability has a positive relationship towards innovation capability	0.71	9.78	Supported
H6	Innovation capability has a positive relationship towards Industry 4.0	1.05	15.67	Supported
H7	Industry 4.0 has a positive relationship towards Firm Performance	0.97	18.78	Supported

4.3.3 Table Overall Model Fit

Table 4.3.5 Overall Model Fit Analysis

Item	Overall Model Fit	Fit Conclusion
χ^2/df	1.57	Good Fit
RMSEA	0.047	Good Fit
GFI	0.90	Good Fit
SRMR	0.02	Good Fit
CFI	1.00	Good Fit
NFI	0.99	Good Fit
NNFI	0.99	Good Fit
IFI	1.00	Good Fit
Conclusion	8 Good Fit	Good Fit

5. Discussion

As the result have shown, there are 7 supported hypotheses, and the analysis has determined the model to have good fit. Each of the hypotheses will be discussed in its own subchapter.

5.1 Organizational learning and Knowledge Management [H1: Supported]

The first hypothesis, positive relation between organizational learning and knowledge management with a structural coefficient of 0.83 and a t-value of 14.95. Thus, hypothesis H1: “Organizational learning has a positive relationship with knowledge management” is supported. This is because the management exhibits managerial commitment within the organization and acknowledge the importance of learning, therefore fostering a culture that regards the acquisition, creation, and transfer of knowledge as essential values (McGill et al., 1992). These management commitments leads to system perspectives such as having a clear understanding of organization objectives and how the work within in the development of the overall objectives (Tomas et al., 1997). From the hypothesis it can be concluded that companies with a strong learning culture excel in creating, acquiring, and transferring knowledge, as well as adapting behavior to new knowledge and insight.

5.2 Organizational learning (OL) and Dynamic Capability (DC) [H2: Supported]

The second hypothesis findings of this study indicate that organizational learning (OL) has a positive relationship with dynamic capability with a structural coefficient of 0.22 and a t-value of 3.04. Hence, hypothesis H2: “Organizational learning has a positive relationship with dynamic capability, is also supported as theorized. Organizational learning is a component part of dynamic capabilities concept Giniuniene & Jurksiene (2015), built the argument that the influence of dynamic capabilities on firm performance is mediated by internal organizational processes or more physical capabilities that may be changed by dynamic capabilities. As previously mentioned dynamic capabilities is the ability to make use of complex inductive logic that is apparent in the learning process which produces new knowledge. In the context of Industry 4.0 implementation organizational learning and dynamic capability are key important variables, for example putting money into current or new assets or implementing organizational learning. The investments are based on the new software solutions or new advancements in data science brought about by automation technologies, which enable the development of dynamic capabilities and sustainable business processes, as well as the expansion of existing process capabilities (Felsberger et al., 2020)

5.3 Knowledge Management (KM) and Dynamic Capability (DC) [H3: Supported]

The third hypothesis, positive relation of Knowledge Management (KM) and Dynamic Capability (DC) is positively related with a structural coefficient of 0.65 and a t-value of 8.36. Thus, hypothesis H3: Knowledge Management (KM) has a positive relationship with Dynamic Capability (DC) is supported. In today's unpredictable business contexts, knowledge management as dynamic capabilities have emerged as the most important factor in obtaining and maintaining a competitive advantage. (Nguyen & Neck, 2014). Dynamic capability is an important intermediary organizational mechanism that allows the benefits of knowledge management capability to be translated into performance effects at the corporate level. In other words, knowledge management competence helps businesses become more dynamic. Meanwhile, dynamic capability improves organizational performance and gives competitive advantages as a result of this (Tseng & Lee, 2014). One key foundation of dynamic capabilities, the essential (micro) basis is knowledge management, which encompasses creating learning sharing knowledge, and integrating knowledge. In justification for this hypothesis is that dynamic capability and knowledge could influence the implementation of industry 4.0 in the manufacturing industry.

5.4 Knowledge Management (KM) and Innovation Capability (DC) [H4: Supported]

The fourth hypothesis findings of this study indicate that Knowledge Management (KM) and Innovation Capability (DC) with a structural coefficient of 0.16 and a t-value of 2.20. Thus, hypothesis H4: Knowledge Management (KM) has a positive relationship with Innovation Capability (DC) is supported. In the context of knowledge creation, innovation refers to the adoption of new production processes as a result of the integration of current knowledge and new information and the subsequent creation of a commercially valuable product (Eren & Çiçeklioğlu, 2020). The term "innovation capability" refers to the capabilities and concepts that enable transformation via the process of comprehending and developing knowledge in order to generate new ideas (Deshpandé et al., 2012). Darroch (2005), suggested that a firm that improves its knowledge management skills would eventually be able to turn into a more innovative organization. Thus, knowledge must be managed and promoted effectively inside a company to ensure the effectiveness of innovation (Plessis, 2017).

5.5 Dynamic Capability (DC) and Innovation Capability (DC) [H5: Supported]

The fifth hypothesis findings of this study indicate that Knowledge Management (KM) and Innovation Capability (IC) with a structural coefficient of 0.71 and a t-value of 9.78. Thus, hypothesis H5: Dynamic Capability (DC) has a positive relationship with Innovation Capability (IC) is supported. Innovation capability develops throughout time as a result of continual learning procedures. As a matter of fact, the major goal of innovation capability is to gather and transform knowledge and ideas into new or improved commodities, processes, and systems for the benefit of the organization. (Birchall & Tovstiga, 2005). On the other hand, learning processes account for the majority of dynamic capacities (Zollo and Winter, 2002), Wang & Ahmed (2007), according to the authors, a company's ability to innovate is critical to its evolution and survival in today's rapidly changing world. When markets emerge, collide, divide, change, and perish, these capabilities are the organizational and strategic processes that allow organizations to modify their resource configurations (Eisenhardt & Martin, 2000).

5.6 Innovation Capability (DC) and Industry 4.0 (I) [H6: Supported]

The sixth hypothesis findings of this study indicate that Innovation Capability (IC) and Industry 4.0 (I) with a structural coefficient of 1.05 and a t-value of 17.67. Thus, hypothesis H6:

Innovation Capability (IC) has a positive relationship with Industry 4.0 (I) is supported. Organizational innovation capability is a competitive advantage in the industrial era 4.0, and it is essential for a company to succeed in this new millennium of manufacturing. A company's ability to innovate is widely considered as one of the most significant internal resources for achieving great performance (Sopa et al., 2020). As a result of globalization, there is a need to build competencies for effectively managing business models and product portfolios, gaining access to prospective markets and consumers, as well as enhancing value chain processes (Shamim et al., 2016). According to McKinsey, Industry 4.0 implementations might result in a 15–20% increase in value-added efficiency.

5.7 Industry 4.0 (I) and Firm Performance(FP) [H7: Supported]

The sixth hypothesis findings of this study indicate that Industry 4.0 (I) and firm performance (FP) with a structural coefficient of 0.97 and a t-value of 18.78. Thus, hypothesis H6: Industry 4.0 (I) has a positive relationship with firm performance (FP). Industry 4.0 will significantly alter the way manufacturing is produced and organized. It has been stated that the influence of Industry 4.0 on business performance show that if businesses embrace the Industry 4.0 strategy, profitability and patent applications will grow (Lin et al., 2019). The magnitude of Industry 4.0's influence on employees and the jobs they perform stems from the idea that the industrial revolution would result in a significant improvement in company efficiency (Dean et al., 2018). The technology that has fuelled the current Industry 4.0 revolution has an impact on every part of a company, including sales and operations, customer data collecting and analysis, as well as marketing. Also relevant to the aforementioned areas are 3D printing, Internet of Things (IoT), big data, artificial intelligence (AI), and smart manufacturing systems, to name a few. Consumer engagement, improved customer lifecycle management, tailored purchase experiences, empowered employees, consumer-optimized manufacturing, and consumer-added product benefits are all quantifiable results of business 4.0 technologies.

6. Conclusion

It can be concluded that Industry 4.0 implementation in the manufacturing industry in Indonesia cannot be facilitated without organizational learning, knowledge management, dynamic capability as well as innovation capability. Dynamic capabilities ignite organization to be aware of the changes within their surroundings with customer's preference changing daily, companies need to be able to sense, seize and manage their threats in order to remain

competitive. In this digital era manufacturing industries cannot survive without upgrading to industry 4.0 technologies to be able to meet the high demands of the markets. And within the organization how they learn, create, acquire, share and how innovative the organization can be will enable them stand out within their competitors. Thus, this study has been able to find out the impact of organizational learning, knowledge management, dynamic capability, innovation capability and firm performance in the implementation of industry 4.0 in the manufacturing industry.

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References

- Alsabbagh, M., & Khalil, A. H. AL. (2017). The Impact of Organizational Learning on Innovativeness (An Empirical Study on the Education Sector in Damascus City). *International Journal of Academic Research in Business and Social Sciences*, 7(7), 731–751. <https://doi.org/10.6007/ijarbss/v7-i7/3135>
- Barney, J.B., & Clark, D. N. (2017). Resource-Based Theory Creating and Sustaining Competitive Advantages. *Oxford University Press, Oxford*, 327. <https://doi.org/10.4236/ce.2017.86064>
- Barney, Jay B. (2001). *Gaining and sustaining competitive advantage*. <https://www.worldcat.org/title/gaining-and-sustaining-competitive-advantage/oclc/490827251>
- Bhojaraju, G. (2005). KNOWLEDGE MANAGEMENT: WHY DO WE NEED IT FOR CORPORATES. *Malaysian Journal of Library & Information Science*, 10(20), 37–50.
- Birchall, D., & Tovstiga, G. (2005). Capabilities for strategic advantage: Leading through technological innovation. *Capabilities for Strategic Advantage: Leading Through Technological Innovation*, 1–304. <https://doi.org/10.1057/9780230522497>
- Büchi, G., Cugno, M., & Castagnoli, R. (2020). Technological Forecasting & Social Change Smart factory performance and Industry 4 . 0. *Technological Forecasting & Social Change*, 150(June 2019), 119790. <https://doi.org/10.1016/j.techfore.2019.119790>
- Calik, E., Calisir, F., & Cetinguc, B. (2017). A Scale Development for Innovation Capability Measurement. *Journal of Advanced Management Science*, 5(2), 69–76. <https://doi.org/10.18178/joams.5.2.69-76>
- Cangelosi, V. E., & Dill, W. R. (1965). Organizational Learning: Observations Toward a Theory. *Administrative Science Quarterly*, 10(2), 175. <https://doi.org/10.2307/2391412>
- Crossan, M., & Guatto, T. (2006). *Organizational learning research profile*.
- Crossan, M. M., Lane, H. W., & Whit, R. E. (1999). AN ORGANIZATIONAL LEARNING FRAMEWORK: FROM INTUITION TO INSTITUTION. *Academy of Management Review*, 24(3), 522–537. <https://doi.org/10.1021/es201180v>
- Darroch, J. (2005). Knowledge management, innovation and firm performance. *J. Knowledge Management*, 9, 101–115. <https://doi.org/10.1108/13673270510602809>
- Davenport, T. H. (1993). “If Only HP Knew What HP Knows . . .” *Technology Watch*, 20–25.
- De Geus, A. P. (1988). Planning as Learning. *Harvard Business Review*, 66(2), 70–74.
- Dean, M., Spoehr, J., Dean, M., & Spoehr, J. (2018). *The fourth industrial revolution and the future of manufacturing work in Australia : challenges and opportunities The fourth industrial revolution and the future of manufacturing work in Australia : challenges and opportunities*. 1(16). <https://doi.org/10.1080/10301763.2018.1502644>
- Deshpandé, R., Farley, J. U., & Webster, F. E. (2012). Corporate Culture, Customer Orientation, and Innovativeness in Japanese Firms: A Quadrant Analysis. *Developing a Market Orientation*, 79–102. <https://doi.org/10.4135/9781452231426.n4>

- Eisenhardt, K. M., & Martin, J. A. (2000). Dynamic capabilities: What are they? *Strategic Management Journal*, 21(10–11), 1105–1121. [https://doi.org/10.1002/1097-0266\(200010/11\)21:10/11<1105::AID-SMJ133>3.0.CO;2-E](https://doi.org/10.1002/1097-0266(200010/11)21:10/11<1105::AID-SMJ133>3.0.CO;2-E)
- Ellitan, L. (2020). Competing in the Era of Industrial Revolution 4.0 and Society 5.0. *Jurnal Maksipreneur: Manajemen, Koperasi, Dan Entrepreneurship*, 10(1), 1. <https://doi.org/10.30588/jmp.v10i1.657>
- Emden, Z., Yaprak, A., & Cavusgil, S. T. (2005). Learning from experience in international alliances: Antecedents and firm performance implications. *Journal of Business Research*, 58(7), 883–892. <https://doi.org/10.1016/j.jbusres.2003.10.008>
- Eren, A. S., & Çiçeklioğlu, H. (2020). The Impact of Knowledge Management Capabilities on Innovation: Evidence from a Turkish Banking Call Center Sector. *European Journal of Social Sciences*, 60(3), 184–209.
- Felsberger, A., Qaiser, F. H., Choudhary, A., & Reiner, G. (2020). The impact of Industry 4.0 on the reconciliation of dynamic capabilities: evidence from the European manufacturing industries. *Production Planning and Control*, 0(0), 1–24. <https://doi.org/10.1080/09537287.2020.1810765>
- Fornell, C., Johnson, M. D., Anderson, E. W., Cha, J., & Bryant, B. E. (1996). The American Customer Satisfaction Index: Nature, purpose, and findings. *Journal of Marketing*, 60(4), 7–18. <https://doi.org/10.2307/1251898>
- Gao, T., Chai, Y., & Liu, Y. (2018). A review of knowledge management about theoretical conception and designing approaches. *Journal of Crowd Science*, 2(1). <http://arxiv.org/abs/1608.07685>
- Garrido, I. L., Kretschmer, C., de Vasconcellos, S. L., & Gonçalves, C. R. (2019). Dynamic capabilities: A measurement proposal and its relationship with performance. *Brazilian Business Review*, 17(1), 46–65. <https://doi.org/10.15728/BBR.2020.17.1.3>
- Garvin, D. A., Edmondson, A. C., & Gino, F. (2008). Is yours a learning organization? *Harvard Business Review*, 86(3).
- Giniuniene, J., & Jurksiene, L. (2015). Dynamic Capabilities, Innovation and Organizational Learning: Interrelations and Impact on Firm Performance. *Procedia - Social and Behavioral Sciences*, 213(1997), 985–991. <https://doi.org/10.1016/j.sbspro.2015.11.515>
- Grant, R. M. (1996). Toward a knowledge-based theory of the firm. *Strategic Management Journal*, 17(SUPPL. WINTER), 109–122. <https://doi.org/10.1002/smj.4250171110>
- Gremme, K.-M., & Wohlgemuth, V. (2017). Dynamic capabilities: a systematic literature review of theory and practice. *European Journal of Management Issues*, 25(1), 30. <https://doi.org/10.15421/191705>
- Harter, J. K., Schmidt, F. L., & Hayes, T. L. (2002). Business-unit-level relationship between employee satisfaction, employee engagement, and business outcomes: A meta-analysis. *Journal of Applied Psychology*, 87(2), 268–279. <https://doi.org/10.1037/0021-9010.87.2.268>
- Hidayat, M., & Yunus, U. (2019). The entrepreneurship learning in industrial 4.0 era (case study in Indonesian college). *Journal of Entrepreneurship Education*, 22(5), 2021.
- Hogan, S. J., & Coote, L. V. (2014). Organizational culture, innovation, and performance: A test of Schein's model. *Journal of Business Research*, 67(8), 1609–1621. <https://doi.org/10.1016/j.jbusres.2013.09.007>

- Huber, G. P. (1991). Organizational Learning: The Contributing Processes and the Literatures. *Organization Science*, 2(1), 88–115. <https://doi.org/10.1287/orsc.2.1.88>
- Hung, S. W., Wang, A., & Chang, C. C. (2012). Exploring the evolution of nano technology Nano HPLC : Phase and Particle Study Discover the world ' s research. *Technology Management for Emerging Technologies (PICMET), 2012 Proceedings of PICMET '12:*
- Ibarra, D., Ganzarain, J., & Igartua, J. I. (2018). Business model innovation through Industry 4.0: A review. *Procedia Manufacturing*, 22, 4–10. <https://doi.org/10.1016/j.promfg.2018.03.002>
- Jerez-Gómez, P., Céspedes-Lorente, J., & Valle-Cabrera, R. (2005). Organizational learning capability: A proposal of measurement. *Journal of Business Research*, 58(6), 715–725. <https://doi.org/10.1016/j.jbusres.2003.11.002>
- Kagermann, H., Wahlster, W., & Helbig, J. (2013). Securing the future of German manufacturing industry: Recommendations for implementing the strategic initiative INDUSTRIE 4.0. *Final Report of the Industrie 4.0 Working Group, April*, 1–84.
- Keller, M., Rosenberg, M., Brettel, M., & Friederichsen, N. (2014). How Virtualization, Decentralization and Network Building Change the Manufacturing Landscape: An Industry 4.0 Perspective. *International Journal of Mechanical, Aerospace, Industrial, Mechatronic and Manufacturing Engineering*, 8(1), 37–44.
- Kemenkeu. (2019). *These are Indonesia ' s Challenges in Facing Industrial*. The Ministry of Finance, Republic of Indonesia.
- Kogut, B., & Zander, U. (1992). Knowledge of the firm. Combinative capabilities, and the replication of technology. *Management of Technology*, 3(3), 383–397. <https://doi.org/10.1287/orsc.3.3.383>
- Krekel, C., Ward, G., & Neve, J.-E. De. (2019). Happy employees and their impact on firm performance. *LSE Business Review*. <https://blogs.lse.ac.uk/businessreview/2019/07/15/happy-employees-and-their-impact-on-firm-performance/>
- Lee, J. (2015). *Industry 4.0 and Manufacturing Transformation. January*.
- Lin, B., Wu, W., & Song, M. (2019). *performance : an empirical study on China ' s manufacturing industry. 0123456789*.
- McGill, M. E., & Slocum, J. W. (1993). Unlearning the organization. *Organizational Dynamics*, 22(2), 67–79. [https://doi.org/10.1016/0090-2616\(93\)90054-5](https://doi.org/10.1016/0090-2616(93)90054-5)
- McGill, M. E., Slocum, J. W., & Lei, D. (1992). Management practices in learning organizations. *Organizational Dynamics*, 21(1), 5–17. [https://doi.org/10.1016/0090-2616\(92\)90082-X](https://doi.org/10.1016/0090-2616(92)90082-X)
- Mcgrath, R. G., Venkataraman, S., & Macmillan, I. C. (1994). The advantage chain: Antecedents to rents from internal corporate ventures. *Journal of Business Venturing*, 9(5), 351–369. [https://doi.org/10.1016/0883-9026\(94\)90012-4](https://doi.org/10.1016/0883-9026(94)90012-4)
- Mehta, N., & Bharadwaj, A. (2015). Knowledge integration in outsourced software development: The role of sentry and guard processes. *Journal of Management Information Systems*, 32(1), 82–115. <https://doi.org/10.1080/07421222.2015.1029381>
- Mirvis, P. H. (1996). His torical foundations of organization learning. *Journal of Organizational Change Management*, 9(1), 13–31.

- Nahapiet, J., & Ghoshal, S. (1998). Social capital, intellectual capital, and the organizational advantage. *The Academy of Management Review*, 23(2), 242–266. <https://doi.org/10.2307/259373>
- Nguyen, Q. T. N., & Neck, P. A. (2014). Knowledge Management as Dynamic Capabilities: Does It Work in Emerging Less Developed Countries? *Igarss 2014*, 1, 1–5.
- Nonaka, I., & Hirotaka, T. (1995). *The Knowledge-creating Company* :
- Oztemel, E., & Gursev, S. (2018). Literature review of Industry 4.0 and related technologies. *Journal of Intelligent Manufacturing*, 31(4). <https://doi.org/10.1007/s10845-018-1433-8>
- Pagell, M., & Gobeli, D. (2009). How plant managers' experiences and attitudes toward sustainability relate to operational performance. *Production and Operations Management*, 18(3), 278–299. <https://doi.org/10.1111/j.1937-5956.2009.01050.x>
- Parashar, M., & Sunil, K. S. (2005). innovation capability. *IIMB Management Review*, December. <http://www.iamot.org/conference/index.php/ocs/4/paper/view/546/69>
- Perindustrian, K. (2018). *Indonesia Making Indonesia*.
- Pham, L. T., & Hoang, H. V. (2019). The relationship between organizational learning capability and business performance. *Journal of Economics and Development*, 21(2), 259–269. <https://doi.org/10.1108/jed-10-2019-0041>
- Plessis, M. du. (2017). The role of knowledge management in innovation. *Journal of Knowledge Management*, 11(4), 20–29. <https://doi.org/10.7312/meja92024-026>
- Protogerou, A., Caloghirou, Y., & Lioukas, S. (2011). Dynamic capabilities and their indirect impact on firm performance. *Industrial and Corporate Change*, 21(3), 615–647. <https://doi.org/10.1093/icc/dtr049>
- Quinn, J. (1999). Strategic Outsourcing: Leveraging Knowledge Capabilities. *Sloan Management Review*, 40(4), 9–22.
- Santos, J. B., & Brito, L. A. L. (2012). Toward a subjective measurement model for firm performance. *BAR - Brazilian Administration Review*, 9(SPL. ISS), 95–117. <https://doi.org/10.1590/S1807-76922012000500007>
- Schwab, K. (2016). The Fourth Industrial Revolution: what it means and how to respond. *World Economic Forum*, 1–7.
- Senge, P. M. (1990). *The Fifth Discipline: The art and practice of learning organisation*.
- Shamim, S., Cang, S., Yu, H., & Li, Y. (2016). *Management Approaches for Industry 4 . 0*. July. <https://doi.org/10.1109/CEC.2016.7748365>
- Shuen, D. J. T. G. P. A. (1997). Ethno-cultural and linguistic transference and countertransference: From asian perspectives. *Strategic Management Journal*, 18(7), 509–553. <https://doi.org/10.1176/appi.psychotherapy.2009.63.1.13>
- Si Xue, C. T. (2017). A Literature Review on Knowledge Management in Organizations. *Research in Business and Management*, 4(1), 30. <https://doi.org/10.5296/rbm.v4i1.10786>
- Smith, K. G., Collins, C. J., & Clark, K. D. (2005). Existing knowledge, knowledge creation capability, and the rate of new product introduction in high-technology firms. *Academy of Management*

Journal, 48(2), 346–357. <https://doi.org/10.5465/AMJ.2005.16928421>

- Soo, C., Devinney, T., Deering, D., & Anne, M. (2002). Knowledge Management: PHILOSOPHY, PROCESSES, AND PITFALLS. *CAUFORNIA MANAGEMENT REVIEW*, 44(4).
- Sopa, A., Asbari, M., Purwanto, A., Budi Santoso, P., Mustofa, Hutagalung, D., Maesaroh, S., Ramdan, M., & Primahendra, R. (2020). Hard skills versus soft skills: Which are more important for Indonesian employees innovation capability. *International Journal of Control and Automation*, 13(2), 156–175.
- SubbaNarasimha, P. N. (2001). Strategy in turbulent environments: the role of dynamic competence. *Managerial and Decision Economics*, 22(4–5), 201–212. <https://doi.org/10.1002/mde.1017>
- Sullivan, J. J., & Nonaka, I. (1986). THE APPLICATION OF ORGANIZATIONAL LEARNING THEORY TO JAPANESE AND AMERICAN MANAGEMENT. *Journal of International Business Studies*, 17(3), 127–147.
- Sun, K. A., & Kim, D. Y. (2013). Does customer satisfaction increase firm performance? An application of American Customer Satisfaction Index (ACSI). *International Journal of Hospitality Management*, 35, 68–77. <https://doi.org/10.1016/j.ijhm.2013.05.008>
- Syrett, M., & Lammiman, J. (2002). *Successful Innovation How to Encourage and Shape Profitable Ideas*.
- Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), 509–533.
- Tomas, G., Hult, M., & Ferrell, O. C. (1997). Global organizational learning capacity in purchasing: Construct and measurement. *Journal of Business Research*, 40(2), 97–111. [https://doi.org/10.1016/s0148-2963\(96\)00232-9](https://doi.org/10.1016/s0148-2963(96)00232-9)
- Tseng, S. M., & Lee, P. S. (2014). The effect of knowledge management capability and dynamic capability on organizational performance. In *Journal of Enterprise Information Management* (Vol. 27, Issue 2, pp. 158–179). <https://doi.org/10.1108/JEIM-05-2012-0025>
- Wang, C. L., & Ahmed, P. K. (2007). Dynamic capabilities: A review and research agenda. *International Journal of Management Reviews*, 9(1), 31–51. <https://doi.org/10.1111/j.1468-2370.2007.00201.x>
- Wang, Y., & Ellinger, A. D. (2008). Organizational Learning and Innovation Performance: A Review of the Literature and the Development of a Conceptual Framework and Research Hypotheses. *Academy of Human Resource Development International Research Conference in the Americas*, 42–43. <http://eric.ed.gov/?id=ED501671>
- Xu, L. Da, Xu, E. L., & Li, L. (2018). Industry 4.0: State of the art and future trends. *International Journal of Production Research*, 56(8), 2941–2962. <https://doi.org/10.1080/00207543.2018.1444806>

THE EFFECT OF KNOWLEDGE MANAGEMENT IMPLEMENTATION THROUGH COMPANY LEARNING ON COMPANY PERFORMANCE

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ABSTRACT

The knowledge management process is a process that helps organizations to meet their needs in handling knowledge to predict, control, and make decisions. The purpose of this study is to know the influence of knowledge management on post-merger company performance, the effect of organizational learning on post-merger company performance, the impact of knowledge management on organizational learning, and the role of organizational learning as a mediation relationship on knowledge management and company performance. The type of this research is explanatory research. The sampling technique used in this study is probability sampling, the unit of analysis used in this study was 100 employees of the Head Office of PT. Bina Pertiwi. The data analysis technique used in this research is Path Analysis. The results of this study indicate that knowledge management has a positive and significant effect on company performance; Knowledge Management is related to Organizational Learning which has a positive and significant impact; Organizational learning has a positive and significant impact on company performance, and the latest findings show that organizational learning mediates the relationship between knowledge management and company performance. In addition, this study shows that the implementation of knowledge management can facilitate communication, share knowledge, and apply the acquired knowledge.

Type of Paper: Empirical

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1. Introduction

Research on company performance has been carried out since several decades ago, where company performance can be influenced by tangible assets or resources such as ROA (Return on Assets), ROE (Return on Equity) (Anisa, 2015), DER (Debt to Equity). Ratio (Purnamaningsih & Wirawati, 2014), and others. Research on firm performance influenced by intangible resources began two decades ago, such as intellectual capital (Zaim et al., 2007), entrepreneurial skills (Chatterjee & Das, 2016), and knowledge management (Malhotra, 2005). However, research on the influence of knowledge management gives contradictory results. Several previous studies have explained the positive and significant impact of knowledge management on company performance (Demir et al., 2021; Liao & Wu, 2009). Research results from Darroch (2005) also explain that well-developed knowledge practices and behaviors are more likely to develop incremental innovation, where innovation is one indicator of company performance. However, research from Wahda (2017) shows different results, which show that knowledge management (KM) has no significant effect on organizational performance (KO) in the Science Study Program, State University of South Sulawesi. The cause of knowledge management not having a substantial impact on company performance can be influenced by many factors, one of which is the condition of the company after mergers and acquisitions.

To examine the relationship between knowledge management and company performance, I will research PT Bina Pertiwi, a company founded on November 15, 1976, focusing on Agriculture, Materials Handling, Power, and Energy and Construction. Wholly is owned by PT United Tractors Tbk (UT), which is also part of PT Astra International, Tbk. Recently, PT Bina Pertiwi conducted an operational merger with an affiliated company that is expected to increase market share and revenue and streamline operations so as to improve the company's financial performance. As a result, we can see the company's performance in the table below:

Table 1.1 Table of Company Performance

Business Line	Revenue - idr (before merger)				Revenue - idr (after merger)		Growth (%)
	2015	2016	2017	2018	2019	2020	
AMK							
After Market	1.207.685	1.180.126	1.356.227	1.143.416	1.626.692	889.517	-45%
Bina Pertiwi							
Unit	806.110	711.918	729.058	725.547	481.760	565.683	17%
Parts	51.704	55.707	73.321	82.191	55.646	84.046	51%
Rental	95.158	103.596	131.329	123.673	112.520	111.867	-1%
Service	32.904	33.481	45.525	45.303	35.875	61.659	72%
BPE					92.589	36.517	-61%
Total	2.193.561	2.084.828	2.335.460	2.120.130	2.405.082	1.749.289	-27%

Reference : internal data bina pertiwi - 2020

Based on the data, the performance of the two companies is relatively stable, but as we can see after the merger, there has been a decrease in revenue from 2019 compared to 2020. One of the things that are expected to contribute to improving company performance is knowledge management. One of the company's parameters to see if a company manages its knowledge is through innovation papers submitted by company employees. The following is a collection of innovation papers from PT Bina Pertiwi:

Table 1.2 Data Collection of Innovation

Kategori	BPIC 2016	BPIC 2017	BPIC 2018	BPIC 2020	Growth Inovasi
Design Thinking	44	113	130	139	7%
Suggestion System	42	68	56	101	80%
Quality Control Circle	15	11	14	24	71%
Quality Control Project	6	7	5	27	440%

(Source: Bina Pertiwi Company, 2020)

From the table above, in 2019, there were no activities held to collect innovation papers due to the merger between the two companies. Several years did not record the collection of innovation papers from the data above because there was a merger and consolidation process between the two companies. In 2020 there was an increase in the number of innovation paper submissions. Still, the data did not record the percentage of employees who submitted papers compared to the total number of employees. In addition, it has not recorded the follow-up of each winning essay in this innovation competition.

When (some) competent people leave the organization as one of the harmful excesses of the merger with all their knowledge, skills, and experience, that's when the organization loses a precious asset. Thus, the statement is supported by a resource-based view. Resource-based view

theory says that the resources of a company's competitive advantage are precious, rare, cannot be imitated, and have no substitute (Purnomo, 2011). Sukma (2017) explains that a resource-based view is a theory that emphasizes strategic choices, optimizing human resources, managing, identifying, developing, and using essential resources to maximize company value. Therefore, an organization that aspires to be an organization that can survive and grows in the long term must immediately realize the importance of intellectual property and assets and manage them optimally. Knowledge Management is here to answer these needs. The knowledge management process is a process that helps organizations to meet their needs in handling knowledge to predict, control, and make decisions. Based on the classification, knowledge becomes tacit. Although it explicitly refers to the book *Tacit Dimensions* by Michael Polanyi, 1966, tacit knowledge is personal, context-specific, and difficult to formalize and communicate.

On the other hand, explicit or codified knowledge refers to knowledge transmitted in informal, systematic language. According to Nonaka and Takeuchi, tacit knowledge and explicit knowledge are separate but complementary entities. They interact with and exchange for one another in human creative activities. Their dynamic model of knowledge creation is anchored in the critical assumption that human knowledge is created and expanded through social interactions between tacit knowledge and explicit knowledge, which they call knowledge conversion. (Nonaka & Takeuchi, 1996). The application of knowledge management in a company will enable the implementation of organizational learning. Organizational learning can also be said as a relatively permanent change in employee knowledge and skills that comes from experience (Nouri et al., 2017). Al-Hakim and Hassan (2013) in Nouri et al. (2017) said that if the company wants to achieve good performance, knowledge management and organizational learning are used together. The inconsistency of previous research is an important reason why this study was conducted. In addition, this study was conducted to know how to influence knowledge management on company performance at PT. Bina Pertiwi. This study also emphasizes the influence of organizational learning in the relationship between knowledge management and company performance at PT. Bina Pertiwi.

After conducting an operational merger in 2019, PT Bina Pertiwi hasn't shown a better corporate performance yet; it is suspected that organizational learning and knowledge management become critical caused factors. But, on the other hand, it is supposed that organizational learning and knowledge management haven't been well implementing correctly.

Therefore, it is necessary to analyze to which extend those two variables will affect the company's performance.

1.1 Research Question

Based on this, it is necessary to know several things:

1. How is the effect of knowledge management on company performance at PT. Bina Pertiwi?
2. How is the effect of knowledge management on organizational learning at PT. Bina Pertiwi?
3. How is the effect of organizational learning on company performance at PT. Bina Pertiwi?
4. How is the effect of knowledge management on company performance through organizational learning at PT. Bina Pertiwi?

This study will provide an overview of the implementation of Knowledge Management in general. In addition, it will be known the influence of knowledge management on the company's performance after the merger and the positive relationship between organizational learning and company performance. In addition, this research can provide input for companies to improve company performance and be a reference in formulating the right company strategy and can be a reference for developing further research.

2. Literature Review

2.1 Conceptual Frame Work

2.1.1 Knowledge Management

Knowledge management encourages company employees to share experiences that support the conversion of tacit knowledge into explicit knowledge. From the perspective of organizational capability, the effectiveness of knowledge management can be evidenced by the knowledge infrastructure consisting of technology, structure, and culture and the acquisition, transformation, and application of knowledge as the premise capability of the company or practical knowledge (Liao & Wu, 2009). The indicators used in this study, to see the effectiveness of the application of knowledge management, refer to research

(Gold et al., 2001; Liao & Wu, 2009), which consists of knowledge acquisition, knowledge conversion, and knowledge application. Knowledge acquisition is a process of creating new knowledge from existing knowledge in the company environment through collaboration between individuals and business partners (Liao & Wu, 2009). Knowledge conversion is the ability to make knowledge into something useful (Liao & Wu, 2009). Liao & Wu, (2009) explains further about the knowledge application indicators which are defined as the process of an individual in the orientation of the use of that knowledge. The following table of indicators used in this study are:

Table 2.1

No.	Variable	Indicators	Items
1.	Knowledge Management	Knowledge Acquisition	I can identify problems that occur in my department
2.			I use feedback from the project to improve the quality of future projects
3.			The company has clear rules regarding the use of online and offline media to share knowledge.
4.			The company provides sufficient information related to the products and services sold by the company.
5.			I know my role in the company's business processes.
6.		Knowledge Conversion	I always discuss with team members to find the right alternative solution if there are technical and non-technical problems.
7.			The company provides a medium for online and offline discussions.
8.			I help team members if they have a problem with the assigned task at that time
9.			The work environment inspires me to share information and knowledge
10.			I know the process for integrating different sources and types of knowledge
11.		Knowledge Application	The media provided by the company inspires me to share knowledge with colleagues.
12.			I often use online and offline media to increase my knowledge related to work.
13.			I use online and offline media to solve problems at work.
14.			The company does not have clear rules regarding the use of online and offline media to share knowledge.
15.			I can find and apply knowledge from online and offline media provided by the company.

16.			The media provided by the company is easily accessible to me.
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(Source: Author, 2021)

2.1.2 Organizational Learning

Senge (1990) said that organizational learning is an organization that everyone has the capacity to learn, the organizational structures in which they must contribute are often not conducive to self-reflection and engagement.

Senge (Senge, 1994) identifies “The Fifth Discipline” to be converging to innovate organizational learning, they are :

a. Personal Mastery

Organizations learn through individuals who learn. Individual learning does not guarantee organizational learning. But without it, no organizational learning occurs (Senge, 1994). Personal mastery is the discipline of 'continually clarifying and deepening personal vision, focusing energies, developing patience and seeing reality objectively. This goes beyond the competence and skills, although involving them. This goes beyond the spiritual opening, although it involves spiritual growth. Mastery is seen as a kind of special skill.

b. Mental Models

The discipline of mental modelling begins with looking within; learn to dig deep inside, bring it to the surface and hold on to it for closer inspection. It also includes the ability to engage in “meaningful” dialogue that balances inquiry and advocacy. People effectively express their thoughts and allow them to be influenced by others (Senge, 1994). Suppose an organization is to develop the ability to use mental models. In that case, people must learn new skills, create new directions, and make them the institutional changes that drive this change. Moving organizations in the right direction require an effort to overcome the internal politics and games that dominate traditional organizations. In other words, it means promoting openness. It also involves seeking to distribute business responsibly far more widely while retaining coordination and control.

It also involves seeking to distribute business responsibly far more widely while retaining coordination and control.

c. Building Shared Vision

Senge (Senge, 1994) starts from the position that if any one idea about leadership has inspired organizations for thousands of years, ‘it’s the capacity to hold a share picture of the future we seek to create. Such a vision has the power to be uplifting and to encourage experimentation and innovation. Crucially, it is argued, it can also foster a sense of the long-term. Vision spreads because of the strengthening process. Increased clarity, enthusiasm, and commitment are contagious to others in the organization. ‘When people share their vision, the view becomes clearer. As it becomes clearer, enthusiasm for its benefits grows’.

d. Team Learning

This learning is seen as a process of adapting and developing the team's ability to create the results that its members want (Senge, 1994). It is based on personal mastery and shared vision, but it is not enough. People must be able to act together. When teams study together, Peter Senge suggests that not only will it bring good results to the organization, but members will also grow faster than other methods.

Regarding the previous explanation, the indicators used in this study include management and leadership, culture, knowledge, information, and communication systems. (Saadat & Saadat, 2016). The following is a summary of the table of organizational learning indicators used in this study:

Table 2.2

No.	Variable	Indicators	Items
1.	Organizational Learning	Management and Leadership	The superior frequently involve their staff in important decision-making processes.
2.			This firm’s management looks favorably on carrying out changes in any area to adapt to and/or keep ahead of new environmental situations.
3.			The leader inspires subordinates to do tasks beyond their mandatory duties
4.			Leaders appreciate the performance of employees who do their jobs well.
5.			Employee learning capability is considered a key factor in this firm.

8.		Culture	The company encourages employees to always learn and be oriented towards self-development
9.			The company encourages employees to be process-oriented, and keep trying to achieve goals.
10.			Employees view stretched targets as opportunities to improve themselves
11.			Employees always update themselves with the latest information and knowledge related to their competencies and work
12.			Company imposes the same way of solving different problems
14.		Knowledge, information and communicational systems	Errors and failures are always discussed and analyzed in this company, on all levels.
15.			The firm has instruments (manuals, databases, files, organizational routines, etc.) that allow what has been learnt in past situations to remain valid, although the employees are no longer the same.
16.			Employees dare to convey and accept the truth even though it is difficult.
17.			Employees have the chance to talk among themselves about new ideas, programs, and activities that might be of use to the firm.
18.			Employees perceive that sharing knowledge can reduce competitive advantage.

(Source: Author, 2021)

2.1.3 Company Performance

Several previous studies explain that the company's performance is measured through several variations of measurement. Cheng et al. (2010) who conducted a meta-analysis of organizational performance suggested that it should be measured in economic and operational terms:

- a. The economic performance looks at financial and market outcomes which assess the profits, sales, return on investment for shareholders and other financial matrices.
- b. The operational performance, on the other hand focuses on the observable indices like customer satisfaction and loyalty, the firm's social capital and competitive edge derived from capabilities and resources.

Thus, The indicators used in this study include profit, sales growth (Cheng et al., 2010; Darroch, 2005; Tuffour et al., 2020), and innovation (Demirbag et al., 2006). The following is a table of business performance indicators used in this study:

Table 2.3

No.	Variable	Indicators	Items
1.	Company Performance	Profit	The company is able to achieve the targeted profit
2.			The company is able to achieve the targeted productivity.
3.			The company is able to achieve targeted costs or even lower.
4.			The company overall success compared to competitors over the past three years
8.		Sales Growth	The company has achieved targeted sales growth
9.			The company was able to achieve the targeted market share.
10.			The company always introduces new products at the right time.
11.			The company is able to offer products/services that match customer perceptions.
12.			The company achieved higher sales growth compared to previous years.
14.		Innovation	The company encourages employees to actively explore customer wants and needs
15.			Employees follow / imitate other people's ideas without adjusting to needs
16.			Employees use multiple perspectives in completing tasks
17.			The company creates a work environment that encourages the emergence of new ideas
18.			The company regularly organizes innovation competitions

(Source: Author, 2021)

2.1.4 Resources Based-View

The resource-based theory is a theory that was developed from the theory of the growth of the firm which was put forward by Penrose (1959) as the basis for shaping the company's strategy to achieve competitive advantage (Barney, 1991). According to the view of resource-based theory, company performance is the result of the overall performance of the company's internal resources, the company's capabilities, and the company's uniqueness in facing the company's external challenges (Barney, 1991). Thus, resource-based view theory explains that the good and bad performance of the company is influenced by the company's strategy which is formed from the analysis of company resources.

2.2 Study Difference

There are several differences between the current study and previous research, including:

1. The number of research samples is 100 samples, which is less than the number of samples from most previous studies.
2. The researcher conducted most of this research in foreign countries such as America and Taiwan. Rarely have researchers researched knowledge management in Indonesian companies.
3. Most of the samples used from previous studies consist of a collection of companies, but this study only uses one company that implements knowledge management.
4. The phenomenon raised in most previous studies is related to the scarcity of knowledge resources or intellectual capital. It rarely raises mergers, but research raises the phenomenon of mergers and their impact after the merger on company performance.

2.3 Hypothesis

Based on the empirical study, this research finds four hypothesis. The following hypothesis of this research are:

H1: Knowledge management has a positive significant effect on company performance

H2: Knowledge management has a positive significant effect on Organizational Learning

H3: Organizational Learning has a positive significant effect on company performance

H4: Organizational Learning has mediated the relationship between knowledge management and company performance.

3. Research Methodology

3.1 Data Source

The population used in this study is all employees of the head office of PT. Bina Pertiwi The determination of the number of samples used in this study refers to the opinion expressed by Sekaran & Bougie (2016). The sample is part of the population consisting of several members selected from the entire existing population (Sekaran & Bougie, 2016)

3.1.1 Data Collection Method

The sampling technique used in this study is probability sampling. Probability sampling is a sampling technique that gives the possibility to be selected as much as 1 in the total

population. Thus, the researcher knows the number of each element in the same or the same probability to be chosen (Sekaran & Bougie, 2016). The sampling technique using probability sampling allows the researcher to generalize the study results to the population as a whole.

3.1.2 Sampling Size

Based on the opinion of Hair Jr et al. (2014) determine the number of samples in this study by multiplying the number of research indicators by 10. This study uses 3 indicators for each research variable, so that the number of samples obtained is 90 samples ((3 indicators x 3 variables) x10 = 90). However, to explain the condition of the population more deeply, the researcher determined the number of samples used was 100 respondents/sample. Thus, the value above is the minimum number of samples, which is 30 samples and becomes the limit in sampling. The larger the sample value in the unknown population, the opportunity to show the actual population condition.

3.2 Data Sources and Collection

The types of data and sources of data used in this study are as follows:

1. Primary data

Primary data is data obtained directly from research subjects. The data of this study used an interval scale. The primary data taken are:

- a. Perception data about knowledge management
- b. Perception data about Organizational Learning
- c. Perception data about company performance

2. Secondary data

Secondary data is data obtained indirectly from research subjects, but serves to support this research. Some secondary data used in this study such as articles, research reports, e-books, news, and reports from companies.

3. Data sources

Sources of data used in this research such as science direct, emerald insight, springer, company website, etc

As for the instruments used in the research:

4. Questionnaire

This research data collection is done by sending a list of questions (questionnaire) to employees of PT. Bina Pertiwi. The questionnaire in this study used a Linkert scale with a scale of 1 representing the opinion "strongly disagree", scale 2 representing "disagree", scale 3 representing "undecided", scale 4 representing "agree" and scale 5 representing the opinion "strongly disagree". agree". The research questionnaire consists of an introduction to the study, respondent data, and a list of questions regarding knowledge management, organizational learning, and company performance.

5. Documentation

Documentation is done by collecting data related to the object of research and research variables.

3.2 Research Model

The conceptual framework describes the mindset of the research conducted. The conceptual framework is formed from the support of previous research and research phenomena. This conceptual framework is based on the theory of resource-based view which explains that the company's performance is the result of the overall performance of the company's internal resources, the company's capabilities, and the company's uniqueness in facing the company's external challenges (Barney, 1991). Knowledge management will be the right tool and guiding idea for the organizational learning process, so that knowledge management can be said as one of the factors for the organizational learning process with the ultimate goal of improving company performance. The novelty in this study is the addition of organizational learning as a mediating variable and is carried

out in one of the big companies in Indonesia. Based on previous research studies and existing research phenomena, the following is the conceptual framework used in this study:

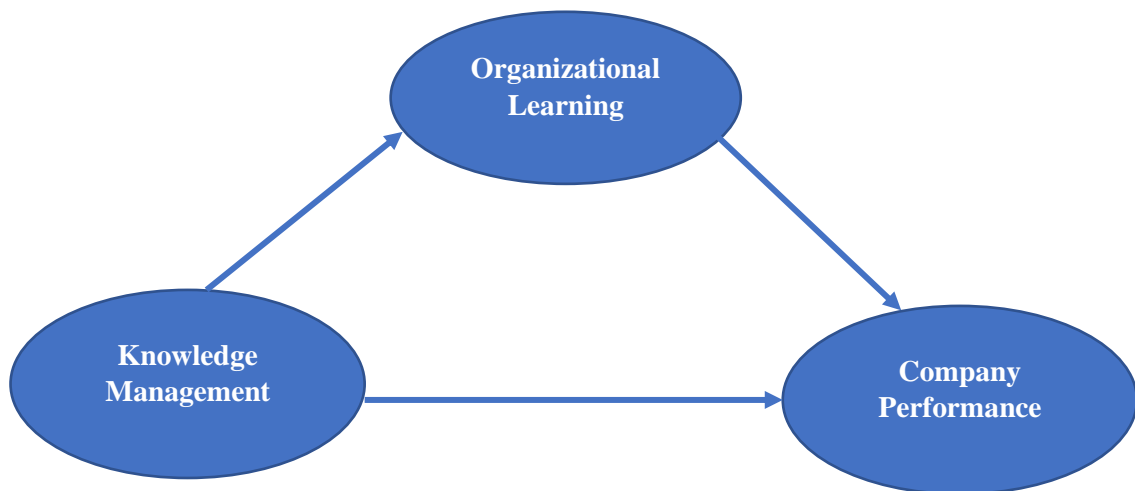


Figure 1 Research Model

3.3 Data Analysis Technique

3.3.1 Descriptive Statistic Analysis

Descriptive statistics is an analysis related to the presentation of data descriptively or by describing the data that has been collected in the form of graphs (Ghozali, 2018). For example, the results of the descriptive calculation function to see how the pattern of answers from the respondents and the distribution of the respondents. Descriptive analysis aims to explain and describe the characteristics of each research variable.

3.3.2 Inferential Statistic Analysis

The data analysis technique used in this research is Path Analysis which is operated using SmartPLS 3.3.3 Partial Least Square (PLS) analysis is a multivariate statistical technique that makes comparisons between multiple dependent variables and multiple independent variables (Hair, Jr et al., 2014). The use of this path analysis technique is because there are variables that function as intermediate paths, with these variables researcher can use it to determine whether the causative variable (exogenous) can reach the final target (endogenous variable) must pass through the intermediate variable or can go directly to the final mark.

4. Results

4.1 Respondent Profiles

The number of samples from this study were 100 employees at the head office of PT. Bina Pertiwi, based on the data sampling shows that shows that of the 100 research respondents, 90% of the respondents were male, and the remaining 10% were female. These results indicate that most of the employees at the head office of PT. Bina Pertiwi dominated by male, this is because PT. Bina Pertiwi is a company that focuses on Agriculture, Material Handling, Power and Energy, and Construction, where almost all jobs are required for men. On the other hand, most of the female employees in this company work in finance, administration or business development.

4.2 Descriptive Statistic Analysis

Descriptive statistics is an analysis related to the presentation of data descriptively or by describing the data that has been collected in the form of graphs (Ghozali, 2018). The results of this descriptive analysis function to determine the pattern of answers from 100 research respondents. The variables used in this study are knowledge management (X), organizational learning (Z), and company performance (Y). Descriptive statistical analysis contains the frequency distribution of the question items in the questionnaire. representing each variable. The calculations for measuring each item of each variable with a Likert scale of 1-5 are as follows:

$$\text{Interval class (c)} = (X_n - X_1) : k$$

Note: c= interval class
 k= number of classes
 X_n = The Highest Score
 X_1 = The Lower Score

Then:

$$c = (5-1) : 5$$

$$c = 4 : 5$$

$$c = 0.8$$

The following is a table of interpretations according to the average answers of the respondents' items as follows:

Table 4.1 Interpretation Table

Average Interval	Intrepretations
1,0 – 1,8	Not Very Good
>1,8 – 2,6	Not Good
>2,6 – 3.4	Average
>3,4 – 4,2	Good
>4,2 – 5,00	Very Good

4.2.1 Knowledge Management

Table 4.2

Items	SD	D	N	SA	A	MEAN
I can identify problems that occur in my department	0%	0%	5%	63%	32%	4.27
I use feedback from the project to improve the quality of future projects	0%	1%	8%	58%	33%	4.22
The company has clear rules regarding the use of online and offline media to share knowledge.	3%	6%	14%	50%	27%	3.98
The company provides sufficient information related to the products and services sold by the company.	2%	2%	16%	51%	29%	4.08
I know my role in the company's business processes.	0%	0%	3%	52%	45%	4.42
I always discuss with team members to find the right alternative solution if there are technical and non-technical problems.	0%	0%	3%	42%	55%	4.53
The company provides a medium for online and offline discussions.	1%	1%	10%	44%	44%	4.32
I help team members if they have a problem with the assigned task at that time	0%	0%	6%	48%	46%	4.42
The work environment inspires me to share information and knowledge	1%	3%	9%	58%	29%	4.14

I know the process for integrating different sources and types of knowledge	1%	1%	12%	60%	26%	4.08
The media provided by the company inspires me to share knowledge with colleagues.	0%	5%	8%	59%	28%	4.11
I often use online and offline media to increase my knowledge related to work.	0%	1%	8%	44%	47%	4.38
I use online and offline media to solve problems at work.	0%	0%	11%	47%	42%	4.30
The company does not have clear rules regarding the use of online and offline media to share knowledge.	10%	34%	23%	21%	12%	2.92
I can find and apply knowledge from online and offline media provided by the company.	0%	3%	17%	58%	22%	4.01
The media provided by the company is easily accessible to me.	0%	2%	11%	54%	33%	4.18
GRAND MEAN						4.15
MAXIMUM						4.53
MINIMUM						2.93

Source: Primary Data, 2021

Based on the table above, the mean value for the knowledge management variable is 4.15, which indicates the average interpretation of respondents' answers is "good". These results indicate that the application of knowledge management is done well, and employees can follow the cultural changes in the company.

4.2.2 Organizational Learning

Table 4.3

Items	SD	D	N	SA	A	MEAN
The superior frequently involve their staff in important decision making processes.	1%	7%	17%	48%	27%	3.95
This firm's management looks favorably on carrying out changes in any area to adapt to and/or keep ahead of new environmental situations.	1%	3%	20%	56%	20%	3.91

The leader inspires subordinates to do tasks beyond their mandatory duties	1%	8%	15%	55%	21%	3.87
Leaders appreciate the performance of employees who do their jobs well.	1%	6%	19%	51%	23%	3.92
Employee learning capability is considered a key factor in this firm.	1%	3%	20%	53%	23%	3.97
The company encourages employees to always learn and be oriented towards self-development	0%	3%	11%	51%	35%	4.22
The company encourages employees to be process-oriented, and keep trying to achieve goals.	0%	3%	13%	53%	31%	4.13
Employees view stretched targets as opportunities to improve themselves	1%	3%	8%	62%	26%	4.10
Employees always update themselves with the latest information and knowledge related to their competencies and work	0%	0%	6%	60%	34%	4.24
Company imposes the same way of solving different problems	2%	24%	27%	38%	9%	3.30
Errors and failures are always discussed and analyzed in this company, on all levels.	0%	4%	20%	60%	16%	3.85
The firm has instruments (manuals, databases, files, organizational routines, etc.) that allow what has been learnt in past situations to remain valid, although the employees are no longer the same.	3%	3%	21%	56%	17%	3.82
Employees dare to convey and accept the truth even though it is difficult.	0%	0%	3%	65%	32%	4.27
Employees have the chance to talk among themselves about new ideas, programs, and activities that might be of use to the firm.	1%	0%	8%	57%	34%	4.18
Employees perceive that sharing knowledge can reduce competitive advantage.	15%	17%	13%	38%	17%	3.29
GRAND MEAN						3.94
MAXIMUM						4.27
MINIMUM						3.29

Overall, the mean value for the organizational learning variable questionnaire answers is 3.94, which indicates the average interpretation of respondents' answers is "good". These results indicate that the organizational learning process in the company is carried out well, and employees have enthusiasm in developing individual abilities.

4.2.3 Company Performance

Table 4.4

Items	SD	D	N	SA	A	MEAN
The company is able to achieve the targeted profit	1%	9%	23%	54%	13%	3.69
The company is able to achieve the targeted productivity.	1%	7%	26%	49%	17%	3.73
The company is able to achieve targeted costs or even lower.	0%	6%	29%	52%	13%	3.72
The company overall success compared to competitors over the past three years	0%	14%	39%	37%	10%	3.42
The company has achieved targeted sales growth	2%	16%	28%	46%	8%	3.42
The company was able to achieve the targeted market share.	2%	14%	29%	48%	7%	3.44
The company always introduces new products at the right time.	1%	10%	45%	36%	8%	3.41
The company is able to offer products/services that match customer perceptions.	0%	3%	34%	52%	11%	3.71
The company achieved higher sales growth compared to previous years.	3%	12%	33%	42%	10%	3.43
The company encourages employees to actively explore customer wants and needs	0%	1%	14%	55%	30%	4.14
Employees follow / imitate other people's ideas without adjusting to needs	15%	42%	20%	21%	2%	2.50
Employees use multiple perspectives in completing tasks	0%	1%	22%	57%	20%	3.93
The company creates a work environment that encourages the emergence of new ideas	0%	3%	14%	65%	18%	3.95

The company regularly organizes innovation competitions	0%	0%	5%	43%	52%	4.45
GRAND MEAN						3.64
MAXIMUM						4.45
MINIMUM						2.50

The results of this data distribution also show that company employees understand the concept of innovation. Overall, the mean value for the company performance variable questionnaire answers is 3.64, which indicates the average interpretation of respondents' answers is "good". These results indicate that the company's employees understand that the increase in company performance in the company cannot be separated from the factors of sales growth, profit and company innovation.

4.4. Inferential Statistic Analysis

This research model consists of 3 constructs is knowledge management, organizational learning, and company performance. The analysis of this research uses SEM-PLS with SmartPLS 3.3.3. There are three stages of testing in this study including analysis of the outer model, analysis of the inner model and hypothesis testing. The path analysis in this study is presented as follows:

Path Diagram in Smart PLS Output

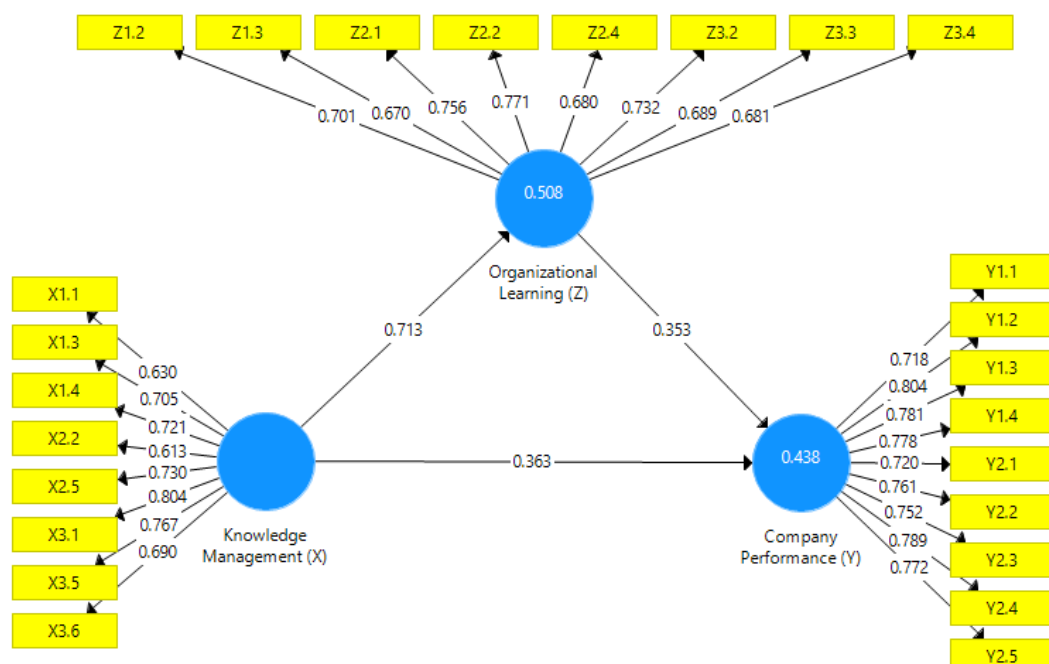


Figure 2

Source: *Smart PLS Result*

4.4.1.1 Validity Test

The validity test on the research construct was carried out to see whether the statement items used were valid or not. The validity test in this study can be seen from the results of Convergent Validity and Discriminant Validity.

a. Convergent Validity

Convergent Validity is tested based on the loading factor value of the indicator of the latent variable. An instrument is said to meet the convergent validity test if it has a loading factor above 0.6 (Santoso, 2018). According to Chin (1998) in Santoso (2018) explains that the value of outer loading between 0.6 - 0.7 is still acceptable provided that the indicator is not the only indicator of a construct, so there is a comparison indicator in one construct. The results of the convergent validity test can be seen in table below:

Table 4.6 The Result of Convergent Validity Test Using Loading Factor

Variables	Items	Loading Factor	Interpretation
Knowledge Management	X1.1	0.630	Valid
	X1.3	0.705	Valid
	X1.4	0.721	Valid
	X2.2	0.613	Valid
	X2.5	0.730	Valid
	X3.1	0.804	Valid
	X3.5	0.767	Valid
Organizational Learning	X3.6	0.690	Valid
	Z1.2	0.701	Valid
	Z1.3	0.670	Valid
	Z2.1	0.756	Valid
	Z2.2	0.771	Valid
	Z2.4	0.680	Valid
	Z3.2	0.732	Valid
	Z3.3	0.689	Valid
Company Performance	Z3.4	0.681	Valid
	Y1.1	0.718	Valid
	Y1.2	0.804	Valid
	Y1.3	0.781	Valid
	Y1.4	0.778	Valid
	Y2.1	0.720	Valid
	Y2.2	0.761	Valid
	Y2.3	0.752	Valid
Y2.4	0.789	Valid	
Y2.5	0.772	Valid	

(Source: Primary Data, 2021)

Table shows that as many as 25 items out of 45 questionnaire items used to measure each have a value above 0.6. This shows that the 25 items are valid. Items with a value of less than 0.6 are eliminated from the testing stages including X1.2, X1.5, X2.1, X2.3, X2.4, X3.2, X3.3, X3.4, Z1.1, Z1.4, Z1.5, Z2.3, Z2.5, Z3.1, Z3.5, Y3.1, Y3.2, Y3.3, Y3.4, and Y3.5. The results of this test are reinforced by the value of Average Variance Extracted (AVE). An instrument is declared to meet the convergent validity test if it has an Average Variance Extracted (AVE) above 0.5. The results of the AVE test are presented in table below :

Table 4.7 Discriminant Validity Using AVE

Variables	AVE	Interpretation
Knowledge Management	0.584	Valid
Organizational Learning	0.504	Valid
Company Performance	0.506	Valid

(Source: Primary Data, 2021)

Table explains that the variables of knowledge management, organizational learning, and company performance have an Average Variance Extracted (AVE) value that is greater than 0.5. Thus, all indicators of latent variables are declared valid.

b. Discriminant Validity

Discriminant validity can be seen from the calculation of the cross-loading value. The cross-loading value is declared valid when the calculation of the loading factor value in an indicator variable is greater than the correlation value of other variable indicators. The results of testing the discriminant validity measurement model using cross loading can be seen in table below:

Table 4.8 Discriminant Validity Measurement Model Using Cross Loading

Items	Knowledge Management (X)	Organizational Learning (Z)	Company Performance (Y)
X1.1	0.630	0.463	0.394
X1.3	0.705	0.395	0.396
X1.4	0.721	0.533	0.545
X2.2	0.613	0.487	0.246
X2.5	0.730	0.487	0.399

X3.1	0.804	0.586	0.513
X3.5	0.767	0.588	0.435
X3.6	0.690	0.479	0.497
Z1.2	0.425	0.701	0.410
Z1.3	0.498	0.670	0.362
Z2.1	0.484	0.756	0.411
Z2.2	0.541	0.771	0.508
Z2.4	0.562	0.680	0.341
Z3.2	0.541	0.732	0.623
Z3.3	0.548	0.689	0.367
Z3.4	0.435	0.681	0.392
Y1.1	0.398	0.390	0.718
Y1.2	0.502	0.403	0.804
Y1.3	0.439	0.432	0.781
Y1.4	0.537	0.628	0.778
Y2.1	0.367	0.399	0.720
Y2.2	0.457	0.461	0.761
Y2.3	0.504	0.426	0.752
Y2.4	0.536	0.520	0.789
Y2.5	0.436	0.479	0.772

(Source: Primary Data, 2021)

Based on the calculation of Cross Loading in table above, it can be seen that all of the indicators of the variables of knowledge management, organizational learning, and company performance have a Loading Factor value that is greater than the Cross Loading on other variables. Therefore, it can be concluded that each indicator can explain the variables that correspond to the indicators, so that there is no discriminant validity problem in the model being tested.

4.4.1.2 Reliability Test

According to Hair et al., (2008) in Santoso (2018) said that the reliability test in PLS can use three methods, there are Cronbach's Alpha value must be > 0.6 , Composite Reliability value must be > 0.7 , and AVE must be > 0.5 as a basis for testing

reliability. The following results from the Composite Reliability and Cronbach Alpha analysis that have been carried out are shown in table 4.9 below :

Table 4.9

Variable	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Company Performance (Y)	0.911	0.916	0.927	0.584
Knowledge Management (X)	0.858	0.866	0.890	0.504
Organizational Learning (Z)	0.860	0.865	0.891	0.506

Table above explains that the value of Cronbach's alpha is more than 0.6 (>0.6), composite reliability is above 0.7 (>0.7) and the Average Variance Extracted (AVE) value is above the minimum value of 0.5 (>0.5). Thus, it can be concluded that all indicators that measure the variables of knowledge management, organizational learning, and company performance are declared reliable

4.4.2. Inner Model Analysis

Evaluation of the Inner Model can be seen from several indicators which include the coefficient of determination (R^2), Predictive Relevance (Q^2) and the Goodness of Fit Index (GoF)(Santoso, 2018). The results of the structural model displayed by SmartPLS 3.3.3 in this study are as follows:

Table 4.10

Variable	R Square	R Square Adjusted
Company Performance (Y)	0.438	0.427
Organizational Learning (Z)	0.508	0.503
$Q^2 = 1 - [(1 - R_1^2) (1 - R_2^2)]$ $Q^2 = 1 - [(1 - 0.503) (1 - 0.427)] = 0.715$		

Form the table above it is known that the Adjusted R^2 value of the organizational learning variable is 0.503, which means that organizational learning is influenced by knowledge management is 50.3%. In other words, the contribution of the knowledge management variable is only 50.3%, with the remaining 49.7% can be explained by other variables not discussed in this study. The R^2 Adjusted result of the company performance variable is 0.427, which means that company performance is influenced by knowledge management is 42.7%. In other words, the contribution of the

knowledge management variable is 42.7%, while the remaining 67.3% can be explained by other variables not discussed in this study. While The result of calculating the value of Q-Square Predictive Relevance (Q^2) is 0.715 or 71.5%. These results explain that the diversity of company performance variables can be explained by the overall model of 71.5%. In other words, the contribution of knowledge management and organizational learning is 71.5%, and the remaining 28.5% can be explained by other variables not discussed in this study.

4.5. Analysis & Hypothesis Testing Result

4.5.1 Direct Effect

Table 4.11

Exogen	Endogen	Path Coefficient	SE	P-Value	Interpretation
Knowledge Management	Company Performance	0.363	0.096	0.000	significant
Knowledge Management	Organizational Learning	0.713	0.052	0.000	significant
Organizational Learning	Company Performance	0.353	0.108	0.001	significant

(Source: Primary Data, 2021)

Based on the table 4.11 above we can see the result :

a. H0 : Knowledge management does not have a significant positive effect on company performance

H1: The Effect of Knowledge Management on Company Performance

The results of the tests carried out show that the p-value of the influence of knowledge management on company performance is 0.000. The test results show p-

value <0.05 , so **H1 is accepted**. Thus, knowledge management has a positive and significant effect on company performance.

b. H0: Knowledge management Does not have positive significant effect on Organizational Learning

H2: The Effect of Knowledge Management on Organizational Learning

The test results show that the p-value of the influence of knowledge management on organizational learning is 0.000. The test results show p-value <0.05 , so **H2 is accepted**. Thus, knowledge management has a positive and significant effect on organizational learning.

c. H0: Organizational Learning does not have positive significant effect on company performance

H3: Effect of Organizational Learning on Company Performance

The results of the tests carried out show that the p-value of the influence of organizational learning on company performance is 0.001. The test results show p-value <0.05 , so **H3 is accepted**. Thus, organizational learning has a positive and significant effect on company performance.

4.5.2 Indirect Effect

	Input:		Test statistic:	Std. Error:	p-value:
a	0.713	Sobel test:	3.179433	0.0791616	0.00147563
b	0.353	Aroian test:	3.17146207	0.07936056	0.00151674
s _a	0.052	Goodman test:	3.18746434	0.07896214	0.00143526
s _b	0.108	Reset all	Calculate		

Figure 3 Sobel Test Result

Based on the Sobel Test result above shows that the significance value (p-value) of the influence of knowledge management on company performance through organizational learning is 0.001. These results indicate that the p-value <0.05 , so **H4 is accepted**. Thus, organizational variables moderate the relationship between knowledge management and company performance. In addition, the type of mediating relationship in this study is partial mediation, because the relationships (a), (b), (c), and (c') are significant.

5.1 Conclusion

The conclusions in this study are:

1. Knowledge management has a direct effect on company performance. This shows that knowledge management is one of the important elements for company performance.
2. Knowledge management has a direct effect on organizational learning. This shows that the existence of a knowledge management process encourages the formation of organizational learning.
3. Organizational Learning has a direct effect on company performance. This shows that the organizational learning process will improve company performance due to an increase in employee capacity.
4. Organizational Learning mediates the relationship between knowledge management and company performance. This shows that to develop organizational learning, it is necessary to establish a relationship between knowledge management and partnership performance.

5.2 Managerial Implication

There are several managerial implications in this research, including:

1. Knowledge management is one of the important antecedent factors in improving organizational performance, so the application of knowledge management must be applied thoroughly. However, in reality the implementation of knowledge management is only done properly. This study shows that the implementation of knowledge management can facilitate communication, share knowledge, and apply the acquired knowledge. In addition, managers must consider how the company manages the system from the application of knowledge management so that the company has the ability to manage and run it well.
2. The influence of organizational learning as a mediating variable requires managers to consider several steps in linking knowledge management with company performance.
3. This study explains that organizational learning tends not to affect financial performance, and company innovation. Therefore, managers must think of other alternatives to improve this aspect.

5.3 Recommendation for Further Study

This research is structured in such a way that is expected to be a good reference. However, there are still some obstacles that arise that cause this research to have some limitations of research, as well as some recommendations for further research

1. The object of this research is limited to the Head Office of PT. Bina Pertiwi, so the results of this study cannot be generalized to other objects. Therefore, in future research, it is better to use several companies operating in the same industry, so that they can see the variance of the research results, and can contribute to broader research.
2. The sample of this study is limited in the number of respondents, therefore, further research should have a sample size of more than 100 respondents or larger.
3. This study only focuses on the variables of knowledge management, organizational learning and company performance, so it is necessary to add other variables that affect the research. In further research, organizational learning can be used as an independent variable, because the role of organizational learning variables as a mediating variable only has a partial effect on mediation.

REFERENCES

- Anisa, N. (2015). Analisis Faktor-Faktor Yang Mempengaruhi Return Saham (Studi Kasus Pada Perusahaan Sub Sektor Automotive and Components Yang Terdaftar di Bursa Efek Indonesia Periode 2010-2014). *Perbanas Review*, 1(1), 72–86. <https://doi.org/10.1016/j.bbr.2010.05.009>
- Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management*. <https://doi.org/10.1177/014920639101700108>
- Bolisani, E., & Bratianu, C. (2018). The elusive definition of Knowledge. Emergent knowledge strategies. *He Elusive Definition of Knowledge*, 1–22. <https://doi.org/10.1007/978-3-319-60657-6>
- Castaneda, D. I., Manrique, L. F., & Cuellar, S. (2018). Is organizational learning being absorbed by knowledge management? A systematic review. *Journal of Knowledge Management*, 22(2), 299–325. <https://doi.org/10.1108/JKM-01-2017-0041>
- Chatterjee, N., & Das, N. (2016). A Study on the Impact of Key Entrepreneurial Skills on Business Success of Indian Micro-entrepreneurs: A Case of Jharkhand Region. *Global Business Review*. <https://doi.org/10.1177/0972150915610729>
- Cheng, L. T. W., Chan, R. Y. K., & Leung, T. Y. (2010). Management demography and corporate performance: Evidence from China. *International Business Review*. <https://doi.org/10.1016/j.ibusrev.2009.12.007>
- Dalkir, K. (2013). Knowledge management in theory and practice. In *Knowledge Management in Theory and Practice*. <https://doi.org/10.4324/9780080547367>
- Darroch, J. (2005). Knowledge management, innovation and firm performance. *Journal of Knowledge Management*, 9(3), 101–115. <https://doi.org/10.1108/13673270510602809>
- Demir, A., Budur, T., Omer, H. M., & Heshmati, A. (2021). Links between knowledge management and organisational sustainability: does the ISO 9001 certification have an effect? *Knowledge Management Research and Practice*, 00(00), 1–14.

<https://doi.org/10.1080/14778238.2020.1860663>

- Demirbag, M., Tatoglu, E., Tekinkus, M., & Zaim, S. (2006). An analysis of the relationship between TQM implementation and organizational performance: Evidence from Turkish SMEs. *Journal of Manufacturing Technology Management*, 17(6), 829–847. <https://doi.org/10.1108/17410380610678828>
- Eniola, A., & Ektebang, H. (2014). SME firms performance in Nigeria: Competitive advantage and its impact. *International Journal of Research Studies in Management*. <https://doi.org/10.5861/ijrsm.2014.854>
- Ghauri, P. N., & Buckley, P. J. (2003). International mergers and acquisitions: Past, present and future. *Advances in Mergers and Acquisitions*, 2, 207–229. [https://doi.org/10.1016/s1479-361x\(03\)02009-x](https://doi.org/10.1016/s1479-361x(03)02009-x)
- Ghozali, I. (2018). Aplikasi Analisis Multivariate dengan Program IBM SPSS. Yogyakarta: Universitas Diponegoro. (Edisi 9). Semarang: Badan Penerbit Universitas Diponegoro.
- Gold, A. H., Malhotra, A., & Segars, A. H. (2001). Knowledge management: An organizational capabilities perspective. *Journal of Management Information Systems*, 18(1), 185–214. <https://doi.org/10.1080/07421222.2001.11045669>
- Grotenhuis, F. D. J., & Weggeman, M. P. (2002). Knowledge Management in International Mergers. *Journal of Knowledge Management*, 9(2), 83–89. <https://doi.org/10.1108/13673271011059509>
- Hair, Jr, J. F. (2015). Essentials of Business Research Methods. In *Essentials of Business Research Methods*. <https://doi.org/10.4324/9781315704562>
- Hair, Jr, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2014). A Primer on Partial Least Squares Structural Equation Modeling. In *Long Range Planning* (2nd ed., Vol. 46, Issues 1–2). SAGE Publications Ltd. <https://doi.org/10.1016/j.lrp.2013.01.002>
- Hussain, J., Salia, S., & Karim, A. (2018). Is knowledge that powerful? Financial literacy and access to finance: An analysis of enterprises in the UK. *Journal of Small Business and Enterprise Development*, 25(6), 985–1003. <https://doi.org/10.1108/JSBED-01-2018-0021>
- Jalali, A., Jaafar, M., & Ramayah, T. (2020). Organization-stakeholder relationship and performance of Iranian SMEs: Examining the separate mediating role of innovativeness and risk-taking. *International Journal of Islamic and Middle Eastern Finance and Management*, 13(3), 417–436. <https://doi.org/10.1108/IMEFM-11-2018-0407>
- Kleinert, J., & Klodt, H. (2002). Causes and Consequences of Merger Waves. *Causes and Consequences of Merger Waves*.
- Kongpichayanond, P. (2009). Knowledge management for sustained competitive advantage in mergers and acquisitions. *Advances in Developing Human Resources*, 11(3), 375–387. <https://doi.org/10.1177/1523422309339725>
- Lancaster, G. (2007). Research Methods in Management. In *Research Methods in Management*. <https://doi.org/10.4324/9780080494289>
- Liao, S., & Wu, C. (2009). The Relationship among Knowledge Management, Organizational Learning, and Organizational Performance. *International Journal of Business and Management*, 4(4), 64–76. <https://doi.org/10.5539/ijbm.v4n4p64>
- Malhotra, Y. (2005). Integrating knowledge management technologies in organizational business processes: Getting real time enterprises to deliver real business performance. *Journal of Knowledge Management*, 9(1), 7–28. <https://doi.org/10.1108/13673270510582938>

- Nonaka, I., Byosiere, P., Borucki, C. C., & Konno, N. (1994). Organizational knowledge creation theory: A first comprehensive test. *International Business Review*, 3(4), 337–351. [https://doi.org/10.1016/0969-5931\(94\)90027-2](https://doi.org/10.1016/0969-5931(94)90027-2)
- Nonaka, I., & Takeuchi, H. (1996). A theory of organizational knowledge creation Ikujiro Nonaka and Hirotaka Takeuchi Katsu hiro Umemoto. *IJTM, Special Publication on Unlearning and Learning*, 11(7/8), 833–845.
- Nouri, B. A., Ghorbani, R., & Soltani, M. (2017). The Effect of Knowledge Management on Organizational Innovation with the Mediating Role of Organizational Learning (Case Study: Agricultural Bank in Iran). *Journal of Applied Economics and Business Research JAEBR*, 7(3), 194–211.
- Purnamaningsih, D., & Wirawati, N. gusti putu. (2014). Pengaruh return on asset, struktur modal, price to book value dan good corporate governance pada return saham. *E-Jurnal Akuntansi Universitas Udayana*, 1(9), 1–16.
- Purnomo, R. (2011). Resource-Based View dan Keunggulan Bersaing Berkelanjutan : Sebuah Telaah Kritis Terhadap Pemikiran Jay Barney (1991). *Proceeding Seminar Nasional & Call For Papers (SCA-1)*, 1, 1–16. jp.feb.unsoed.ac.id
- Saadat, V., & Saadat, Z. (2016). Organizational Learning as a Key Role of Organizational Success. *Procedia - Social and Behavioral Sciences*, 230(May), 219–225. <https://doi.org/10.1016/j.sbspro.2016.09.028>
- Santoso, P. I. (2018). *Metode Penelitian Kuantitatif: Pengembangan Hipotesis dan Pengujiannya Menggunakan SmartPLS* (Giovanny (ed.); Ed. I.). Penerbit Andi.
- Sekaran, U., & Bougie, R. (2016). *Research Methods for Business* (Seventh Ed). John Wiley & Sons, Ltd.
- Senge, P. M. (1994). *The Fifth Discipline, the Art and Practice of The learning Organization*. In *Doubleday*. Doubleday.
- Sukma, H. A. (2017). PERSPEKTIF THE RESOURCE BASED VIEW (RBV) DALAM MEMBANGUN COMPETITIVE ADVANTAGE. *AD-DEENAR:JURNAL EKONOMI DAN BISNIS ISLAM PERSPEKTIF*, 1(1), 75–89.
- Tuffour, J. K., Amoako, A. A., & Amartey, E. O. (2020). Assessing the Effect of Financial Literacy Among Managers on the Performance of Small-Scale Enterprises. *Global Business Review*. <https://doi.org/10.1177/0972150919899753>
- Wahda, W. (2017). Mediating Effect of Knowledge Management on Organizational Learning Culture Toward Organization Performance. *Journal of Management Development*, 36(7), 846–858.
- Wanto, H. S., & Suryasaputra, R. (2012). The Effect of Organizational Culture and Organizational Learning towards the Competitive Strategy and Company Performance. *Information Management & Business Review*, 4(9), 467–476.
- Yang, J. Te. (2007). The impact of knowledge sharing on organizational learning and effectiveness. *Journal of Knowledge Management*, 11(2), 83–90. <https://doi.org/10.1108/13673270710738933>
- Ye, J., & Kulathunga, K. M. M. C. B. (2019). How does financial literacy promote sustainability in SMEs? A developing country perspective. *Sustainability (Switzerland)*, 11(10), 1–21. <https://doi.org/10.3390/su11102990>
- Yeo, R. (2003). Linking organisational learning to organisational performance and success: Singapore case studies. *Leadership & Organization Development Journal*, 24(2), 70–83.

<https://doi.org/10.1108/01437730310463260>

Yousefi, R., Taherkhani, S., & Ghardashkhani, N. (2014). The Effect of Knowledge Management on Organizational Learning and Performance of Education Department of Abhar County. *Kuwait Chapter of Arabian Journal of Business and Management Review*, 3(12.a), 55–59. <https://doi.org/10.12816/0018847>

Zaim, H., Tatoglu, E., & Zaim, S. (2007). Performance of knowledge management practices: A causal analysis. *Journal of Knowledge Management*, 11(6), 54–67. <https://doi.org/10.1108/13673270710832163>

Analyzing the Attributes of Coffee Shop as Antecedents of Consumer Satisfaction and Its Impact to Customer Loyalty: A Case Study of 3 Biggest Local Coffee Shop Brand in Indonesia**

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ABSTRACT

This study was conducted to investigate the effect of different factors in coffee shop business to customer satisfaction, as well as its impact to customer loyalty. Based on past literatures, six factors were examined in this study: product, price fairness, employee service, internet service, store atmosphere and lifestyle, in relation to satisfaction and loyalty. Moreover, this study incorporate the type of coffee consumer as a controllable variable to observe whether different types of coffee consumer affects the relationships of the six factors to the satisfaction and loyalty. The type of coffee consumer were divided into three: social coffee drinker, daily coffee drinker and coffee lover. A total of 260 respondents from Greater Tangerang Area, Indonesia was collected through online questionnaire. For the data analysis, PLS-SEM was used to evaluate the measurement and the structural model. The findings revealed that for the social coffee drinkers, store atmosphere, price fairness, employee service and lifestyle significantly impact satisfaction. For daily coffee drinkers, price fairness, store atmosphere and internet service significantly impact satisfaction. For coffee lovers, employee service significantly impact satisfaction. Furthermore, the customer satisfaction was observed to significantly influence loyalty, regardless the type of coffee consumer.

Type of Paper: Empirical

Keywords: *Attributes, Coffee Shop, Product Quality, Price Fairness, Employee Service, Internet Service, Store Atmosphere, Lifestyle, Customer Satisfaction, Customer Loyalty.*

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1. Introduction

The popularity of coffee in Indonesia has shown a significant increase, indicated with the rapidly emerging coffee shops in many regions. A research conducted by TOFFIN in 2019 shows that the number of coffee shop in Indonesia in August 2019 has reached a total of more than 2,950 shops, which has tripled the number of around 1,000 shops in 2016 (Hariyanto, 2019). There are several factors that influence the fast growing coffee shop business in Indonesia, such as increasing purchasing power of consumers, the price of ready-to-drink (RTD) coffee that becomes more affordable and the presence of *ride hailing* platform that increase the efficiency of selling-buying activities (Dahwilani, 2019). Moreover, the changing lifestyle the changing lifestyle of consumers in Indonesia also plays an important role in the growth of coffee shops industry. Dahwilani (2019) added that the culture of Indonesians to hang out while drinking coffee, as well as the high number of young population (Generation Y and Z) in Indonesia that drive the new life style of drinking coffee also become the driver of the growing coffee shop industry.

With the multi-functionality of coffee shops nowadays, apart from drinking coffee, consumers nowadays tend to visit coffee shops to study, work, hangout, as well as share information with others (Fisher, Landry, & Naumer, 2007). This study identified six attributes that potentially impact the customer satisfaction in coffee shop business. Based on several previous studies related to food and beverage, service and hospitality context (Lee ,2019); Harsha and Siregar, 2020); Lee, Moon and Song, 2018); Dahwilani, 2019), this study analyzed product, price fairness, employee service, internet service, store atmosphere and lifestyle as antecedents of customers satisfaction.

The choices in visiting coffee shops may also differ from one customer to others. This is because coffee consumers in the market are highly fragmented. Ario Fajar, Head of Marketing of TOFFIN, in a report by Akurat.co (2019), for example, stated that coffee drinkers are fragmented into several categories, such as the caffeine addict, social drinker, latter art lover, sweet coffee lover, instant coffee drinker, the coffee snob, traditional coffee drinker and manual brewed coffee drinker. These differences among various types of coffee drinkers might affect their choices and preferences when they want to visit a coffee shop. Therefore this study also included they type of coffee consumer as a controllable variable to observe whether different

type of coffee consumer will have different effect on the relationship between the factors of coffee shop that have been previously stated to the customer satisfaction. In this study, based on several articles, literatures and in-depth interview with people in this industry (Akurat.co, 2019; Kompas, 2020; Otten Coffee, 2017), the type of coffee consumer is categorized into three: the social coffee drinker, the daily coffee drinker and the coffee lover.

With the highly competitive business environment and fragmented market, it is important for coffee shop businesses to observe carefully the development of their consumer and identify the influential factors that are important to increase their customers' satisfaction, based on the type of the coffee consumers. Therefore, this study aims to identify factors that significantly affects customer satisfaction, and thus customer loyalty, in coffee shop business. This study also aims to observe the effect of different types of coffee consumer on the relationship between those factors with satisfaction and loyalty.

Janji Jiwa, Kulo and Kopi Kenangan are the three local coffee shop brands that are chosen as the subject in this study due to sampling convenience. The reason is that these three coffee shop brands are the three largest local coffee shop brands in Indonesia based on the number of outlets (Litbang Kompas, 2020). These coffee shops provide ready-to-drink coffee with diverse variety.

Overall, the main objective of this study is to analyze different factors in coffee shop that becomes the antecedent of customer satisfaction, and thus loyalty, based on the type of coffee consumer. Online questionnaire was used to collect data from samples. The data collected are analyzed using the partial least square structural equation model in order to evaluate the measurement and structural model in this study.

2. Literature Review

2.1 Product

The product variable in this research is related with the taste of the coffee, presentation, as well as the menu diversity in the coffee shop. Ki and Dong (2010), Lee (2019) and Kannan (2017) suggest that taste and menu diversity as important attributes of a coffee shop. Customers prefer to visit a coffee shop that makes a good flavor coffee and provide more variety of selection of beverages in the menu other than coffee. Additionally, the visualization of the products is also important as many customers, especially the young generations, like to take pictures of the products and upload them to social media as part of their lifestyle (Putra, Anantadjaya and Nawangwulan, 2020). Based on the literatures, the following hypothesis is proposed:

H#1: Product have positive and significant influence on customer satisfaction.

2.2 Price Fairness

Price fairness is a judgement by customers on whether the price difference between one party and another is rational, appropriate or reasonable, in which the judgement may come from comparison with previous price, competitor price or profits (Chapuis, 2012). A research conducted by Harsha and Siregar (2020) has proved that price fairness has a positive effect on customer satisfaction in a restaurant. Another study by Konuk (2019) also found similar finding, in which satisfaction of customers in organic food restaurants is dependent on the price fairness felt by the customers. Similarly, Dhisasmito and Kumar (2020), in their research conducted to coffee shop industry in Jakarta, also found that fairness of price has resulted in customer retention, mediated by customer satisfaction. Based on the literatures, the following hypothesis is proposed:

H#2: Price fairness have positive and significant influence on customer satisfaction.

2.3 Employee Service

Lee (2019), in his research, described service attribute as one of the important factors in many industry such as coffee shop industry and thus, a low quality service often becomes a factor that drive customers away from the coffee shop. According to Lee, Moon and Song (2018), politeness and willingness to help of employees are important part in restaurant service. This kind of positive attitude from employees has a significant effect on increasing customer satisfaction. Furthermore, responsiveness or promptness of the service also plays crucial role as it greatly influence customers satisfaction (A Almohaimmeed, 2017). Based on the literatures, the following hypothesis is proposed:

H#3: Employee service have positive and significant influence on customer satisfaction.

2.4 Internet Service

The availability of free internet access highly affects the customer satisfaction (Darini & Khozaei, 2016). The absence of this form of facility is proven as the source of customer disappointment. Similarly, Lee, Moon and Song (2018) also found the same positive results on the impact of Wi-Fi service on customer satisfaction in coffee shop. This internet service variable can be indicated by the availability and the speed of the wireless internet connection in the shop. However, Sasongko et al. (2020) in their research stated that there is no impact of

the availability of free wireless internet service on customer satisfaction in coffee shop. Based on the literatures, the following hypothesis is proposed:

H#4: Internet service have positive and significant influence on customer satisfaction.

2.5 Store Atmosphere

Store atmosphere of coffee shop is a planned environment designed to attract consumers and provide comfort and satisfaction while consuming the products sold in the shop (Suryana & Haryadi, 2019). Putri and Sugiharto (2015) suggest that the exterior facilities of coffee shop affect the customer satisfaction. Meanwhile, Remiasa *et al.* (2014) stated that store atmosphere positively influence customer satisfaction, in which the most influential aspect of the store atmosphere is the design of the building. Moreover, Lee (2019) stated that the exterior and interior of the shop is more influential to affect customer satisfaction positively. Based on the literatures, the following hypothesis is proposed:

H#5: Store atmosphere have positive and significant influence on customer satisfaction.

2.6 Lifestyle

Lifestyle is a person's consumption pattern that is reflected on how the person spend his or her time and money (Herlyana, 2012). Lifestyle can be identified based on three aspects: activity, interest and opinion (Hafasnuddin, Ridwan, & Djalil, 2019). Dewi *et al.* (2020) found that lifestyle positively influence the customer satisfaction in coffee shop industry. Susanty and Kenny (2015) stated that a greater degree of match between a brand and customers' personal lifestyle will leads to a greater customer satisfaction with the brand experience. Based on the literatures, the following hypothesis is proposed:

H#6: Lifestyle have positive and significant influence on customer satisfaction.

2.7 Customer Satisfaction

Customer satisfaction is defined as a measure of pleasure or disappointment felt by customers after comparing a product's perceived performance with his or her own expectation (Karolina Ilieska, 2013). Many studies found that customer satisfaction and customer retention is highly correlated. A higher level of satisfaction will lead to greater loyalty of customer (Espejel, Fandos, & Flavián, 2008). Another study by Nafiisah and Djamaludin (2020) regarding customer satisfaction and loyalty in a restaurant in Indonesia also suggest similar findings. When customers are satisfied with the products offered, this will increase the probability of

them to come back to the restaurant. Rosenberg and Czepiel (2017) through a research by Konečník Ruzzier, Ruzzier and Hisrich (2017) stated that when customer satisfaction and customer loyalty has been achieved, this will bring a positive effect on the profitability of the company because when customers are satisfied, they tend to repurchase the product continuously or in other word, they become loyal.

2.8 Customer Loyalty

Customer loyalty refers to the commitment of a customer to repurchase product or service from the same company, to put trust on a company or to willingly recommend the product or service to others (Indimas & Fachira, 2017). Loyalty is the next step that occur after customer satisfaction in consuming a certain product or service has successfully been achieved (Pratiwi, 2010). Rai and Srivastava (2012), explained that both loyalty and satisfaction of customer helps company in capturing new customers through the word-of-mouth process, implying that, apart from repurchase action, loyalty can be seen in the form of recommendations from customers to others. Based on the literatures, the following hypothesis is proposed:

H#7: Customer satisfaction have positive and significant influence on customer loyalty.

2.9 Type of Coffee Consumers

There are many sources that categorize coffee consumers into several different categories. According to a report by Kompas (2020), coffee drinkers are categorized into five categories: entry level, social drinker, daily drinker, coffee lover and promo hunter. Another article from Otten Coffee (2017) differentiate coffee drinkers into 5 types: traditional coffee drinker, instant coffee drinker, espresso-based coffee drinker, manual brewed coffee drinker and iced and sweet coffee drinker. Moreover, Ario Fajar, Head of Marketing of TOFFIN, a coffee equipment supplier, in a report by Akurat.co (2019), stated that there are several types of coffee drinker, such as the caffeine addict, social drinker, latter art lover, sweet coffee lover, instant coffee drinker, the coffee snob, traditional coffee drinker and manual brewed coffee drinker. Ario also added that according to statistics, social coffee drinker makes up the majority of all types of coffee drinker, which is around 25%.

Based on the various sources stated above, combined with in-depth interviews from several people working in the coffee shop industry, this research categorized the types of coffee consumers into three different types based on the way the consumers drink coffee: the social coffee drinker, the daily coffee drinker and the coffee lover. The social coffee drinker, as

explained previously, is the type of coffee drinker who drink coffee as a means of socializing with other people. The daily coffee drinker category is for the people who regularly drink coffee to help them concentrate or just as a drink to accompany them doing their daily activities. The people who belong to the coffee lover group are those who have high knowledge and appreciates different types of coffee, including traditional coffee, manual brewed coffee and latte art.

3. Research Methodology

3.1 Research Model

This study illustrate the hypothesis and present them in Figure 1 below.

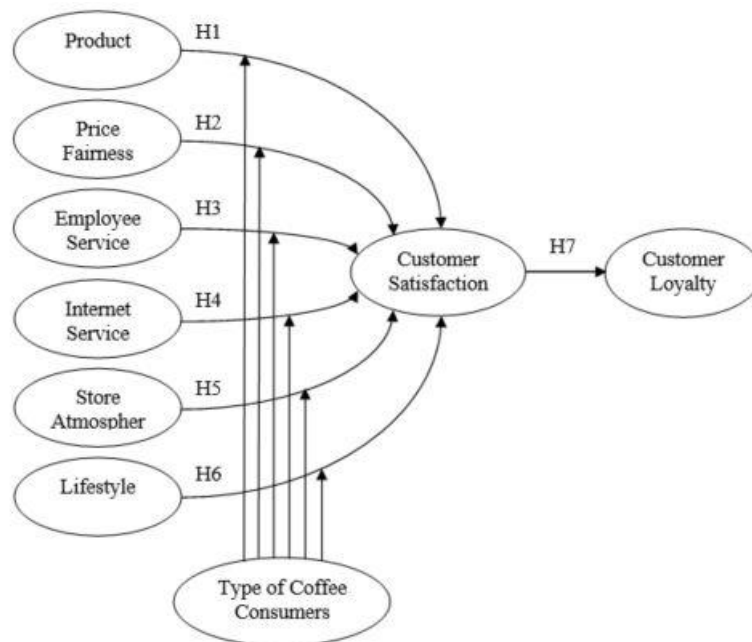


Figure 1. Research Model

3.2 Population and Sample

The sample in this study was taken through non-probable sampling. The criteria for the samples were people who are living in the Greater Tangerang Area, and have visited and consumed coffee, at least twice, from Janji Jiwa, Kulo or Kopi Kenangan coffee shops, for the past six months. The data from the samples were collected by distributing online questionnaire. There were a total of 353 responses that has been collected from the online questionnaire, however, only 260 responses that were valid and can be used to be further analyzed in this study.

3.3 Data Collection and Analysis

The data from the samples were collected by distributing online questionnaire. There were a total of 353 responses that has been collected from the online questionnaire, however, only 260 responses that were valid and can be used to be further analyzed in this study. The questionnaire used 5-point Likert scale, ranging from point 1 (strongly disagree) until point 5 (strongly agree).

4. Results

4.1 Evaluation of Outer Model

Evaluation of outer model was conducted to measure validity and reliability of all items and variables used in this study. Table 1 shows the loading factor and average variance extracted (AVE) for the social coffee drinker group.

Table 1. Loading Factor and AVE of the Social Coffee Drinker Group

<i>Variable</i>	<i>Item</i>	<i>Loading Factor</i>	<i>AVE</i>
<i>Product</i>	<i>P3</i>	<i>1.000</i>	<i>1.000</i>
<i>Price Fairness</i>	<i>PF1</i>	<i>0.759</i>	<i>0.620</i>
	<i>PF2</i>	<i>0.782</i>	
	<i>PF3</i>	<i>0.778</i>	
	<i>PF4</i>	<i>0.828</i>	
<i>Employee Service</i>	<i>ES1</i>	<i>0.708</i>	<i>0.631</i>
	<i>ES4</i>	<i>0.836</i>	
	<i>ES5</i>	<i>0.852</i>	
	<i>ES6</i>	<i>0.774</i>	
<i>Internet Service</i>	<i>IS1</i>	<i>0.864</i>	<i>0.777</i>
	<i>IS2</i>	<i>0.888</i>	
	<i>IS3</i>	<i>0.893</i>	
	<i>IS4</i>	<i>0.882</i>	
<i>Store Atmosphere</i>	<i>SA1</i>	<i>0.724</i>	<i>0.653</i>
	<i>SA2</i>	<i>0.774</i>	
	<i>SA3</i>	<i>0.889</i>	
	<i>SA4</i>	<i>0.875</i>	

	<i>SA5</i>	<i>0.823</i>	
	<i>SA6</i>	<i>0.752</i>	
<i>Lifestyle</i>	<i>L2</i>	<i>0.783</i>	<i>0.676</i>
	<i>L3</i>	<i>0.815</i>	
	<i>L4</i>	<i>0.882</i>	
	<i>L6</i>	<i>0.806</i>	
<i>Customer Satisfaction</i>	<i>CS1</i>	<i>0.863</i>	<i>0.743</i>
	<i>CS2</i>	<i>0.906</i>	
	<i>CS4</i>	<i>0.814</i>	
<i>Customer Loyalty</i>	<i>CL1</i>	<i>0.807</i>	<i>0.655</i>
	<i>CL2</i>	<i>0.809</i>	
	<i>CL3</i>	<i>0.812</i>	

The criterion for the loading factor is the value must be larger than 0.7 and AVE must be larger than 0.5 to confirm the validity of the constructs. As can be seen from Table 1, the loading factor and AVE for the social coffee drinker group have met the criteria.

The loading factor and AVE value for the daily coffee drinker group can be seen in Table 2 below.

Table 2. Loading Factor and AVE of the Daily Coffee Drinker Group

<i>Variable</i>	<i>Item</i>	<i>Loading Factor</i>	<i>AVE</i>
<i>Product</i>	<i>P2</i>	<i>1.000</i>	<i>1.000</i>
<i>Price Fairness</i>	<i>PF1</i>	<i>0.843</i>	<i>0.683</i>
	<i>PF2</i>	<i>0.898</i>	
	<i>PF3</i>	<i>0.732</i>	
	<i>PF4</i>	<i>0.823</i>	
<i>Employee Service</i>	<i>ES1</i>	<i>0.723</i>	<i>0.625</i>
	<i>ES3</i>	<i>0.836</i>	
	<i>ES5</i>	<i>0.853</i>	
	<i>ES6</i>	<i>0.743</i>	
<i>Internet Service</i>	<i>IS1</i>	<i>0.742</i>	<i>0.703</i>
	<i>IS2</i>	<i>0.864</i>	
	<i>IS3</i>	<i>0.859</i>	
	<i>IS4</i>	<i>0.882</i>	

<i>Store Atmosphere</i>	<i>SA1</i>	<i>0.774</i>	<i>0.664</i>
	<i>SA2</i>	<i>0.749</i>	
	<i>SA3</i>	<i>0.821</i>	
	<i>SA4</i>	<i>0.887</i>	
	<i>SA5</i>	<i>0.904</i>	
	<i>SA6</i>	<i>0.737</i>	
<i>Lifestyle</i>	<i>L2</i>	<i>0.775</i>	<i>0.633</i>
	<i>L3</i>	<i>0.826</i>	
	<i>L4</i>	<i>0.816</i>	
	<i>L6</i>	<i>0.765</i>	
<i>Customer Satisfaction</i>	<i>CS1</i>	<i>0.850</i>	<i>0.689</i>
	<i>CS2</i>	<i>0.866</i>	
	<i>CS3</i>	<i>0.797</i>	
	<i>CS4</i>	<i>0.805</i>	
<i>Customer Loyalty</i>	<i>CL1</i>	<i>0.837</i>	<i>0.640</i>
	<i>CL2</i>	<i>0.814</i>	
	<i>CL3</i>	<i>0.782</i>	
	<i>CL4</i>	<i>0.765</i>	

As can be seen from Table 2, the loading factor and AVE for the daily coffee drinker group have met the criteria as the loading factor values are all above 0.7 and the AVE values are all above 0.5.

The loading factor and AVE value for the coffee lover group can be seen in Table 2 below.

Table 3. Loading Factor and AVE of the Coffee Lover Group

<i>Variable</i>	<i>Item</i>	<i>Loading Factor</i>	<i>AVE</i>
<i>Product</i>	<i>P1</i>	<i>0.958</i>	<i>0.902</i>
	<i>P2</i>	<i>0.941</i>	
<i>Price Fairness</i>	<i>PF1</i>	<i>1.000</i>	<i>1.000</i>
<i>Employee Service</i>	<i>ES1</i>	<i>0.864</i>	<i>0.769</i>
	<i>ES2</i>	<i>0.806</i>	
	<i>ES3</i>	<i>0.944</i>	
	<i>ES5</i>	<i>0.910</i>	
	<i>ES6</i>	<i>0.853</i>	

<i>Internet Service</i>	<i>IS1</i>	<i>0.884</i>	<i>0.888</i>
	<i>IS2</i>	<i>0.977</i>	
	<i>IS3</i>	<i>0.945</i>	
	<i>IS4</i>	<i>0.962</i>	
<i>Store Atmosphere</i>	<i>SA1</i>	<i>0.861</i>	<i>0.701</i>
	<i>SA2</i>	<i>0.857</i>	
	<i>SA3</i>	<i>0.867</i>	
	<i>SA5</i>	<i>0.820</i>	
	<i>SA6</i>	<i>0.776</i>	
<i>Lifestyle</i>	<i>L1</i>	<i>0.721</i>	<i>0.695</i>
	<i>L2</i>	<i>0.817</i>	
	<i>L3</i>	<i>0.887</i>	
	<i>L4</i>	<i>0.910</i>	
	<i>L6</i>	<i>0.821</i>	
<i>Customer Satisfaction</i>	<i>CS1</i>	<i>0.919</i>	<i>0.881</i>
	<i>CS2</i>	<i>0.947</i>	
	<i>CS4</i>	<i>0.949</i>	
<i>Customer Loyalty</i>	<i>CL1</i>	<i>0.913</i>	<i>0.826</i>
	<i>CL2</i>	<i>0.949</i>	
	<i>CL3</i>	<i>0.922</i>	
	<i>CL4</i>	<i>0.850</i>	

Similarly, as can be seen from Table 3, the loading factor and AVE for the coffee lover group have met the criteria as the loading factor values are all above 0.7 and the AVE values are all above 0.5.

Table 4 below shows the Fornell-Larcker data for the social coffee drinker group. The criterion is that the value of the correlation of a variable with itself must be greater than the correlation of that variable with other variables, in order to confirm the validity of the construct.

Table 4. Fornell-Larcker Criterion of the Social Coffee Drinker Group

Variables	CL	CS	ES	IS	L	PF	P	SA
CL	0.809							
CS	0.732	0.862						
ES	0.445	0.620	0.795					

IS	0.373	0.365	0.401	0.882				
L	0.520	0.538	0.360	0.235	0.822			
PF	0.625	0.645	0.459	0.294	0.504	0.787		
P	0.381	0.444	0.469	0.339	0.366	0.435	1.000	
SA	0.586	0.664	0.543	0.484	0.425	0.477	0.387	0.808

Table 4 shows that the constructs for the social coffee drinker group is valid as they have met the Fornell-Larcker criterion, in which the correlation value of the variable with itself is greater than the correlation value of that variable with other variables.

The Fornell-Larcker data for the daily coffee drinker group can be seen in Table 5 below.

Table 5. Fornell-Larcker Criterion of the Daily Coffee Drinker Group

Variables	CL	CS	ES	IS	L	PF	P	SA
CL	0.800							
CS	0.787	0.830						
ES	0.581	0.671	0.791					
IS	0.521	0.623	0.609	0.838				
L	0.399	0.365	0.277	0.198	0.796			
PF	0.508	0.591	0.602	0.326	0.398	0.826		
P	0.485	0.378	0.470	0.286	0.299	0.415	1.000	
SA	0.550	0.646	0.526	0.569	0.391	0.330	0.288	0.815

The constructs for the daily coffee drinker group is valid as they also have met the Fornell-Larcker criterion, in which the correlation value of the variable with itself is greater than the correlation value of that variable with other variables.

The Fornell-Larcker data for the daily coffee drinker group can be seen in Table 6 below.

Table 6. Fornell-Larcker Criterion of the Coffee Lover Group

Variables	CL	CS	ES	IS	L	PF	P	SA
CL	0.909							
CS	0.858	0.939						
ES	0.846	0.903	0.877					
IS	0.639	0.654	0.716	0.943				
L	0.495	0.312	0.282	0.313	0.834			
PF	0.459	0.362	0.492	0.326	0.405	1.000		
P	0.825	0.749	0.739	0.609	0.374	0.412	0.950	

SA	0.612	0.638	0.584	0.713	0.642	0.447	0.571	0.837
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Similarly, the constructs for the coffee lover group is valid as they also have met the Fornell-Larcker criterion, in which the correlation value of the variable with itself is greater than the correlation value of that variable with other variables.

Table 7 shows the cross loading data for the social coffee drinker. In cross loadings analysis, the correlation value between each indicator/item and variable was measured. The criterion for cross loadings analysis is the correlation value between an indicator and the variable that it measures must be greater than the correlation value between that indicator and other variables, in order for the construct to be considered as valid.

Table 7. Cross Loading of the Social Coffee Drinker Group

Indicator	Variables							
	CL	CS	ES	IS	L	PF	P	SA
CL1	0.807	0.625	0.443	0.315	0.417	0.542	0.248	0.557
CL2	0.809	0.590	0.379	0.310	0.405	0.489	0.347	0.441
CL3	0.812	0.557	0.247	0.277	0.441	0.485	0.334	0.418
CL4	0.644	0.863	0.550	0.270	0.461	0.579	0.355	0.623
CS1	0.679	0.906	0.453	0.318	0.480	0.598	0.399	0.521
CS2	0.564	0.814	0.605	0.360	0.448	0.485	0.395	0.571
CS3	0.327	0.407	0.708	0.274	0.270	0.364	0.230	0.388
CS4	0.428	0.555	0.836	0.289	0.309	0.421	0.448	0.419
ES1	0.374	0.528	0.852	0.379	0.284	0.341	0.452	0.501
ES3	0.272	0.465	0.774	0.333	0.281	0.332	0.325	0.415
ES4	0.285	0.291	0.308	0.864	0.148	0.245	0.265	0.373
ES5	0.296	0.287	0.321	0.888	0.175	0.269	0.236	0.447
ES6	0.329	0.323	0.437	0.893	0.213	0.220	0.339	0.472
IS1	0.388	0.371	0.343	0.882	0.274	0.296	0.340	0.414
IS2	0.430	0.375	0.288	0.163	0.783	0.403	0.225	0.352
IS3	0.443	0.389	0.361	0.333	0.815	0.457	0.354	0.383
IS4	0.499	0.567	0.325	0.165	0.882	0.485	0.343	0.359
L2	0.318	0.392	0.204	0.131	0.806	0.293	0.270	0.309
L3	0.381	0.444	0.469	0.339	0.366	0.435	1.000	0.387
L4	0.487	0.490	0.335	0.156	0.334	0.759	0.256	0.372

L6	0.543	0.472	0.324	0.167	0.344	0.782	0.377	0.206
P1	0.449	0.460	0.437	0.329	0.396	0.778	0.388	0.487
P2	0.494	0.592	0.356	0.271	0.495	0.828	0.354	0.428
PF1	0.374	0.443	0.440	0.391	0.366	0.344	0.344	0.724
PF2	0.502	0.568	0.449	0.405	0.405	0.528	0.412	0.774
PF3	0.505	0.609	0.471	0.342	0.318	0.472	0.350	0.889
PF4	0.456	0.541	0.398	0.401	0.360	0.313	0.337	0.875
SA1	0.513	0.526	0.455	0.454	0.294	0.337	0.192	0.823
SA2	0.479	0.509	0.421	0.365	0.324	0.291	0.233	0.752
SA3	0.807	0.625	0.443	0.315	0.417	0.542	0.248	0.557
SA4	0.809	0.590	0.379	0.310	0.405	0.489	0.347	0.441
SA5	0.812	0.557	0.247	0.277	0.441	0.485	0.334	0.418
SA6	0.644	0.863	0.550	0.270	0.461	0.579	0.355	0.623

The data from Table 7 shows that, for the social coffee drinker group, the correlation value between the indicator and the variable that it measures is greater than the correlation value between that indicator and other variables, thus, the construct is valid.

The cross loading data for the daily coffee drinker group is tabulated in Table 8 below.

Table 8. Cross Loading of the Daily Coffee Drinker Group

Indicator	Variables							
	CL	CS	ES	IS	L	PF	P	SA
CL1	0.837	0.803	0.487	0.422	0.373	0.517	0.384	0.499
CL2	0.814	0.541	0.454	0.396	0.326	0.374	0.466	0.371
CL3	0.782	0.531	0.319	0.335	0.397	0.281	0.304	0.478
CL4	0.765	0.574	0.586	0.513	0.172	0.405	0.403	0.394
CS1	0.644	0.850	0.554	0.471	0.332	0.571	0.299	0.581
CS2	0.692	0.866	0.559	0.511	0.203	0.545	0.345	0.491
CS3	0.674	0.797	0.575	0.611	0.320	0.358	0.357	0.633
CS4	0.600	0.805	0.539	0.471	0.365	0.488	0.246	0.431
ES1	0.433	0.487	0.723	0.415	0.196	0.586	0.369	0.342
ES3	0.459	0.560	0.836	0.543	0.221	0.483	0.292	0.485
ES4	0.383	0.532	0.853	0.448	0.244	0.452	0.286	0.414
ES5	0.560	0.538	0.743	0.510	0.215	0.393	0.541	0.414

ES6	0.240	0.357	0.354	0.742	0.068	0.209	0.096	0.484
IS1	0.352	0.488	0.504	0.864	0.119	0.236	0.124	0.446
IS2	0.451	0.544	0.485	0.859	0.206	0.323	0.328	0.456
IS3	0.614	0.639	0.640	0.882	0.228	0.303	0.341	0.530
IS4	0.362	0.270	0.313	0.077	0.775	0.342	0.295	0.231
L2	0.277	0.317	0.140	0.109	0.826	0.303	0.205	0.349
L3	0.383	0.311	0.228	0.238	0.816	0.225	0.282	0.367
L4	0.246	0.257	0.217	0.207	0.765	0.420	0.167	0.283
L6	0.485	0.378	0.470	0.286	0.299	0.415	1.000	0.288
P1	0.427	0.554	0.503	0.276	0.320	0.843	0.329	0.271
P2	0.466	0.568	0.507	0.252	0.365	0.898	0.322	0.302
PF1	0.369	0.337	0.586	0.316	0.260	0.732	0.468	0.307
PF2	0.409	0.440	0.433	0.259	0.361	0.823	0.309	0.223
PF3	0.528	0.488	0.303	0.349	0.321	0.166	0.239	0.774
PF4	0.384	0.450	0.470	0.399	0.292	0.387	0.183	0.749
SA1	0.404	0.477	0.419	0.392	0.397	0.325	0.130	0.821
SA2	0.452	0.546	0.414	0.496	0.374	0.183	0.240	0.887
SA3	0.493	0.567	0.452	0.49	0.305	0.198	0.202	0.904
SA4	0.418	0.597	0.497	0.606	0.233	0.365	0.377	0.737
SA5	0.837	0.803	0.487	0.422	0.373	0.517	0.384	0.499
SA6	0.814	0.541	0.454	0.396	0.326	0.374	0.466	0.371

The data from Table 8 shows that, for the daily coffee drinker group, the correlation value between the indicator and the variable that it measures is greater than the correlation value between that indicator and other variables, thus, the construct is valid.

The cross loading data for the daily coffee drinker group is tabulated in Table 9 below.

Table 9. Cross Loading of the Coffee Lover Group

Indicator	Variables							
	CL	CS	ES	IS	L	PF	P	SA
CL1	0.913	0.799	0.709	0.591	0.504	0.324	0.800	0.641
CL2	0.949	0.796	0.781	0.551	0.378	0.486	0.773	0.562
CL3	0.922	0.857	0.836	0.625	0.404	0.438	0.720	0.528
CL4	0.850	0.642	0.752	0.554	0.539	0.425	0.709	0.489

CS1	0.800	0.919	0.879	0.629	0.191	0.423	0.780	0.600
CS2	0.768	0.947	0.802	0.575	0.356	0.231	0.648	0.571
CS3	0.844	0.949	0.860	0.636	0.336	0.359	0.678	0.623
CS4	0.697	0.771	0.864	0.601	0.126	0.400	0.706	0.476
ES1	0.747	0.811	0.806	0.698	0.380	0.507	0.704	0.633
ES3	0.757	0.852	0.944	0.725	0.085	0.371	0.655	0.514
ES4	0.810	0.804	0.910	0.635	0.327	0.306	0.676	0.518
ES5	0.691	0.708	0.853	0.452	0.331	0.591	0.481	0.403
ES6	0.547	0.480	0.556	0.884	0.229	0.242	0.500	0.551
IS1	0.681	0.723	0.733	0.977	0.296	0.285	0.651	0.711
IS2	0.594	0.663	0.744	0.945	0.285	0.323	0.583	0.672
IS3	0.566	0.552	0.631	0.962	0.368	0.380	0.535	0.739
IS4	0.392	0.210	0.154	0.142	0.721	0.303	0.267	0.372
L2	0.308	0.079	0.084	0.262	0.817	0.178	0.112	0.402
L3	0.403	0.229	0.215	0.196	0.887	0.248	0.261	0.443
L4	0.538	0.381	0.379	0.406	0.910	0.366	0.514	0.673
L6	0.292	0.216	0.153	0.209	0.821	0.499	0.150	0.639
P1	0.803	0.766	0.801	0.618	0.331	0.428	0.958	0.576
P2	0.762	0.648	0.586	0.532	0.385	0.349	0.941	0.503
PF1	0.459	0.362	0.492	0.326	0.405	1.000	0.412	0.447
PF2	0.448	0.528	0.387	0.546	0.491	0.228	0.377	0.861
PF3	0.439	0.494	0.397	0.516	0.512	0.306	0.298	0.857
PF4	0.477	0.534	0.551	0.674	0.484	0.506	0.520	0.867
SA1	0.423	0.296	0.284	0.517	0.837	0.318	0.364	0.820
SA2	0.679	0.667	0.672	0.664	0.497	0.456	0.701	0.776
SA3	0.913	0.799	0.709	0.591	0.504	0.324	0.800	0.641
SA4	0.949	0.796	0.781	0.551	0.378	0.486	0.773	0.562
SA5	0.922	0.857	0.836	0.625	0.404	0.438	0.720	0.528
SA6	0.850	0.642	0.752	0.554	0.539	0.425	0.709	0.489

The data from Table 9 shows that, for the coffee lover group, the correlation value between the indicator and the variable that it measures is greater than the correlation value between that indicator and other variables, thus, the construct is valid.

Since all items and constructs from all types of coffee consumer have met the criteria in Fornell-Larcker criterion and cross loadings analysis, the constructs in the models are considered to be all valid.

The reliability of the model is evaluated by measuring the composite reliability and Cronbach's Alpha value. Table 10 shows the Cronbach's Alpha and the composite reliability values for all variables from all types of coffee consumers. The column labelled SCD represents the social coffee drinker, DCD represents the daily coffee drinker and CL represents the coffee lover.

Table 10. Cronbach's Alpha and Composite Reliability

Variables	Cronbach's Alpha			Composite Reliability		
	SCD	DCD	CL	SCD	DCD	CL
Customer Loyalty	0.737	0.815	0.930	0.851	0.877	0.950
Customer Satisfaction	0.826	0.849	0.933	0.896	0.899	0.957
Employee Service	0.804	0.798	0.924	0.872	0.869	0.943
Internet Service	0.905	0.861	0.958	0.933	0.904	0.970
Lifestyle	0.841	0.807	0.894	0.893	0.873	0.919
Price Fairness	0.796	0.847	1.000	0.867	0.895	1.000
Product	1.000	1.000	0.892	1.000	1.000	0.949
Store Atmosphere	0.892	0.897	0.895	0.918	0.922	0.921

The criteria for the model to be considered as reliable is that the value for the Cronbach's Alpha and composite reliability must be greater than 0.7. As can be seen from Table 10, the value for Cronbach's Alpha and composite reliability for all variables of all three types of coffee consumer are above 0.7, indicating that the model in this research is reliable.

4.2 Evaluation of Inner Model

This study evaluate the inner model through the analysis of R-square value, path coefficient, predictive relevance and model fit. R-square value indicates how well the independent variables in explaining the dependent variable. Table 11 below show the R-square values for the customer satisfaction and customer loyalty. The column labelled SCD represents the social coffee drinker, DCD represents the daily coffee drinker and CL represents the coffee lover.

Table 11. R-Square

Variables	R-square		
	SCD	DCD	CL

<i>Customer Loyalty</i>	<i>0.535</i>	<i>0.620</i>	<i>0.736</i>
<i>Customer Satisfaction</i>	<i>0.646</i>	<i>0.651</i>	<i>0.871</i>

According to Chin and Newsted (1998), an R-square value of more than or equal to 0.67 indicates a substantial level of predictive accuracy, between 0.33 and 0.67 as moderate, between 0.19 and 0.33 as weak and below 0.19 as very weak. As shown in Table 11, the R-square values for customer satisfaction and loyalty, for the social and daily coffee drinker groups, are considered acceptable as they still fall within the moderate range. Meanwhile, for the coffee lover group, the R-square values for customer satisfaction and loyalty are also acceptable and fall within the substantial level.

Table 12 shows the path coefficient between each independent variable towards its dependent variable. The path coefficient signifies the direction of the relationship, in which positive value means positive relationship, and vice versa.

Table 12. Path Coefficient

<i>Relationships</i>	<i>Path Coefficient</i>		
	<i>SCD</i>	<i>DCD</i>	<i>CL</i>
Product → Customer Satisfaction	<i>0.023</i>	<i>0.009</i>	<i>0.157</i>
Price Fairness → Customer Satisfaction	<i>0.292</i>	<i>0.288</i>	<i>0.171</i>
Employee Service → Customer Satisfaction	<i>0.252</i>	<i>0.178</i>	<i>0.847</i>
Internet Service → Customer Satisfaction	<i>0.023</i>	<i>0.236</i>	<i>0.185</i>
Store Atmosphere → Customer Satisfaction	<i>0.322</i>	<i>0.308</i>	<i>0.291</i>
Lifestyle → Customer Satisfaction	<i>0.160</i>	<i>0.031</i>	<i>0.045</i>
Customer Satisfaction → Customer Loyalty	<i>0.732</i>	<i>0.787</i>	<i>0.858</i>

As shown in Table 12, the path coefficient for all relationships and all types of coffee consumer is positive, which indicate positive influence in all relationship for all types of coffee consumers.

Table 13 shows the predictive relevance. The predictive is measured by looking at the Q-square value. Q-square value of larger than zero indicates that the research model has a good observation value.

Table 13. Path Coefficient

<i>Variables</i>	<i>Q-square</i>		
	<i>SCD</i>	<i>DCD</i>	<i>CL</i>
<i>Customer Loyalty</i>	<i>0.339</i>	<i>0.368</i>	<i>0.581</i>

<i>Customer Satisfaction</i>	<i>0.460</i>	<i>0.415</i>	<i>0.703</i>
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The data from Table 13 has shown that the Q-square value for customer loyalty and customer satisfaction is above zero for all types of coffee consumers, indicating that the research model has a good observation value.

Table 14 shows the model fit data to determine whether the research model is fit when compared to the ideal model. This study considered the Standardized Root Mean Square residual (SRMR) to analyze the model fit.

Table 14. Model Fit

<i>Model Fit Measurement</i>	<i>Value</i>		
	<i>SCD</i>	<i>DCD</i>	<i>CL</i>
<i>SRMR</i>	<i>0.068</i>	<i>0.090</i>	<i>0.097</i>

According to Kock (2020), a model with an SRMR value of less than 0.1 can generally be considered as fit or acceptable. Since the SRMR value for the social coffee drinker, the daily coffee drinker and the coffee lover in this research is 0.068, 0.090 and 0.097 respectively, the models are considered to be fit.

The path diagrams of the model for the social coffee drinker, the daily coffee drinker and the coffee lover can be seen in Figure 2, Figure 3 and Figure 4 respectively. These path diagrams were taken from the output of the SmartPLS software, where the inner and outer model evaluation were shown.

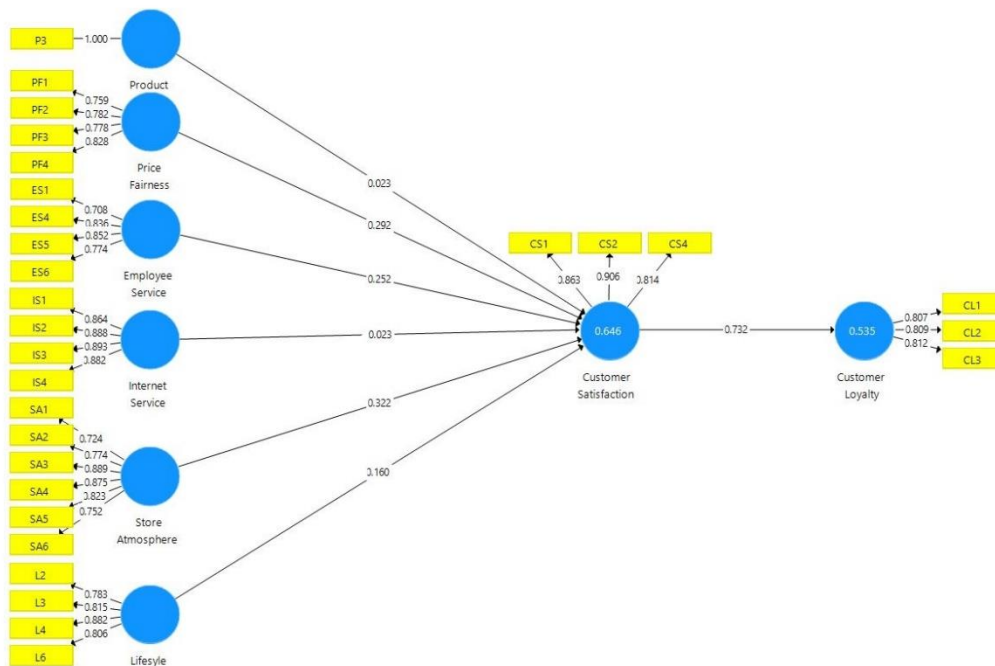


Figure 2. Path Diagram of the Social Coffee Drinker Group

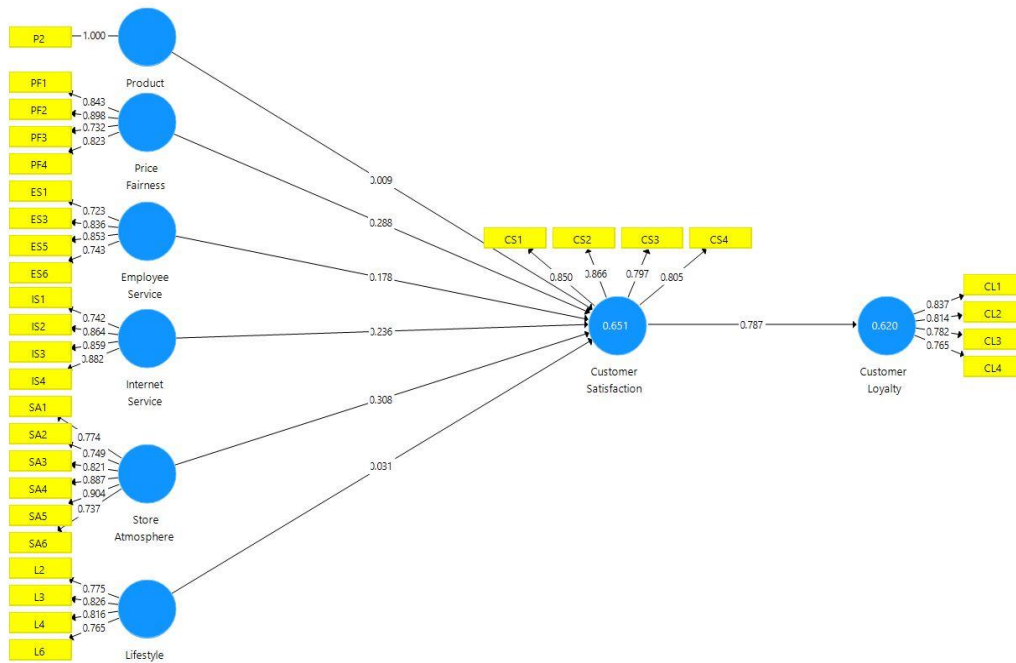


Figure 3. Path Diagram of the Daily Coffee Drinker Group

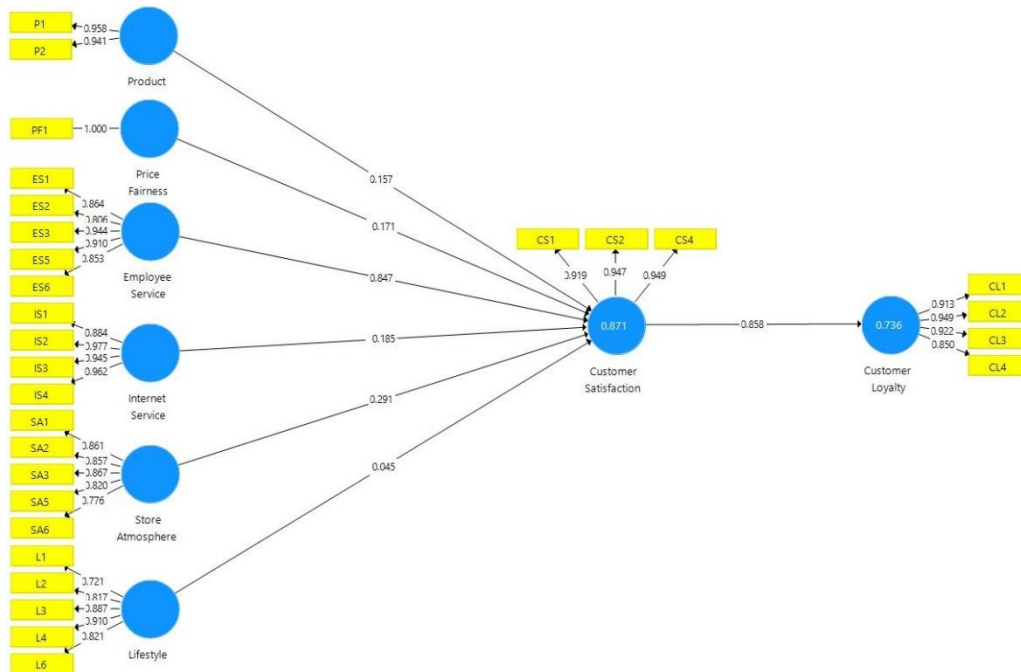


Figure 4. Path Diagram of the Coffee Lover Group

The number shown on the arrow between the indicator and the variable are the value for loading factor. Meanwhile, the number on the arrow between 2 variables indicates the path coefficient. The R-square values were shown inside the blue circles that represent the dependent variables.

4.3 Hypothesis Test Result

The significance of the relationship between the variables in this research were analyzed at 0.05 significance level using the T-statistics. The criterion for a relationship to be considered as significant is the T-statistics value must be greater than 1.96 and the P value is lower than 0.05. Table 15 shows the T-statistics and the P values for the three types of coffee consumer dataset.

Table 15. T-Statistics and P Values

<i>Relationships</i>	<i>T-Statistics</i>			<i>P Values</i>		
	<i>SCD</i>	<i>DCD</i>	<i>CL</i>	<i>SCD</i>	<i>DCD</i>	<i>CL</i>
Product → Customer Satisfaction	0.302	0.118	0.877	0.763	0.906	0.380
Price Fairness → Customer Satisfaction	4.491	2.904	1.534	0.000	0.004	0.125
Employee Service → Customer Satisfaction	3.929	1.422	4.001	0.000	0.155	0.000
Internet Service → Customer Satisfaction	0.312	2.586	0.998	0.755	0.010	0.318
Store Atmosphere → Customer Satisfaction	4.199	3.217	1.144	0.000	0.001	0.253
Lifestyle → Customer Satisfaction	2.763	0.379	0.279	0.006	0.705	0.780
Customer Satisfaction → Customer Loyalty	13.007	16.069	14.901	0.000	0.000	0.000

Based on the T-statistics values and the P values shown in table 15, the hypothesis results can be concluded for each type of coffee consumers. The hypothesis results are summarized in Table 16 below.

Table 16. Hypothesis Test Results

<i>H#</i>	<i>Relationships</i>	<i>Result</i>		
		<i>SCD</i>	<i>DCD</i>	<i>CL</i>
H1	Product → Customer Satisfaction	<i>Rejected</i>	<i>Rejected</i>	<i>Rejected</i>
H2	Price Fairness → Customer Satisfaction	<i>Supported</i>	<i>Supported</i>	<i>Rejected</i>
H3	Employee Service → Customer Satisfaction	<i>Supported</i>	<i>Rejected</i>	<i>Supported</i>
H4	Internet Service → Customer Satisfaction	<i>Rejected</i>	<i>Supported</i>	<i>Rejected</i>
H5	Store Atmosphere → Customer Satisfaction	<i>Supported</i>	<i>Supported</i>	<i>Rejected</i>

H6	Lifestyle → Customer Satisfaction	Supported	<i>Rejected</i>	<i>Rejected</i>
H7	Customer Satisfaction → Customer Loyalty	Supported	Supported	Supported

For the social coffee drinker group, H2, H3, H5, H6 and H7 are supported, while the daily coffee drinker group only support H2, H4, H5 and H7. On the other hand, for the coffee lover group, only H3 is supported.

5. Discussion

The results of this study found that there is an impact of different type of coffee consumer on the relationship of the factors of coffee shop on the customer satisfaction. This finding adds an additional information to complement the findings from the previous studies, where the samples were not divided based on the type of coffee consumers.

For the social coffee drinker group, the price fairness has significant impact on customer satisfaction. This finding is similar with the previous studies by Sasongko *et al.* (2020) and Konuk (2019). Customers tend to choose coffee shop that offers coffee with reasonable price, not simply just cheap, therefore the coffee shop should be able to provide coffee that has a fair price when compared to the taste and the portion size. Moreover, the store atmosphere and employee service also significantly impact satisfaction. This finding is similar with the findings by Lee (2019) and Lee, Moon and Song (2018). Coffee shops should put more concern on the atmosphere of the store, especially regarding the design and the placement of the furniture to maximize comfort for the customers, as well as to provide training for the employee to improve the attitude, as the service quality from the employee also impact the customer satisfaction. Furthermore, the lifestyle of the social coffee drinker is also significantly influence the customer satisfaction. This finding is similar with the findings from previous studies by Dewi *et al.* (2020) and Susanty and Kenny (2015). Therefore, coffee shops should be able to match their product or coffee shop attributes with the current lifestyle of the consumer in order to increase their satisfaction.

However, product and internet service was found to have no significant impact on satisfaction for the social coffee drinkers. Based on in-depth with some respondents who claim themselves as social coffee drinker, product becomes something that is not essential that makes them satisfy, as they are placing social engagement through a specific coffee shop brand more as their priority rather than the product itself. Furthermore, customers from this group tend to spend their time to have quality time with their friends when visiting a coffee shop, as stated

by Sasongko *et al.* (2020) in their study. This is why internet service does not impact the satisfaction.

For the daily coffee drinker, the store atmosphere and the price fairness has significant impact on satisfaction, which is similar with the social coffee drinker. Customers from the daily coffee drinker group tend to be more satisfied when visiting coffee shop that has comfortable store atmosphere and reasonable coffee price. Moreover, internet service also becomes a significant factor that influence their satisfaction. This finding is similar with the findings by Lee, Moon and Song (2018) and Darini and Khozaei (2016). Thus, coffee shops should also be able to improve the quality and speed of the Wi-Fi in their shop to improve the satisfaction of the customers from this group.

However, this results of this study found that, for the daily coffee drinkers, product does not impact the satisfaction, similar with the social coffee drinker group. Moreover, employee service and lifestyle also does not have significant impact on their satisfaction. To the daily coffee drinkers, employee service might not become their priority when visiting a coffee shop, as there are other factors, such as price fairness and store atmosphere, which are more important to them to support their work or activity when visiting a coffee shop. Similarly, for the lifestyle, the results show that the daily coffee drinkers does not find the activity of spending time in coffee shop as their lifestyle, unlike the social coffee drinkers. This explains why lifestyle has no significant impact on satisfaction for customers from this group.

For the coffee lover group, on the other hand, this study found that the employee service has significant impact on customer satisfaction. The results shows that the quality of service, especially regarding the attitude and the knowledge of the barista regarding coffee, is the only factor that the coffee lovers look for when visiting this kind of coffee shop. This finding also explain why, for the coffee lover group, the other factors, which is product, price fairness, internet service, store atmosphere and lifestyle, do not have significant impact on satisfaction. This finding is similar with the finding from previous study by Lee, Moon and Song (2018), where employee service significantly affects the customer satisfaction. Thus, coffee shops should provide more training for the employee to improve their attitude and knowledge regarding their coffee products in order to improve the satisfaction of the customers, especially from this group.

Furthermore, the finding of this study shows that the customer satisfaction will positively and significantly impact the loyalty. This implies that increasing the customer satisfaction will definitely increase customer loyalty, regardless of which type of coffee consumer they are

belong. This finding is similar with the finding from previous studies on similar topic by Lee, Moon and Song (2018) and Sasongko *et al.* (2020) which also stated positive and significant impact of satisfaction towards loyalty.

The results of this study can be useful for coffee shop business owner or people who would like to open a new coffee shop business as a reference to help improving the coffee shop based on the market segments. The implication is, in the long run, business owners in this coffee shop industry are able to do product development or developing other attributes according to what is preferred by the market segments.

6. Conclusion

This research provides an overview that the customers that come to these type of coffee shops, that sell ready-to-drink coffee, commonly consist of several types of coffee consumer, in which the most common types are the social coffee drinker, the daily coffee drinker and the coffee lover. The result of the study shows that different types of coffee consumer have different effects on the relationship of product, price fairness, employee service, internet service, store atmosphere and lifestyle with the customer satisfaction.

The results of this research can be useful and applicable for people who own coffee shop business or people who want to start opening coffee shop business, specifically coffee shop that has similar customer segment, target and positioning as the three coffee shops used as the population in this research, which are Janji Jiwa, Kopi Kenangan and Kulo.

The findings of this research aims to give overview to coffee shop businesses that the customers are fragmented into several types, in which the three most common types are the social coffee drinker, the daily coffee drinker and the coffee lover. These three types of coffee consumer will always be present in the coffee shop business, therefore, it is important for the coffee shop owners to always observing the development of the composition of the consumers in their coffee shop outlets. For people who want to start a coffee shop business, this could be done by observing the behavior of the customers who came to the coffee shop initially for a certain period of time. Similarly, for people who already own a coffee shop business, they can as well improve their revenue by observing the behavior of their customers who came to the coffee shop in a certain period of time. Through this observation, this allows business owners to determine which type of coffee consumers that visited the coffee shop the most. Therefore, business owners are able to do product development or execute development strategy based on the type of the coffee consumer.

As stated previously, each type of coffee consumer has its own factors that can increase their satisfaction. For the social coffee drinker, these factors are price fairness, store atmosphere, employee service and lifestyle. Therefore, when the coffee shop is mainly dominated by this type of consumer, business owners, in order to improve the satisfaction of their customers, could develop strategies, such as improving the fairness of the product price by minimizing the price-to-taste ratio, putting more concern regarding the placement of the furniture inside the coffee shop to provide more comfort for the customers and providing more training to the employees for attitude development.

Meanwhile, if the consumers are mostly daily coffee drinkers, business owner should be more concerned regarding the store atmosphere, followed by price fairness and the availability of internet access. This could be done by improving the price fairness of the coffee by minimizing the price-to-potion size ratio, improving the furniture placement, such as giving enough spacing, to provide more comfort for the customers, as well as improving the Wi-Fi speed and quality.

On the other hand, if the consumers are mostly coffee lovers, business owner should be more concerned regarding the quality of service of the employee. This could be done by providing the employee with trainings to improve the attitude, service quality and knowledge regarding the products.

Furthermore, through the finding of this study, it can be concluded that improvement on the customer satisfaction will be able to improve the customer loyalty, regardless of the type of the coffee consumer. Therefore, business owners should be able to make the customer feel no regret after visiting the coffee shop. This could be done by focusing on the improvement of the coffee quality, as well as the facilities and service quality, as explained previously.

There are several improvement that can be done for future studies to improve the result quality of this research. The sample size that is collected could be increased to improve the accuracy and representativeness. Although the current study has collected a total of 260 samples, however, when the samples were divided according to the type of coffee consumers, the fragments become relatively small. Therefore, in the future study, researchers should also concern regarding the sample size, especially when the sample size is divided into several categories.

Moreover, the exploration on the variable operationalization could be done deeper in exploring the variables. This can be done by adding more indicators or increasing the number of questions, where the questions must explore deeper about the target samples from all type of

coffee consumer. For example, in the questions set related to product variable, the indicator must cover, not only about the taste, menu diversity and appearance of the coffee, but also about the quality of coffee bean. This is because several types of coffee consumer, for example the coffee lover group, might not find some of the indicators, such as appearance or menu diversity, as important. By adding a broader selection of different indicators, the data that is obtained in the study can be more informative and helpful in explaining the hypothesis results.

References

- A Almohaimmed, B. M. (2017). Restaurant Quality and Customer Satisfaction. *International Review of Management and Marketing*, 7(3), 42–49. Retrieved from <http://www.econjournals.com>
- Akurat.co. (2019, December 17). Ketahui 8 Tipe Peminum Kopi, Kamu yang Mana? Retrieved May 6, 2021, from <https://akurat.co/ketahui8-tipe-peminum-kopi-kamu-yang-mana>
- Chapuis, J.-M. (2012). Price Fairness Versus Pricing Fairness. *SSRN Electronic Journal*, (May). <https://doi.org/10.2139/ssrn.2015112>
- Chin, W. W., & Newsted, P. R. (1998). The partial least squares approach to structural equation modeling. Modern methods for business research. *Statistical Strategies for Small Sample Research*, (April), 295-336. Retrieved from <http://books.google.com.sg/books?hl=en&lr=&id=EDZ5AgAAQBAJ&oi=fnd&pg=PA295&dq=chin+1998+PLS&ots=47qB7ro0np&sig=rihQBibvT6S-Lsj1H9txe9dX6Zk#v=onepage&q&f=false>
- Dahwilani, D. M. (2019, December 17). Data dan Fakta Tren Menjamurnya Kedai Kopi Kekinian di Indonesia. Retrieved April 7, 2021, from <https://www.inews.id/travel/kuliner/data-dan-fakta-tren-menjamurnya-kedai-kopi-kekinian-di-indonesia>
- Darini, M., & Khozaei, F. (2016). The study of factors affecting customer's satisfaction with the three star hotels in Dubai. *International Journal of Advanced Engineering, Management and Science (IJAEMS)*, 2(2). Retrieved from www.ijaems.com
- Dewi, E., Tarigan, S., Wijaya, M., & Marbun, P. (2020). The Influence of Lifestyle, Physical Environment, and Menu Variety on Customer Loyalty through Customer Satisfaction in the Coffee Shop. *International Journal of Research and Review (Ijrrjournal.Com)*, 7(March), 3.

- Dhisasmito, P. P., & Kumar, S. (2020). Understanding customer loyalty in the coffee shop industry (A survey in Jakarta, Indonesia). *British Food Journal*, *122*(7), 2253–2271. <https://doi.org/10.1108/BFJ-10-2019-0763>
- Espejel, J., Fandos, C., & Flavián, C. (2008). Consumer satisfaction: A key factor of consumer loyalty and buying intention of a PDO food product. *British Food Journal*, *110*(9), 865–881. <https://doi.org/10.1108/00070700810900585>
- Fisher, K. E., Landry, C. F., & Naumer, C. (2007). Social spaces, casual interactions, meaningful exchanges: “information ground” characteristics based on the college student experience. *Information Research*, *12*(2).
- Hafasnuddin, H., Ridwan, R., & Djalil, M. A. (2019). The Coffee Shop Lifestyle in Banda Aceh City, Indonesia: A Study Based on Marketing Approach. *Advances in Social Science, Education and Humanities Research*, *292*(June). <https://doi.org/10.2991/agc-18.2019.46>
- Hariyanto. (2019, December 17). Riset TOFFIN: Bisnis Kedai Kopi Makin Menggeliat di.... Retrieved April 7, 2021, from <https://www.industry.co.id/read/58786/riset-toffin-bisnis-kedai-kopi-makin-menggeliat-di-2019>
- Harsha, N. M., & Siregar, M. R. (2020). Pengaruh Food Quality , Service Quality Dan Price Fairness Terhadap Repatronage Intention Yang Dimediasi Oleh Customer Satisfaction Pada Kantin Makanan Jepang Hana di Banda Aceh. *Ilmiah Mahasiswa Ekonomi Manajemen*, *5*(3), 530–549.
- Herlyana, E. (2012). Fenomena Coffee Shop Sebagai Gejala Gaya Hidup Baru Kaum Muda. *Thaqāfiyyāt*, *13*(1), 188–204.
- Indimas, S., & Fachira, I. (2017). Customer loyalty: the effects of service loyalty and the mediating role of customer satisfaction study case: pt sabda alam hotel. *Journal of Business and Management*, *6*(2), 250–261.
- Kannan, R. (2017). The Impact of Food Quality On Customer Satisfaction And Behavioural Intentions: A Study On Madurai Restaurant. *Innovative Journal of Business and Management*, *6*(03), 34–37. <https://doi.org/10.15520/ijbm.vol6.iss3.67.pp34-37>
- Karolina Ilieska. (2013). Customer Satisfaction Index – as a Base for Strategic Marketing Management. *TEM Journal*, *2*(294), 327–331. Retrieved from www.temjournal.com
- Ki, R. K., & Dong, J. K. (2010). A Perceptual Mapping of Coffee Shop Brands and Preference Attributes. *16*(3), 66–75.
- Kock, N. (2020). Using indicator correlation fit indices in PLS-SEM : Selecting the algorithm

- with the best fit. *Data Analysis Perspectives Journal*, 1(4), 1–4.
- Kompas. (2020, October 4). 5 Macam Peminum Kopi di Indonesia, Newbie sampai Pencari Promo - Kompas.com. Retrieved May 6, 2021, from <https://www.kompas.com/food/read/2020/10/04/122329975/5-macam-peminum-kopi-di-indonesia-newbie-sampai-pencari-promo?page=all>
- Konečnik Ruzzier, M., Ruzzier, M., & Hisrich, R. (2017). CUSTOMER SATISFACTION AND CUSTOMER LOYALTY Case Trivsel Städtjänster (Trivsel siivouspalvelut). *Marketing for Entrepreneurs and SMEs*, (November), 21–36. <https://doi.org/10.4337/9781781955970.00008>
- Konuk, F. A. (2019). The influence of perceived food quality, price fairness, perceived value and satisfaction on customers' revisit and word-of-mouth intentions towards organic food restaurants. *Journal of Retailing and Consumer Services*, 50, 103–110. <https://doi.org/10.1016/j.jretconser.2019.05.005>
- Lee, C. S. (2019). A comparative study for selection attributes of coffee shop using AHP. *International Journal of Innovative Technology and Exploring Engineering*, 8(8), 993–996.
- Lee, W. S., Moon, J., & Song, M. (2018). Attributes of the coffee shop business related to customer satisfaction. *Journal of Foodservice Business Research*, 21(6), 628–641. <https://doi.org/10.1080/15378020.2018.1524227>
- Litbang Kompas. (2020, March 11). Rajin Ngopi tapi Belum Rajin Genjot Produksi. Retrieved May 1, 2021, from <https://interaktif.kompas.id/baca/rajin-ngopi/>
- Nafiisah, F., & Djamaludin, M. D. (2020). The Influence of Satisfaction toward Loyalty of Adolescent Consumers Mujigae Resto in Bogor City. *Journal of Consumer Sciences*, 5(1), 1–15. <https://doi.org/10.29244/jcs.5.1.1-15>
- Otten Coffee. (2017, June 2). 5 JENIS PENIKMAT KOPI DI INDONESIA - Majalah Otten Coffee. Retrieved May 6, 2021, from <https://majalah.ottencoffee.co.id/5-jenis-penikmat-kopi-di-indonesia/>
- Pratiwi, D. I. (2010). *Analisis Pengaruh Harapan Pelanggan, Kualitas Produk, Kepuasan Pelanggan Terhadap Loyalitas Pelanggan Internet Flash Unlimited Di Semarang*. 3, 1–128.
- Putra, A. N., Anantadjaya, S. P., & Nawangwulan, I. M. (2020). Customer Satisfaction as A Result of Combination of Food Display & Quality. *Journal of Management and Business*, 19(2), 23–43. <https://doi.org/10.24123/jmb.v19i2.439>

- Putri, D. Y., & Sugiharto, S. (2015). Pengaruh Store Atmosphere Dan Service Quality Terhadap Customer Satisfaction Pada Qen-di Garden Resto and Grill Sidoarjo. *Jurnal Strategi Pemasaran*, 3(1), 1–9. Retrieved from www.journal.uta45jakarta.ac.id
- Rai, A. K., & Srivastava, M. (2012). Customer Loyalty Attributes: A Perspective. *Journal of the School of Business Management*, 22, 49–76.
- Remiasa, M., Pudjianto, M. G., Soewito, C. A., Perhotelan, P. M., Ekonomi, F., & Petra, U. K. (2014). Pengaruh Store Atmosphere Terhadap Customer Satisfaction Di Domicile Kitchen and Lounge Surabaya. (35), 399–410.
- Sasongko, F., Darussalam, R., Putra, S. H. S., Sofian, & Mustaqim, T. (2020). Attributes of Coffee Shop as Antecedent of Customer Satisfaction. *Journal of Business and Behavioural Entrepreneurship*, 4(2), 106–124. <https://doi.org/10.21009/jobbe.004.2.09>
- Suryana, P., & Haryadi, M. R. (2019). Stores Atmosphere and Promotion on Customer Satisfaction and its Impact on Customer Loyalty. *Trikonomika*, 18(1), 30–34.
- Susanty, A., & Kenny, E. (2015). The Relationship between Brand Equity, Customer Satisfaction, and Brand Loyalty on Coffee Shop: Study of Excelso and Starbucks. *Asean Marketing Journal*, (1), 14–27.

THE IMPACT OF MANAGEMENT COMMITMENT, TRAINING AND SUPERVISION ON VISUAL MANAGEMENT (5S) PERFORMANCE AT INDONESIAN HEAVY EQUIPMENT COMPANY GROUP

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ABSTRACT

The best quality of a product or service produced by the company is an absolute thing that must be maintained. One method that is often applied to this is the implementation of visual management (5S). 5S itself in its implementation has many factors that can affect its sustainability. This study explores the relationship between management commitment, training and supervision factors on their implications for 5S Performance. A cross-sectional survey was conducted using a sample of mechanical employees at the UT Group. A structured questionnaire was used to capture socio-demographic characteristics of participants, the influence of management commitment, training and supervision on the 5s performance perceived by employees. Path analysis is used to test the relationship between the factors tested on the 5s performance. Results reveal significant the relationship between Supervision and Training factors with 5s performance in the work area. For Management commitment, the results of the study obtained insignificant results. Our study complements the existing study information in the implementation of the 5S system in the world of work, especially in the UT Group.

Type of Paper: Empirical/ Review

Keywords: 5S; management commitment; Training; Supervision; 5S Performance

1. Introduction

Today, we are in a time of very fast change including a revolution in the Quality Movement and this phenomenon has been seen to affect many types of businesses, companies, organizations and people. It is described by Goetsch and Davis (2010, p.6) that in a competitive market, continuous cost reduction and quality improvement issues are critical if an organization is to remain operational. One of technique that can be used for quality improvement is 5S (Visual Management)

The 5S technique is a structured program to systematically achieve total organizational cleanliness, and standardization in the workplace. It includes the five words Seiri, Seiton, Seiso, Seiketsu and Shitsuke, which mean Sort, Organize, Shine, Standardize, and Maintain, respectively. The benefits of 5S techniques are increased productivity, quality, health and safety (Sorooshian et al., 2012).

There are several factors that have a significant effect on 5S Performance. Factors related to human aspects such as leadership, corporate culture, human psychological factors, as well as abilities, skills, and knowledge. Other factors, namely commitment, involvement, and communication, pay more attention to the sustainability of 5S in previous studies. , is also a determining factor for the sustainability of 5S practices (Setiawan *et al.*, 2019).

According to Mat (2011), the development of a theoretical model of employee motivation in the application of the 5S system has been carried out. Significant research results are shown by employee motivation factors that have a relationship with management roles for 5S, training for 5S and organizational culture for 5S. Meanwhile, the employee involvement factor has no significant relationship to employee motivation.

Hartika et al. (2011) have conducted research on a number of aspects that can affect employee motivation in implementing the 5S system. The outcomes of the study can be concluded that communication and training factors have a positive and significant relationship with employee motivation in implementing 5S. Top management role factors have a negative relationship. Reward and recognition factors from the outcomes of the analysis are not significant on employee motivation in implementing 5S.

Based on 2 preliminary research above, this present study want to know what is the factors that affected 5S performance especially at Heavy Equipment Group company in Indonesia. The

variables that used in this study are factors related to Management commitment, training and supervision related to 5S need to be improved.

The objective of this research are :

1. To identify the Management Commitment factor impacting the 5S Performance level.
2. To identify the Training factor impacting the 5S Performance level.
3. To identify the Supervision factor impacting the 5S Performance level.

2. Literature Review

2.1 5S – Housekeeping (Visual Management)

5S began as part of the Toyota Production System (TPS), a manufacturing method initiated by leaders at the Toyota Motor Company in the early and mid-20th century. This system, often referred to as Lean manufacturing in the West, aims to increase the value of a product or service for the customer. This is often achieved by finding and eliminating waste from the production process. Lean manufacturing involves the use of many tools such as 5S, kaizen, kanban, jidoka, heijunka, and poka-yoke.

5S is considered a fundamental part of the Toyota Production System because until the workplace is clean and organized, it is difficult to achieve consistently good results. A cluttered and cluttered space can lead to errors, production slowdowns, and even accidents, all of which disrupt operations and have a negative impact on the company. By having facilities systematically organized, companies increase the likelihood that production will happen exactly as it should.

These 5S include Seiri, Seiton, Seiso, Seiketsu and Shitsuke. If translated into English, 5S is Housekeeping which consists of Sort, Set in order, Shine, Standardize, and Sustain. The 5S technique enables increased productivity and efficiency. The benefits of the 5S technique are increased work efficiency, productivity and occupational safety and health (Khedkar *et al.*, 2012).

2.2 Management Commitment

The commitment of top-level leaders is always considered as the biggest contributing factor to an organizations' success (Kheng & Lilis, 2018). As for 5S implementation, previous research by Ablanedo-Rosas et al. (2010) have concluded that obtaining the commitment from top management will help the workforce to face the challenges. Based on the above literature review on Management Commitment, this study advances the following hypotheses:

Hypothesis #1: There is a relationship between Management Commitment and 5S Performance Level in the Indonesian Heavy Equipment Company Group

2.3 Training

A research study conducted by Ghodrati and Zulkifli (2012) concluded that training is the key to 5S success. Without proper training, there will be a lack of capable workers thus it is nearly impossible to implement 5S. Based on the above literature review on Training, this study advances the following hypotheses:

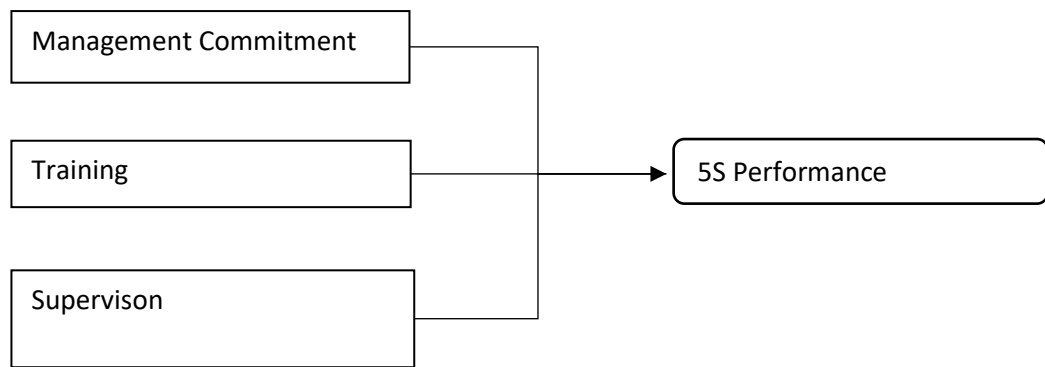
Hypothesis #2: There is a relationship between Training and 5S Performance Levels in the Indonesian Heavy Equipment Company Group

2.4 Supervision

Sampson suggested that the use of safety compliance communications and safety participation would have a positive effect with the use of appropriate supervisory communications (Sampson et al., 2014). Within the operational scope, Safety and 5S have a strong relationship, several audit criteria in the 5S Audit Checklist emphasize elements related to work safety, therefore the influence of 5S Audits on safety management performance cannot be denied (Rhaffor et al., 2019). Based on the above literature review on Supervision, this study advances the following hypotheses:

Hypothesis #3: There is a relationship between supervision and 5S performance in the Indonesian Heavy Equipment Company Group

Figure 2.1 illustrates the proposed research model in this study examining the impact of management commitment, training and supervision on 5S Performance.



Figures 2.1 Research Model

3. Research Methodology

3.1 Sample and data collection

In this research , the information of this study will be limited by taking sample. The target population will be limited for employee in construction machinery business sectors at PT UT Tbk. This study will use a sample, and the technique used is a non-probability sampling technique. According to Cooper & Schindler (2011) Non-probability sampling is the process of selecting samples from a particular population with the applied sample scheme. Non-probability sampling includes systematic sampling, census sampling, snowball sampling, incidental sampling, and purposive sampling (judgment sampling and quota sampling) (Sugiyono, 2012). Judgmental sampling will be used in this study which includes non-probability sampling method. Judgmental sampling is a form of convenience sampling where population elements are selected based on the researcher's assessment (Malhotra, 2012). Therefore, the researcher chooses the sampling elements because the researcher believes that they are representative of the population.

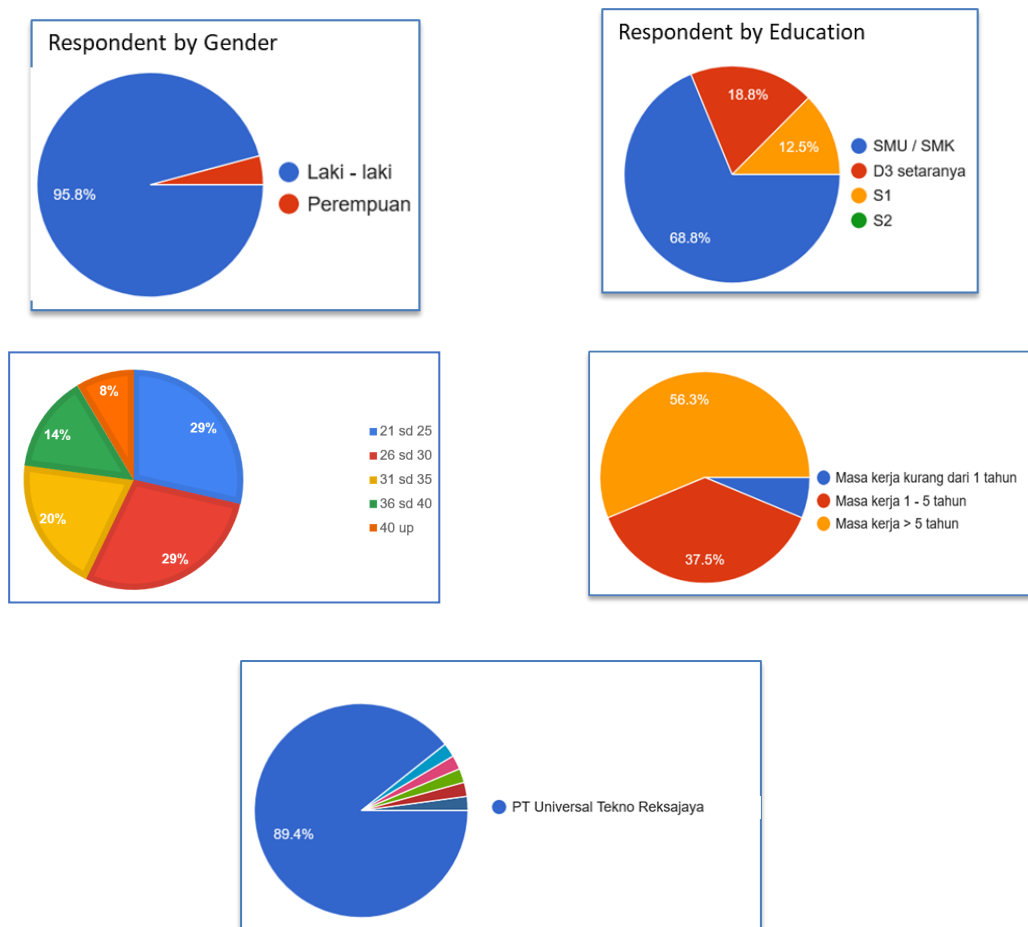


Figure 3.1 Respondents Characteristic

3.2 Measures

3.2.1 Independent Variables

Management Commitment (X1). In this research, management commitment are defined as Management invites employees to 5S improvement sessions; Management encourages employees to participate in 5S goal setting; Management encourages 5S participation; Management accepts advice about 5S; Management offers enough 5S information.

Training (X2). In this research, training is defined Employee have been offered enough training in 5S; Employee have been offered enough 5S training during new staff induction; Employee have been offered regular and useful 5S training.

Supervision (X3). In this research, supervision is defined as Supervisors frequently check the 5S situation; Supervisors frequently talk about 5S; Supervisors draw employees attention to 5S Performances; Supervisors remind employees to conduct 5S Inspection.

3.2.2 Dependent Variables

5S Performance (Y). In this research, 5S Performance is defined as Employee do sort out necessary & unnecessary items. The items deemed unnecessary and not being used should be removed from the area; Employee have a place for everything and set everything in its place so it should be easy to find; Employee work area is clean and ready to use. Inspect regularly to ensure sort and set in order are maintained; The first three S's and an awareness of improving neat ness is maintain periodically; The 5S Discipline is embedded so that it becomes a way of life; 5S is no longer an event but routine.

4. Results

4.1 Data Analysis Technique

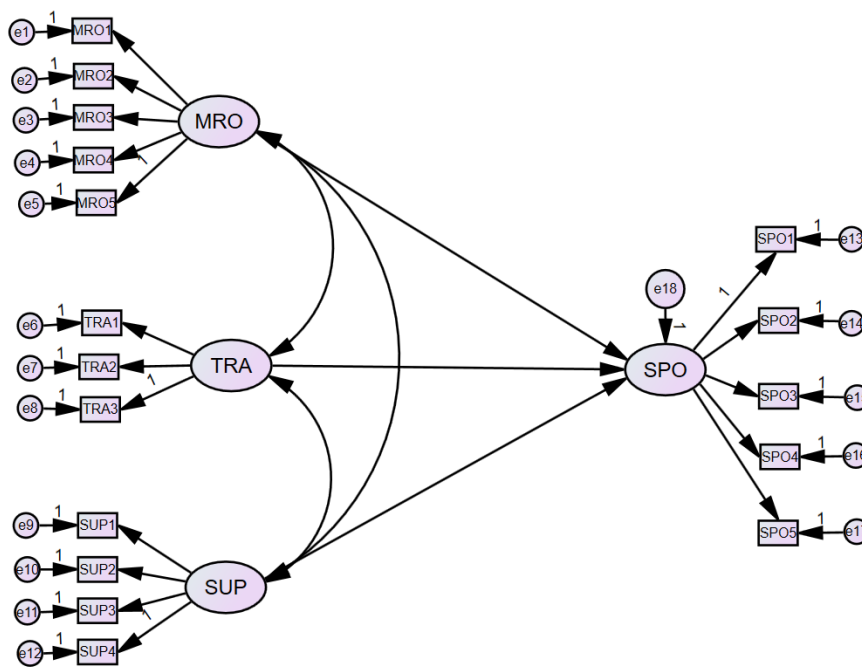
To process the data to become insights, this study attempts the data analysis. The data analysis useful for answering problems related to the process of this activities. The data in this research will be processed using several two stages. First stages, validity & reliability of the constructs is tested. Second stage uses structural equation modelling (SEM) to test the hypotheses and to re-specify the model before determining the final results.

Table 4.1 Parameter Standard Value of AMOS

Criteria	Recommended Standard Value	Model Value	Goodness of Fit
CMIN/df (normed chi-square)	≤ 2	2.45	Not good
RMSEA (root mean of error approximation)	≥ 0.08	0.195	Good
GFI (goodness of fit index)	closer to 1	0.600	Good
AGFI (adjusted goodness of fit index)	closer to 1	0.458	Good
CFI (comparative fit index)	closer to 1	0.788	Good

NFI (normed fit index)		0.695	Good
Reliability	≥ 0.70	0.980	Good

4.2 Structural Equation Model (SEM)



Figure

Equation Model

4.1
Structural

4.3 Hypotheses Tes

4.3.1 Hypothesis #1 Management Commitment affecting 5S Performance

H0 #1: Management Commitment have negative relationship on 5S Performance

H1 #1: Management Commitment have positive relationship on 5S Performance

Table 4.2 Standardized Regression Coefficient of Management Commitment

Dimension	Standardize Regression Weights (r)	p-value	Strength of Association	Result
Management Commitment to 5S Performance	-0.01	0.946	Little if any correlation	H0 #1

Source: AMOS Output

Refer to the outcomes listed in the table 4.5, this indicates that between management commitment and 5s performance the relationship is not significant. The regression weight for Values is – 0.01 ($p=0.946 > 0.05$) and the “little if any correlation” strength association.

The p-values for path coefficient from Management Commitment to 5S Performance is not significant ($p=0.946 > 0.05$) indicating that Management Commitment is not positively affect 5S Performance. It concluded that the hypothesized relationship between Management Commitment to 5S Performance is not supported in this research with a Little if Any Correlation strength of association ($\beta=-0.01$).

4.3.2 Hypothesis #2 Training affecting 5S Performance

H0 #2: Training have negative relationship on 5S Performance

H1 #2: Training have positive relationship on 5S Performance

Table 4.3: Standardized Regression Coefficient of Training

Dimension	Standardize Regression Weights (r)	p-value	Strength of Association	Result
Training to 5S Performance	0.323	0.074	Low positive correlation	H1 #2

Source: AMOS Output

Refer to the outcomes listed in the table 4.7, this indicates that between Training and 5s performance the relationship is low significant. The regression weight for Training is 0.323 ($p=0.074 > 0.05$) and “low positive correlation” strength association.

The p-values for path coefficient from Training to 5S Performance is not significant ($p=0.074 > 0.05$) indicating that Training is low positively affect 5S Performance. It concluded that the hypothesized relationship between Training to 5S Performance is supported in this research with a low positive correlation of association ($\beta=0.323$).

4.3.3 Hypothesis #3 Supervision affecting 5S Performance

H0 #3: Supervision have negative relationship on 5S Performance

H1 #3: Supervision have positive relationship on 5S Performance

Table 4.4: Standardized Regression Coefficient of Supervision

Dimension	Standardize Regression Weights (r)	p-value	Strength of Association	Result
Supervision to 5S Performance	0.569	0.001	Moderate positive correlation	H1 #3

Source: AMOS Output

Refer to the outcomes listed in the table 4.8, this indicates that between Supervision and 5s performance the relationship is significant. The regression weight for Supervision is 0.569 ($p=0.001 < 0.05$) and “moderate positive correlation” strength association.

The p-values for path coefficient from Supervision to 5S Performance is significant ($p=0.001 < 0.05$) indicating that Supervision is positively affect 5S Performance. It concluded that the hypothesized relationship between Supervision to 5S Performance is supported in this research with moderate positive correlation Moderate Positive Correlation strength of association ($\beta=0.569$). Therefore, the hypothesis H0 #1 is rejected and the hypothesis H1 #3 which states that “Supervision has a positive relationship on 5S Performance” is accepted.

5. Discussion

This study measures 5S Performance level; study the relationship between Management Commitment, Training and Supervision; and investigate practical methods to increase 5S Performance level.

- 1) The data collected in this study are primary data. The conclusion was based from the validity and reliability of the pre-test and the validity and reliability of the post-test.
- 2) This thesis is a quantitative descriptive study. Primary quantitative data were collected through questionnaires, while secondary data came from various textbooks, journals and articles. Use SPSS software and roadmaps to analyze quantitative data with AMOS as a tool.
- 3) Of the 3 hypotheses, 2 are accepted and 1 are rejected.

5.1 Descriptive Analysis Conclusion

In the questionnaire, the respondents are being asked about their demographic background, screening questions and the questions regarding the research. The conclusion of the respondent profile is as follow:

- a. The majority gender of the respondents is male (95.8%), and then the rest are female (4.2%).
- b. The majority of the respondents are graduated from Senior High School (68.8%), 18.8% are graduated from Diploma and then the rest are from Strata 1 (13.2%).
- c. The majority age range of the respondents are 21-25 years (29%) and 26 – 30 years (29%), 20% in the range 31-35 years, 14% in the range 36 – 40 years, 8% in the range 40 years up. The majority of the respondents are 6-10 years of service (36%), 20% are 11-15 years of service, 20% are 21 years up of service, 15% are lower than 5 years of service, and the rest are 16-20 years of service (8%).
- d. The majority of the respondents are from PT UTR (89.4%), and then the rest are from others (10.6%).
- e. The majority of the respondents are > 5 years of service (56.3%), 37.5% are 1 – 5 years of service and and the rest are < 1 years of service (6.2%).

5.2 Inductive Analysis Conclusion

Each indicator has been calculated and analyzed using SPSS version 25 and also AMOS version 26 which results the significant impact of one variable to another variable. The results are explained as follow.

Table 5.1 Inductive Analysis Conclusion

Dimension	Standardize Regression Weights (r)	p-value	Strength of Association	Result
Management Commitment to 5S Performance	-0.01	0.946	Little if any correlation	H0 #1
Training to 5S Performance	0.323	0.074	Low positive correlation	H1 #2
Supervision to 5S Performance	0.569	0.001	Moderate positive correlation	H1 #3

Source: AMOS Output

- a. The regression weight for Management Commitment to 5S Performance is – 0.01 ($p=0.946 > 0.05$ significant levels) and strength association “little if any correlation”. The p-values for path coefficient from Management Commitment to 5S Performance is not significant ($p=0.946 > 0.05$) indicating that Management Commitment is negatively affect 5S Performance.
- b. The regression weight for Training to 5S Performance is 0.323 ($p=0.074 > 0.05$ significant levels) and strength association “low positive correlation”. The p-values for path coefficient from Training to 5S Performance is approached the borderline significance ($p=0.074 > 0.05$) indicating that Training is positively affect 5S Performance.
- c. The regression weight for Supervision to 5S Performance is 0.569 ($p=0.001 < 0.05$ significant levels) and strength association “moderate positive correlation”. The p-values for path coefficient from Supervision to 5S Performance is significant ($p=0.001 < 0.05$) indicating that Supervision is positively affect 5S Performance.

6. Conclusion

In general, from the results of this study, training and supervision factors have a relationship that affects the 5s performance. In this regard, the organization can do the following:

- a. Mapping the Training Need analysis to all employees regarding the implementation of the 5S system.
- b. Provide training with practical methods in a 5K laboratory so that employees can better understand the 5S principles.
- c. Allocate special time for employees to be able to fully participate in this training activity
- d. Increase the awareness of supervisors to continue to provide information to employees regarding the implementation of 5s
- e. Doing periodic sharing either through direct or indirect media as a form of shared commitment to run the 5S program.

References

Gupta, S. and Jain, S. K. (2015) 'An application of 5S concept to organize the workplace at a scientific instruments manufacturing company', *International Journal of Lean Six Sigma*, 6(1), pp. 73–88. doi: 10.1108/IJLSS-08-2013-0047.

Hartika, N. *et al.* (2011) 'Factors influencing employees' motivation in implementing 5s system', *Elixir Human Resource Management Journal*, 39, pp. 4836–4847.

Hernández, E., Camargo, Z. and Martínez, P. (2015) 'Impact of 5S on productivity, quality, organizational climate and industrial safety in Caucho Metal Ltda.', *Ingeniare*, 23(1), pp. 107–117. Available at:

<http://web.b.ebscohost.com/upc/remotexs.xyz/ehost/detail/detail?vid=0&sid=34a0613b-9475-454a-9c86-e4a39924e872%40sessionmgr120&bdata=Jmxhbmc9ZXM%3D#AN=100785536&db=asn>.

Khedkar, S. B. *et al.* (2012) 'Study of Implementing 5S Techniques in Plastic Moulding Industry', *International Journal of Modern Engineering Research (IJMER)*, 2(5), pp. 3653–3656. Available at: www.ijmer.com.

Mat, W. A. W. A. A. A. C. (2011) 'The Effectiveness of Implementation of 5S on Employee Motivation', *Business and Social Sciences Review*, 1, pp. 41–52. Available at: <http://www.bssreview.org>.

Patel, V. C. and Thakkar, D. H. (2014) 'Review on Implementation of 5S in Various Organization', *Journal of Engineering Research and Applications*, 4(3), pp. 774–779. Available at: www.ijera.com.

Setiawan, N. *et al.* (2019) 'International Conference on Design and Concurrent Engineering 2019 A proposal of performance measurement and management model for sustainability 5S in manufacturing SMEs : a review', (September).

Singh, J., Rastogi, V. and Sharma, R. (2014) 'Implementation of 5S practices: A review', *Uncertain Supply Chain Management*, 2(3), pp. 155–162. doi: 10.5267/j.uscm.2014.5.002.

ANALYSIS OF SATISFACTION IN E LEARNING ACTIVITIES; A PERSPECTIVE FROM MECHANIC AS PARTICIPANTS.

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ABSTRACT

In global education, UNESCO want to support in answer the situation in the world of education when the pandemic of covid-19. Based on this condition, we will concentrate on mechanic training at United Tractors with a e-learning method. And the impact of online distance learning on employee learning achievement is effective in many ways. Because many factors influence employees' learning achievement, this study also investigated the effect of employee satisfaction with the obstacles we face on the learning of employees at United Tractors.

We as instructors receive feedback on how satisfied students are with e-learning, which we do both at the end of the training and at the beginning of the training with prior experience with e-learning. We suspect that this satisfaction is based on technology, attitude and motivation. And as a result, we found a conclusion at the end of this thesis.

Type of Paper: Empirical

Keywords: e-learning, technology, attitude, motivation, satisfaction, employee.

1. Introduction

Covid-19 is portrayed as a global pandemic that causes social conditions to evolve into new habits. In order to prevent the spread of Covid-19, WHO recommends suspending activities that may result in crowds. The impact of these restrictions extends to social restrictions in education as well. In global education, UNESCO want to support in answer the situation in the world of education when the pandemic of covid-19. Because the educator must look for the statement of the problem to verify that is our training system is relevant; review the response framework at the local level, focusing on strategies that can be implemented in our context and locality; try our local plans or use against the checklist Serves as inspiration to compose our

own list of schools or classes, taking into account the guidance issued by the higher administrative levels in your country.

Organizations are increasingly utilizing e-Learning systems as a method of improving workers' skills and for cost-cutting purposes when replacing traditional training (Tina Cheng & Chen, 2015). Because of the COVID19 pandemic, this e-learning system has accelerated. However, the employee satisfaction and impact have been poorly described. E-learning systems are the most beneficial tool for organizational management (Conkova, 2013). The evaluation of e-learning systems in the academic field has received the most attention, but there has been little discussion of workplace e-learning, retrospect of e-learning knowledge management, and employee schedule comparison.

Entering Q2 2020 Indonesia entered the Corona pandemic period. All regions implement the PSBB (in English is Social Distancing at the Mega Scale) and almost all employees do Work from Home (WFH). According to the heavy equipment distributor had a training department that do a development to employees. One of the development methods is train the specialist employees through in-class training equipped with field practice. The company still want to implement e-learning in a sustainable manner without reducing the quality of the training output.

Students who have difficulty participating in traditional instruction now have access to educational opportunities thanks to advancements in telecommunications technology. Because online distance learning instruction is one of the most popular options for many instructional designers in the business, improved educational technology has played an important role in the professional development of employees in the business field (Yang & Lin, 2011) for the support of e-learning systems.

We as instructors receive feedback on how satisfied students are with online learning, which we do both at the end of the training and at the beginning of the training with prior experience with e-learning. We suspect that this *satisfaction* is based on *technology*, *attitude* and *motivation*.

1.1 Objective

The level of satisfaction of participants when doing online training will serve as our foundation for developing new training methods in the future. Because we haven't dared to apply this online training method to some teaching materials that place a premium on skills over

knowledge. The purpose of this study was to determine whether e-learning can accurately meet the training needs of United Tractors. That is what we want to measure:

- To analyze the effect of Educational Technology towards the e-learning user satisfaction.
- To analyze the effect of e-learning user Attitude towards the e-learning user satisfaction.
- To analyze the effect of motivation towards the e-learning user satisfaction.
- To analyze the effect of Educational Technology towards the e-learning user satisfaction mediated by e-learning user motivation.
- To analyze the effect of e-learning user Attitude towards the e-learning user satisfaction mediated by e-learning user motivation.

And the impact of online distance learning on employee learning achievement is effective in many ways. Because many factors influence employees' learning achievement, this study also investigated the effect of employee satisfaction with the obstacles we face on the learning of employees at United Tractors.

1.2 Significant Study

In this study, we collect quantitative data. This data sample, hopefully, is more accurate than previous studies. Even though it employs an e-learning system, United Tractors' technical training department will be able to determine the appropriate steps for mechanic training. The company may be clueless of the significance of well-designed knowledge management. Knowledge management and performance support are critical components of the learning paradigm and should be included in the learning design. The importance of good learning design and learning knowledge systems cannot be underestimated. Aside from pandemic conditions, the identification of knowledge in the business field as a competitive advantage and strategic resource heightens the need for knowledge management to be implemented in organizations. The process of identifying, selecting, organizing, and transferring essential information and skills is known as knowledge management.

2. Literature Review

E-learning is a method of learning that uses electronic devices as an intermediary platform (computers, laptops, tablets). This includes e-learning, as well as web-based and application-based learning processes (Windows, Android and others). The goal of e-learning is for all parties (involved) to be able to use a learning material easily (accessibility) and whenever they

need it (not fixated on one place or also called distance education) (Albert Sangra, Dimitrios Vlachopoulos and Nati Cabrera, 2012).

United Tractors is already utilizing some of these e-learning methods. The application used is for self-learning, which began on an intranet-based web in 2011 and progressed to an internet-based web in 2015. Since the covid-19 pandemic in 2020, the use of e-learning, which was previously only used for self-learning, has been expanded into the overall implementation of training.

Here are some dimensions and indicators that I use in this research:

Table 3. Educational technology dimension and indicator.

Dimension	Indicator
Educational Technology	A. Learning system quality B. Knowledge use of the system C. Technical support system D. Easy to use system

Sources: (Capece & Campisi, 2013); (Ciobanu & Magdalena, 2011); (Holsapple & Lee-Post, 2006); (Rubin et al., 2013).

Table 4. Attitude dimension and indicator.

Dimension	Indicator
Attitude	A. Internet use skills B. Personal experience C. Self-confidence D. Anxiety

Source: (P. C. Sun et al., 2008); (Huang et al., 2012); (Malik, 2010); (Malik, 2009).

Table 3. Motivation dimension and indicator.

Dimension	Indicator
Motivation	A. Engaged B. Persist Longer C. Have better learning Outcome

Source: (Zhang et al., 2013); (Keller & Suzuki, 2004);(Autio, 2011) ; (Pintrich & De Groot, 2003).

Table 4. e-learning user satisfaction dimension and indicator.

Dimension	Indicator
Satisfaction	A. Satisfaction by Interaction B. Satisfaction by instruction C. Satisfaction by engagement D. General satisfaction

Source: (Vamosi, 2004); (Rodriguez, Ooms, Montanez, & Yan, 2005); (O’Leary & Quinlan, 2007); (Bozkaya and Erdem Aydin, 2007); (Richardson and Long, 2003).

2.1 Hypothesis

The hypothesis is:

H1. Significant effect between *Technology* and *Satisfaction*.

H2. Significant effect between *Attitude* and *Satisfaction*.

H3. Significant effect between *Motivation* and *Satisfaction*.

H4. Significant effect between *Technology* and *Satisfaction* mediated by *Motivation*.

H5. Significant effect between *Attitude* and *Satisfaction* mediated by *Motivation*.

3. Research Methodology

3.1 Type of study

E-learning is a way for students to learn with the help of the internet. In this case, the internet is used as an educational intermediary media so that users can learn more flexibly. Do not forget to also apply interactive learning methods so that they are not boring. Learning satisfaction is determined by what technology they use and use regularly. This section identifies important factors influencing e-learning satisfaction of educational technology, attitudes, and motivation as mediating variables.

Analyzing a data is peeling big data into data that determines the factors of the indicator. From these indicators it will be seen which one is dominant over other indicators. By comparing one indicator with another indicator. This technique will later be used to test our hypothesis. (Wong, 2013). Data management in this study will use smartPLS Software 3. 3. 3.

To refine the regression method, we need to use the Structural Equation Modeling (SEM) method. The Structural equation modeling (SEM) approach is divided into two, namely

Covariance Based SEM (CBSEM) and Variance Based SEM or Partial Least Square (PLS). Partial Least Square is a method of analyzing which is not based on assumptions. The PLS approach does not assume any data and is very easy for us by using bootstrap or doubling facilities. It also does not require a minimal sample size to use it (L. Sun et al., 2018).

Predicting using the PLS (Partial Least Square) method is to find the relationship between variables and find the latent value for a research model. The latent variable is the linear part that is formed from the indicators in the model. Research model will be analyzed based on the outer model and inner model. After that this method will remove the unnecessary part of the data to make the analysis we expect more accurate. (L. Sun et al., 2018).

PLS (Partial Least Squares) can be used for three types of predictions, the first of which is the weighted value of the latent variable. The second step is to forecast the relationship between the latent variable and the indicator. The third step is to calculate the average and location of the regression constant value for the latent indicator and its variables. The procedure goes as follows:

- Produce weight estimate.
- Generate estimates for inner model and outer model.
- Generate estimated means and location (constants) (Wong, 2013).

3.2 Unit analysis

The questionnaire for assessing the quality of e-learning services was adapted from (Udo et al., 2011) and (Uppal et al., 2018). On a one-dimensional Likert scale, each respondent was asked to rate the statements in the questionnaire. The Likert scale is a bipolar scaling method that assesses the level of agreement with the questionnaire's statements. An even-point scale was used in this study (i.e., four possible choices). Because the middle neutral option of 'neither agree nor disagree' is not present, an even-point scale is often referred to as a 'forced choice' method because subjects are forced to choose whether they agree or disagree with the statement. The respondents were given the following scale: *1- strongly disagree, 2- slightly disagree, 3- slightly agree and 4- strongly agree.*

3.3 Sampling design

We are using a quantitative research if you want to confirm or test something our hypothesis, this research will be carried out to our mechanics.

The size of the sample will support the assumption that sample will represent the population that is the target of generalization of the results of the study. But what empirical limits are said to be large, is hard to determine. The methodology perspective emphasizes on the representation of samples while the statistical perspective emphasizes on the strength (power) of statistical test results and the stability of statistical values in estimating parameter values. As we know, statistical value is the value we get from the sample while the parameter value is obtained from the population (Cracraft, 1988).

By using Cohen's table, we can determine the minimum number of samples we need when using PLS-SEM. In the research model, there are 3 arrow points leading to dependent variables. We specify with significance level 0.05, minimum R2 0.25 and statistical power 0.8. The minimum sample obtained is 59.

Table 5. Cohen's Table

Maximum Number of Arrows Pointing at a Construct	Significance Level											
	1%				5%				10%			
	Minimum R ²				Minimum R ²				Minimum R ²			
	0.10	0.25	0.50	0.75	0.10	0.25	0.50	0.75	0.10	0.25	0.50	0.75
2	158	75	47	38	110	52	33	26	88	41	26	21
3	176	84	53	42	124	59	38	30	100	48	30	25
4	191	91	58	46	137	65	42	33	111	53	34	27
5	205	98	62	50	147	70	45	36	120	58	37	30

3.3 Sampling design

There are three variables in this study, namely Dependent Variable or Endogenous Variable, Mediating Variable and Independent Variable or Exogenous Variable. Those Dependent variables are variables that are influenced or the result of a study. While Independent Variables are variables that affect or result in the results of research. The variables in this study are as follows:

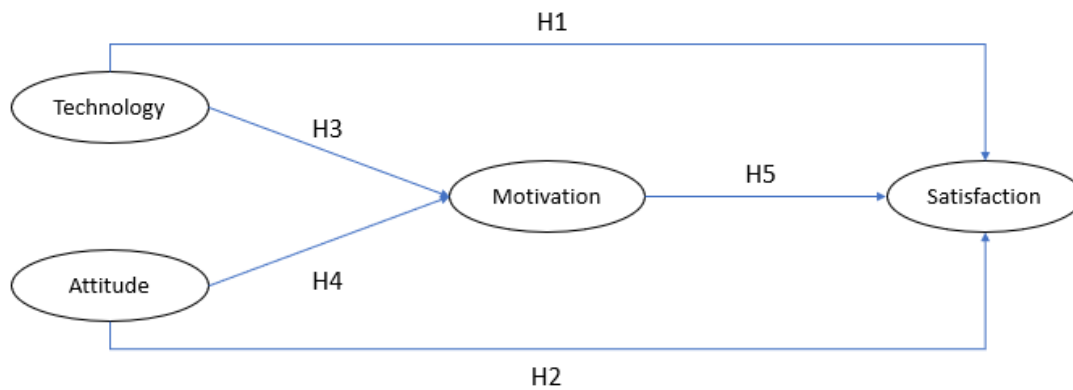


Figure 1. Research model.

1. Dependent Variable (X): Satisfaction.
2. Mediating Variable (Z): Motivation.
3. Independent Variable (Y): Technology, content and attitude.

3.4 Data analysis technique

In PLS method (Partial Least Square) analysis techniques are as follows:

3.4.1 Outer Model Analysis

Outer model analysis is performed to ensure that the measurement used is measurement-eligible (valid and reliable). This model's analysis specifies the relationship between latent variables and their indicators (Wong, 2013). Several indicators show the analysis of outer models (L. Sun et al., 2018):

Convergent Validity is an indicator that is evaluated based on the correlation between the item rating score and the construct score, as shown by the standardized loading factor, which explains the magnitude of correlation between each measurement item (indicator) and its construct. Individual reflexive size is said to be large if it correlates with the construct to be measured more than 0.7 times; an outer loading value of 0.5 – 0.6 is considered adequate.

Discriminant Validity is a measurement model that assesses reflexive indicators using cross loading measurements with constructs. If the correlation between constructs and measurement items is greater than the size of other constructs, it indicates that their block size is superior to other blocks. Other methods of assessing discriminant validity include comparing the square root value of the average variance extracted (AVE).

Composite reliability is a construct indicator that can be seen in the latent variable coefficients view. Internal consistency and Cronbach's alpha are two measuring instruments used to assess composite reliability. If the value obtained in the measurement is greater than 0.70, the construct is said to be highly reliable.

Cronbach's Alpha is a reliability test used to improve composite reliability results. A variable is considered reliable if its Cronbach's alpha value is greater than 0.7. (L. Sun et al., 2018)

3.4.2 Inner Model Analysis

Inner model analysis, also known as inner relation analysis, structural model analysis, and substantive theory, describes the relationship between latent variables based on substantive theory. The significance of the coefficient of structural path parameters can be determined by using R-square for dependent constructs, Stone-Geisser Q-square test for predictive relevance, and t test. The PLS (Partial Least Square) evaluation of the inner model begins with a look at the R-square for each dependent latent variable. The interpretation is then the same as the regression interpretation. Value changes in R-square can be used to determine whether a specific independent latent variable has a substantive influence on dependent latent variables. In addition to the R-square value, the predictive Q-square value relevance for the constructive model is used to evaluate the PLS (Partial Least Square) model. Q-square measures how well the model and its parameters estimate the observation value. If the Q-square value is greater than 0 (zero), the model has predictive relevance, whereas if the Q-square value is less than 0 (zero), the model lacks predictive relevance.

3.4.3 Hypotheses test

The t-statistical value and probability value in hypothesis testing can be seen. When testing hypotheses using statistical values, the alpha 5 percent t-statistical value is 1.96. So, when the t-statistics exceed 1.96, the criterion for accepting or rejecting hypotheticals is H_1 accepted and H_0 rejected. If the value $p < 0.05$ is used to reject/accept the hypothesis, then H_1 is accepted (Wong, 2013).

4. Result

4.1 Respondent profiles

With the above-mentioned methods, we worry some participants in the use of technology, attitude and motivation participants.

For research purposes we take mechanical profiles in terms of Mechanical Grade, Age, Working Period and Work area.

Out of 192 respondents we get the following details:

Mechanic Grades:

Under 3	: 35.94%
Between 3 – 5	: 55.73%
Above 5	: 8.33%

Ages:

Under 30 years	: 29.69%
Between 30 – 40 years	: 68.75%
Above 40 years	: 1.56%

Working Experiences:

Under 5 years	: 9.38%
Between 5 – 15 years	: 67.71%
Above 15 years	: 22.92%

Working Area:

Branch	: 35.94%
Site	: 64.06%

4.2 PLS model

Hypothesis testing was carried out using the smartPLS 3.3.3 program and Partial Least Square (PLS) analysis techniques. The following PLS program models have been tested:

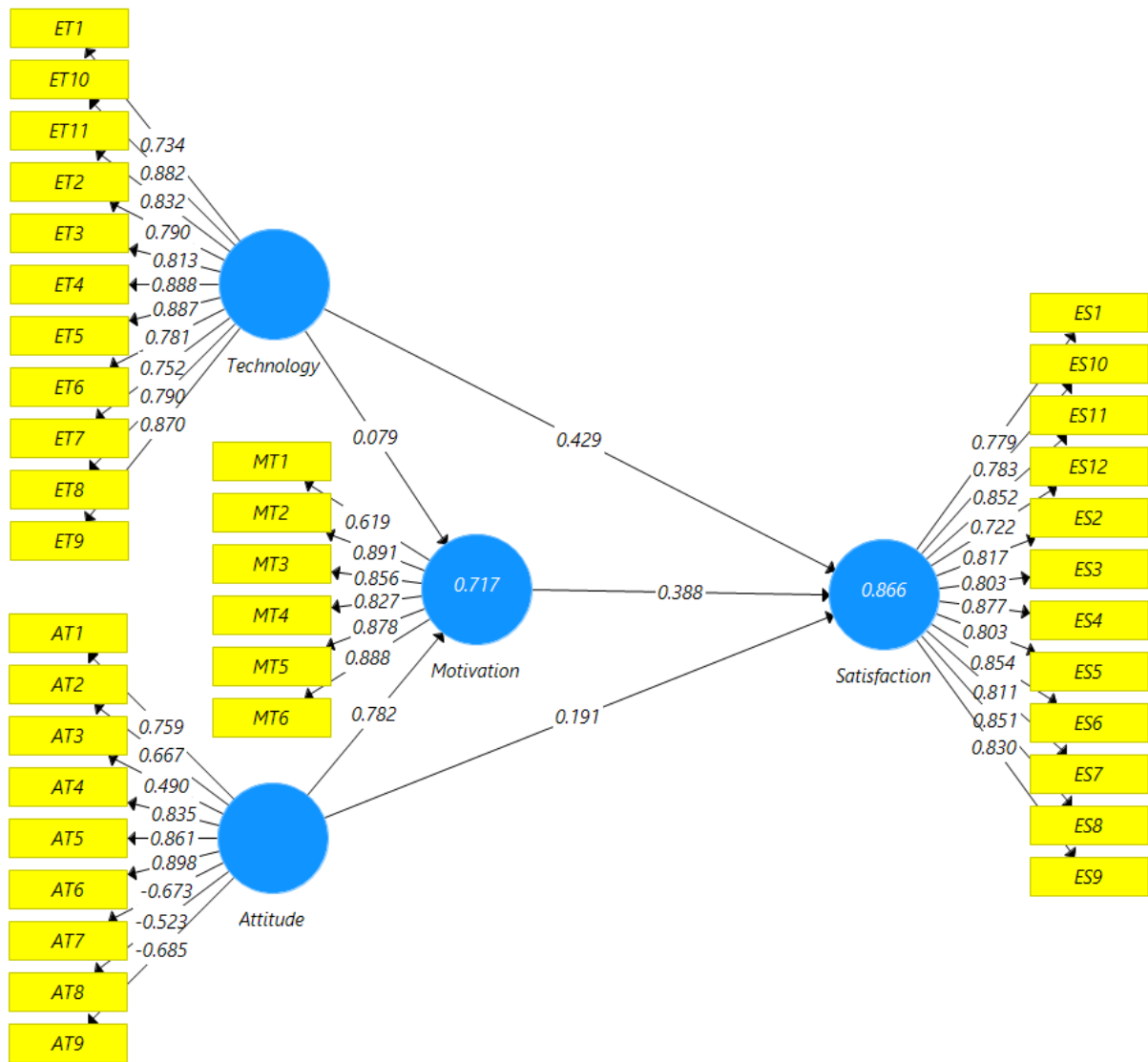


Figure 2. Outer model

4.3 Outer model evaluation

4.3.1 Convergent Validity

The outer loading value or loading factor was used to test convergent validity. If the outer loading value is greater than 0.7, an indicator is declared to meet the convergent validity in either category. The outer loading value of each indicator on the research variable is as follows:

Table 6. Outer Loadings

	Attitude	Motivation	Satisfaction	Technology
AT1	0.759			
AT2	0.667			

AT3	0.490			
AT4	0.835			
AT5	0.861			
AT6	0.898			
AT7	-0.673			
AT8	-0.523			
AT9	-0.685			
ES1			0.779	
ES10			0.783	
ES11			0.852	
ES12			0.722	
ES2			0.817	
ES3			0.803	
ES4			0.877	
ES5			0.803	
ES6			0.854	
ES7			0.811	
ES8			0.851	
ES9			0.830	
ET1				0.734
ET10				0.882
ET11				0.832
ET2				0.790
ET3				0.813
ET4				0.888
ET5				0.887
ET6				0.781
ET7				0.752
ET8				0.790
ET9				0.870
MT1		0.619		
MT2		0.891		

MT3		0.856		
MT4		0.827		
MT5		0.878		
MT6		0.888		

Provided by the data feed in the table above, it is known that each indicator of many research variables has an outer loading value of greater than 0.7. However, some indicators continue to have an outer loading value of 0.7. According to (L. Sun et al., 2018), An outer loading value of 0.5 – 0.6 is thought to be sufficient for convergent validity. The data above shows that there is variable indicator whose outer loading value is below 0.5 (AT2, AT3, AT7, AT8, AT9 and MT1), As a result, these indicators must be extracted first from the outer model and declared eligible or valid for research use before they can be used for further analysis.

Table 7. Outer Loadings after takeout (AT2, AT3, AT7, AT8, AT9 and MT1).

	Attitude	Motivation	Satisfaction	Technology
AT1	0.713			
AT4	0.892			
AT5	0.914			
AT6	0.922			
ES1			0.776	
ES10			0.786	
ES11			0.854	
ES12			0.724	
ES2			0.815	
ES3			0.802	
ES4			0.876	
ES5			0.801	
ES6			0.852	
ES7			0.811	
ES8			0.851	
ES9			0.833	
ET1				0.73

ET10				0.882
ET11				0.834
ET2				0.790
ET3				0.813
ET4				0.888
ET5				0.887
ET6				0.781
ET7				0.751
ET8				0.788
ET9				0.870
MT2		0.905		
MT3		0.867		
MT4		0.847		
MT5		0.911		
MT6		0.886		

4.3.2 Discriminant Validity

The results of the discriminant validity test will be described in this section. Cross loading value is used to test discriminant validity. An indicator is declared to have discriminant validity if its cross-loading value on its variable is the greatest when compared to other variables. (Wong, 2013). Each indicator's cross-loading values are as follows (Fornell-Larcker Criterion):

Table 8. Fornell-Larcker Criterion

	Attitude	Motivation	Satisfaction	Technology
Attitude	0.865			
Motivation	0.821	0.884		
Satisfaction	0.860	0.794	0.816	
Technology	0.769	0.639	0.858	0.822

Regarding the data feed in the table above, it is possible to determine that each indicator on the research variable has the highest cross-loading value on the variable it formed when compared to the cross-loading value on other variables. Based on the findings, it is possible to conclude that the indicators used in this study have good discriminant validity when it comes to compiling their respective variables.

The value of the variable's correlation to the variable itself should not be smaller than the correlation to other variables. In this case the correlation between satisfaction and technology is greater than satisfaction to satisfaction itself. Then we have to reduce the indicator that generates small values on both variables. The variable we takeout refers to outer loading table 11. We reduce these indicators slowly in both variable satisfaction and technology. Gradually we reduce some indicators ES12 and ET1 → ES10 and ET7 → ES9 and ET6 → ES7 and ET8 → ES 11. After taking out the variable gradually, then get the value we want. Below is the correlation result after taking out (now the correlation satisfaction and satisfaction are above the other).

Table 9. Fornell-Larcker Criterion after adjusting

	Attitude	Motivation	Satisfaction	Technology
Attitude	0.865			
Motivation	0.819	0.884		
Satisfaction	0.771	0.693	0.871	
Technology	0.766	0.642	0.835	0.865

In addition to evaluating the cross-loading value, discriminant validity can be determined using other methods, specifically by examining the average variant extracted (AVE) value for each indicator required; the value must be greater than 0.5 for a good model (L. Sun et al., 2018).

Table 10. Average Variance Extracted (AVE)

	Average Variance Extracted (AVE)
Attitude	0.748
Motivation	0.781
Satisfaction	0.759
Technology	0.749

4.3.3 Composite Reliability

Composite Reliability is a component used to assess the dependability of indicators on a variable. If a variable has a composite reliability value greater than 0.6, it can be declared to meet composite reliability (Wong, 2013). The composite reliability values for each variable used in this study are as follows:

Table 11. Composite Reliability

	Composite Reliability
Attitude	0.922
Motivation	0.947
Satisfaction	0.957
Technology	0.954

Based on the data in the table above, it is possible to conclude that the composite reliability value of all research variables is greater than 0.6. These results show that each variable has met composite reliability, implying that the entire variable has a high level of reliability.

4.3.3 Cronbach's Alpha

Using the Cronbach's Alpha value, the reliability test with composite reliability described above can be amplified. If a variable has a Cronbach's Alpha value greater than 0.7, it is said to be reliable (Wong, 2013). Each variable's Cronbach's Alpha value is as follows:

Table 12. Cronbach's Alpha

	Cronbach's Alpha
Attitude	0.885
Motivation	0.930
Satisfaction	0.947
Technology	0.944

Regarding to the data feed in the table above, it is possible to determine that the Cronbach's Alpha value of each research variable is greater than 0.7. As a result of these findings, it is possible to conclude that the overall variable has a high level of reliability because each research variable met the requirements of Cronbach's Alpha.

4.4 Inner Model Evaluation

In this study will be explained about the results of coefficient path test, goodness of fit test and hypothesis test.

4.4.1 Path coefficient test

Coefficient path evaluation is used to show how strongly the effect or influence of independent variables is on dependent variables. While coefficient determination (R-Square) is used to measure how much endogenous variables are affected by other variables. Chin mentions R^2 yields of 0.67 and above for endogenous latent variables in structural models indicating the influence of exogenous variables (which affect) on endogenous (affected) variables falls into either category. Whereas if the result is 0.33 – 0.67 then it falls into the moderate category, and if the result is 0.19 – 0.33 then it falls into the weak category (Wong, 2013).

Table 13. Path Coefficients

	Technology	Attitude	Motivation	Satisfaction
Attitude			0.792	0.190
Motivation				0.161
Satisfaction				
Technology			0.036	0.586

According to the results breakdown, every variable in this model has a coefficient path with a positive number. This means that the stronger the influence between Exogenous variables on the Endogenous variable, the greater the coefficient path value on one Exogenous variable against the Endogenous variable.

4.4.2 Goodness of Fit

Based on the data processing performed with the “smartPLS 3.0 program”, the R-Square value is as follows:

Table 14. R-Square value

	R Square
Motivation	0.671
Satisfaction	0.748

Based on the data feed in table above, it can be known that the R-Square value for the motivation variable is 0.671. Then for the R-Square value obtained satisfaction variable of 0.748. The value explains that satisfaction can be explained by technology, attitude and motivation by 74,8%.

This shows the magnitude of diversity from the research data that can be explained by the research model is 74,8%. While the remaining 25,2% is explained by other factors that are outside the model of this study. Thus, from these results, this research model can be stated to have good goodness of fit.

4.5 Hypothesis Testing Result & Analysis

The results of this study can be used to response hypotheses based on the collected data. In this study, the hypothesis test was carried out by examining T-Statistics and P-Values. The research hypothesis can be accepted if the T-Statistics > 1.96 and P-Values < 0.05 (L. Sun et al., 2018). The following are the hypothetical test results obtained in this study through bootstrapping in smartPLS:

Table 15. T-Statistics dan P-Values

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Attitude -> Motivation	0.792	0.797	0.052	15.351	0.000
Attitude -> Satisfaction	0.190	0.193	0.086	2.203	0.028
Motivation -> Satisfaction	0.161	0.155	0.068	2.363	0.018
Technology -> Motivation	0.036	0.028	0.063	0.569	0.570
Technology -> Satisfaction	0.586	0.587	0.051	11.574	0.000

Based on the data presented in table 19 above, it can be known that of the five hypotheses proposed in this study, all of them are acceptable because each of the influences shown has a

P-Values value of < 0.05 except technology against motivation. So that it can be declared independent variables in addition to technology to its dependencies have a significant influence.

So here are the results of the significance of the hypothesis that has been made:

There is a significant effect between *Technology* and *Satisfaction*.

H₀: Technology has significantly affected satisfaction.

H₁: Technology has no significant effect on Satisfaction.

There is a significant effect between *Attitude* and *Satisfaction*.

H₀: Attitude has significantly affected Satisfaction.

H₁: Attitude has no significant effect on Satisfaction.

There is a significant effect between *Motivation* and *Satisfaction*.

H₀: Motivation has significantly affected Satisfaction.

H₁: Motivation has no significant effect on Satisfaction.

There is a significant effect between *Technology* and *Satisfaction* mediated by *Motivation*.

H₀: Technology has significantly affected Motivation.

H₁: Technology has no significant effect on Motivation.

There is a significant effect between *Attitude* and *Satisfaction* mediated by *Motivation*.

H₀: Attitude has significantly affected Motivation.

H₁: Attitude has no significant effect on Motivation.

Based on the hypothesis expressed above and the previous chapter, which is then conducted hypothesis test by bootstrapping, it can be formulated as follows:

Table 16. Hypotheses test

	T Statistics (O/STDEV)	P Values	Result
Attitude -> Motivation	15.351	0.000	H ₀ accepted and H ₁ denied
Attitude -> Satisfaction	2.203	0.028	H ₀ accepted and H ₁ denied
Motivation -> Satisfaction	2.363	0.018	H ₀ accepted and H ₁ denied
Technology -> Motivation	0.569	0.570	H ₀ denied and H ₁ accepted
Technology -> Satisfaction	11.574	0.000	H ₀ accepted and H ₁ denied

5. Discussion

Based on the results of this study, regarding the influence of e-learning on the quality of learning of United Tractors mechanical employees in Indonesia, the researchers provided some suggestions that may be useful for all parties. The suggestions are as follows:

- E-learning and its indicators as a whole need to be optimized, as it is proven to positively affect the quality of mechanics doing learning in the company.
- For questioner questions that have been removed from the outer model can be used according to the needs in each research site.
- In future research the author wants to add variable engagement of mechanical employees to add strength to the model that is currently made, so that trainees and instructors fully play an active role in the use of e-learning in the teaching and learning process so that there is a warning of the quality of learning.
- It is expected that by learning to use e-learning can motivate students in learning because it can learn anywhere and anytime in line with the pandemic condition covid-19 that has not ended yet.

6. Conclusion

Based on the results of the study and discussion "ANALYZE THE LEVEL OF SATISFACTION OF TRAINING PARTICIPANTS AS MECHANICS IN USING THE E-LEARNING METHOD AT HEAVY EQUIPMENT DISTRIBUTOR." by disseminating questionnaires / questionnaires to united tractors mechanic employees, it can be concluded that:

Technology e-learning, mechanics attitude has a positive and significant effect on the learning satisfaction of employees as mechanics. That influence is in a strong category. The more often we maximize the technology utilized and the more often employees follow e-learning, the satisfaction of learning employees as mechanics will be increased anyway.

The improvement of the quality of the teaching and learning process using e-learning actively involves instructors and trainees.

Technology in the current condition has not really influenced the motivation of training participants in following proses learning using e-learning to be effective and efficient.

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References

- Autio, O. (2011). Elements in students motivation in technology education. *Procedia - Social and Behavioral Sciences*, 29, 1161–1168. <https://doi.org/10.1016/j.sbspro.2011.11.350>
- Capece, G., & Campisi, D. (2013). User satisfaction affecting the acceptance of an e-learning platform as a mean for the development of the human capital. *Behaviour and Information Technology*, 32(4), 335–343. <https://doi.org/10.1080/0144929X.2011.630417>
- Ciobanu, I., & Magdalena, N. (2011). *Social and The Replication Technology in E-learning Systems*. 00, 231–235. <https://doi.org/10.1016/j.sbspro.2011.11.045>
- Conkova, M. (2013). Analysis of Perceptions of Conventional and E-Learning Education in Corporate Training. *Journal of Competitiveness*, 5(4), 73–97. <https://doi.org/10.7441/joc.2013.04.05>
- Cracraft, J. (1988). Early evolution of birds. *Nature*, 331(6155), 389–390. <https://doi.org/10.1038/331389a0>
- Holsapple, C. W., & Lee-Post, A. (2006). Defining, Assessing, and Promoting E-Learning Success: An Information Systems Perspective*. *Decision Sciences Journal of Innovative Education*, 4(1), 67–85. <https://doi.org/10.1111/j.1540-4609.2006.00102.x>
- Huang, Y. M., Huang, Y. M., Huang, S. H., & Lin, Y. T. (2012). A ubiquitous English vocabulary learning system: Evidence of active/passive attitudes vs. usefulness/ease-of-use. *Computers and Education*, 58(1), 273–282. <https://doi.org/10.1016/j.compedu.2011.08.008>
- Keller, J., & Suzuki, K. (2004). Learner motivation and E-learning design: A multinationally validated process. *Journal of Educational Media*, 29(3), 229–239. <https://doi.org/10.1080/1358165042000283084>
- Malik, M. W. (2010). Factor effecting learner's satisfaction towards e-learning: A conceptual framework. *OIDA International Journal of Sustainable Development*, 2(3), 77–82.
- Pintrich, P. R., & De Groot, E. V. (2003). A Motivational Science Perspective on the Role of Student Motivation in Learning and Teaching Contexts. *Journal of Educational Psychology*, 95(4), 667–686. <https://doi.org/10.1037/0022-0663.95.4.667>
- Rubin, B., Fernandes, R., & Avgerinou, M. D. (2013). The effects of technology on the community of inquiry and satisfaction with online courses. *Internet and Higher Education*, 17(1), 48–57.

- <https://doi.org/10.1016/j.iheduc.2012.09.006>
- Sun, L., Ji, S., & Ye, J. (2018). Partial Least Squares. In *Multi-Label Dimensionality Reduction*. <https://doi.org/10.1201/b16017-6>
- Sun, P. C., Tsai, R. J., Finger, G., Chen, Y. Y., & Yeh, D. (2008). What drives a successful e-Learning? An empirical investigation of the critical factors influencing learner satisfaction. *Computers and Education*, 50(4), 1183–1202. <https://doi.org/10.1016/j.compedu.2006.11.007>
- Tina Cheng, W., & Chen, C. (2015). The Impact of e-Learning on Workplace On-the-job Training. *International Journal of E-Education, e-Business, e-Management and e-Learning*, 5(4), 212–228. <https://doi.org/10.17706/ijeeee.2015.5.4.212-228>
- Udo, G. J., Bagchi, K. K., & Kirs, P. J. (2011). Using SERVQUAL to assess the quality of e-learning experience. *Computers in Human Behavior*, 27(3), 1272–1283. <https://doi.org/10.1016/j.chb.2011.01.009>
- Uppal, M. A., Ali, S., & Gulliver, S. R. (2018). Factors determining e-learning service quality. *British Journal of Educational Technology*, 49(3), 412–426. <https://doi.org/10.1111/bjet.12552>
- Wong, K. K. K.-K. (2013). 28/05 - Partial Least Squares Structural Equation Modeling (PLS-SEM) Techniques Using SmartPLS. *Marketing Bulletin*, 24(1), 1–32. [http://marketing-bulletin.massey.ac.nz/v24/mb_v24_t1_wong.pdf%5Cnhttp://www.researchgate.net/profile/Ken_Wong10/publication/268449353_Partial_Least_Squares_Structural_Equation_Modeling_\(PLS-SEM\)_Techniques_Using_SmartPLS/links/54773b1b0cf293e2da25e3f3.pdf](http://marketing-bulletin.massey.ac.nz/v24/mb_v24_t1_wong.pdf%5Cnhttp://www.researchgate.net/profile/Ken_Wong10/publication/268449353_Partial_Least_Squares_Structural_Equation_Modeling_(PLS-SEM)_Techniques_Using_SmartPLS/links/54773b1b0cf293e2da25e3f3.pdf)
- Yang, S. C., & Lin, C. H. (2011). The effect of online training on employee's performance. *Journal of Computers*, 6(3), 458–465. <https://doi.org/10.4304/jcp.6.3.458-465>
- Zhang, X., Ordóñez De Pablos, P., & Zhou, Z. (2013). Effect of knowledge sharing visibility on incentive-based relationship in Electronic Knowledge Management Systems: An empirical investigation. *Computers in Human Behavior*, 29(2), 307–313. <https://doi.org/10.1016/j.chb.2012.01.029>

The Influence of Transformational Leadership on Organizational Culture and Employee Engagement

Case Study of PT Global Service Indonesia

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ABSTRACT

Data from the People and Infrastructure division shows that the employee turnover ratio which has been getting higher in the last 2 years. The main problem of PT Global Service Indonesia is the increasing turnover ratio of temporary employees from the manpower solution business line which greatly contributes to company revenue. PT Global Service Indonesia facing the problem that the employee engagement is still in the low rate. It is suspected that this condition was caused by the lack of transformation leadership. There are many conditions shows the lack of leadership and lack of engagement such as lack of job control, lack of supervisor support, lack of the innovation climate, and lack of the work climate. The relationship between these variables is that the independent variable is Transformational Leadership (X), the dependent variable is Organizational Culture (Y1) and Employee Engagement (Y2). The Respondent of this study is at all employees of PT Global Service Indonesia who are still actively working in total 243. The results of the study are: Transformational Leadership has a positive effect on Organizational Culture, Transformational Leadership has a negative effect on Employee Engagement, Organizational Culture has a positive effect on Employee Engagement.

Type of Paper: Empirical/Review

Keywords: Transformational Leadership, Organizational Culture, Employee Engagement

1. Introduction

Organizations need strong leaders and management to ensure organizational effectiveness. Competence to influence a group of people to achieve a goal is the meaning of leadership (Robbins & Judge, 2013). The source of the influence can be formal or informal, as the top leader gives management power to some people. Transformational leadership is a charismatic leader and has a central role and strategies bringing the organization to achieve its goals, objectives the ability to align future visions with subordinate's future visions and raise the needs of subordinates to a higher level of what is they need (Geier, 2016).

This research is motivated by the problem of human resource management at PT Global Service Indonesia. This company was established in December 2014, is a company engaged in the service sector with 3 business lines, namely Manpower Solution, IT Solution and Event Management. At the end of 2020, PT Global Service Indonesia managed to record revenue of 75 billion Rupiah, where 91% of the revenue was generated by the Manpower Solution business line (PT Global Service Indonesia End of Year 2020 Report). However, what concerns the management of PT Global Service Indonesia is the employee turnover ratio which has been getting higher in the last 2 years. Data from the People and Infrastructure division shows that the number of employees at the end of 2019 was 811 people, the number of employees who left was 180, with a turnover ratio of 22 percent. Then at the end of 2020 the number of employees was 766 people, 209 employees resigned, with a turnover ratio of 27 percent (PEIF Division PT Global Service Indonesia).

The main problem of PT Global Service Indonesia is the increasing turnover ratio of temporary employees from the manpower solution business line which greatly contributes to company revenue. PT Global Service Indonesia does not expect a decline in company performance due to the departure of employees. Therefore, the management of PT Global Service Indonesia, which has been oriented towards the future, hopes that the Organization can have talented employees and retain these talents.

That the employee turnover ratio is quite high theoretically can be seen from the low employee engagement of the employees in the company. If employee engagement is a problem, it means that employee engagement is the dependent variable. Therefore, it is necessary to find a solution to the problem of the low level of employee engagement at PT Global Service Indonesia, by looking for independent variables that are proven to affect employee engagement.

The independent variable means the solution to the problem (employee engagement). Previous studies have found that transformational leadership to employee engagement (Sahu et al., 2017; Thisera & Sewwandi, 2018; Salau et al., 2018; Mufeed, 2018; Milhem et al., 2019).

Based on observations in the past 2-3 years, as described above, Employee Engagement at PT Global Service Indonesia is relatively low. This is evident, among others, by the relatively high turnover of employees, the relatively low involvement of employees in various company work programs. The low employee engagement at PT Global Service Indonesia is caused by many factors, including the Organization Culture that does not support the creation of Employee Engagement. In addition, the factor causing the low employee engagement lies in the leadership that is not suitable. The leadership style that does not exist in PT Global Service Indonesia is a transformational leadership style that can motivate employees to be more involved.

1.1 Research Problem

Based on the explanation above it is clear that PT Global Service Indonesia facing the problem that the employee engagement is still in the low rate. It is suspected that this condition was caused by the lack of transformation leadership. The other factor is the absent of organization culture. There are many conditions shows the lack of leadership and lack of engagement such as lack of job control, lack of supervisor support, lack of the innovation climate, and lack of the work climate. Therefore, it is necessary to conduct the research focusing on those variables as an effort to solve the employee engagement problem at PT Global Service Indonesia.

1.2 Research Question

1. Into which extend does Transformational Leadership have a significant effect on Organizational Culture?
2. Into which extend does transformational leadership affect Employee Engagement?
3. Into which extend does company culture have a significant effect on Employee Engagement?

1.3 Research Objectives

1. To determine the influence of transformational leadership on organizational culture.
2. To determine the influence of transformational leadership on employee engagement.
3. To determine the influence of organizational culture on employee engagement.

2. Literature Review

2.1 Employee Engagement (EE)

Khan (1990) dalam Balwant, Mohammed, & Singh (2019) is considered to provide a definition of employee engagement which refers to the way in which employees harness themselves in the performance of their work roles. Meanwhile Schaufeli et al (2002) in Balwant et al (2019) proposed the engagement is “positive, fulfilling, work related state of mind that is characterized by vigour, dedication and absorption.

Table 5. Dimensions and Indicators of Employee Engagement

Dimension	Indicators
Job control	A. Determine the direction of your own work
	B. Determine your own work method
Access to Information	A. Flow of information from superiors to subordinates
	B. Feedback from subordinates to superiors
Supervisor support	A. Supervisor support on employee work
	B. Supervisory support on employee welfare
Innovative climate	A. Employee creativity develops
	B. The novelty is supported by the leadership
	C. Improvement into a working climate
Work climate	A. Physical comfort in the work environment
	B. The social environment supports smooth work

2.2 Organization Culture

Organizational culture is the values and norms that govern the behaviour of group members which implies what is important or enforced by an organization or effort organization to regulate the behaviour expected of its members. With this view, organizational culture is relative from one organization to another, depending on the values and norms developed.

Organizational culture itself can be defined as a set of values systems, assumptions, or norms that have long been in force, agreed upon, and followed by members of an organization as a

code of conduct and organizational problem solutions. Organizational culture is also called also as a corporate culture, namely a set of values or norms has been in effect for a long time, shared with the members of the organization (employees) as a norm of behaviour in solving problems that occur within the organization. In the organizational culture there is socialization of values and values internalizing within the members, animating individuals by individuals inside organization. Thus, organizational culture is both the soul of the organization and the soul the members who are in the organization.

Table 6. Dimensions and Indicators of Organization Culture

Dimension	Indicators
Innovation and risk taking	A. Employees are encouraged to innovate
	B. Employees are encouraged to take risks
Attention to details	A. Employees are expected to pay attention to accuracy
	B. Employees are expected to pay attention to details
	C. Employees are expected to pay attention to analysis
Outcome orientation	A. Working with targets
	B. Product orientation
People orientation	A. The company's target pays attention to the implications on employee careers
	B. Target company pays attention to implications on employee welfare
Team orientation	A. Management sets work targets as a team rather than individually
	B. Team work is more valued than individual work
Aggressiveness	A. Passion to work for employees
	B. Competition in achieving work
Stability.	A. The company maintains stability rather than company growth
	B. Firms maintain status qua instead of risky expansion

2.3 Transformational Leadership

Leadership is the ability to influence a group of people to achieve a goal (Robbins & Hakim, 2013). The source of the influence can be formal or informal, as the top leader gives managerial power to someone. Leadership appears when subordinates (followers) are influenced to do what is ethical and beneficial for the organization and for themselves. Organizations need strong leaders and management to ensure organizational effectiveness (Robbins & Judge, 2015).

Transformational leadership is a charismatic leader and has a central role and strategies bringing the organization to achieve its goals., objectives the ability to align future visions with

subordinates future visions, and raise the needs of subordinates to a higher level of what is they need.

Table 7. Dimensions and Indicators of Transformational Leadership Style

Dimension	Indicators
Idealized influence (II)	A. Instil pride in followers (charismatic)
	B. Goes beyond their self interest for the greater good of the generation
	C. Displays a sense of power and confidence
Inspirational Motivation (IM)	A. Talk optimistically about future
	B. Articulate a compelling vision for the future
	C. Encouragerrs team spirit, general enthuiasm
Intellectual stimulation (IS)	A. Seeks differing perspectives
	B. Encourage non-traditional thinking
	C. Re-exmine critical assumptions
Individualized consideration (IC)	A. Spend time coaching and teaching followers
	B. Promote self-development
	C. Treat team members as individuals
Attribute Charisma (AC)	A. Attract followers and inspires people to action
	B. Initiate and maintain a significant level of change in the organization
	C. Behave in a mature and responsible manner on all occassions

Source: Salau et al. (2018).

3. Research Methodology

3.1 Type of Study

Researchers will conduct a quantitative analysis of PT Global Service Indonesia employees on the effect of transformational leadership on organization culture and employee engagement. Regarding the type of research, among the research design options (reporting study, descriptive casual, and causal study consisting of explanatory causal and predictive causal); So, this research chooses an explanatory causal design. Explanatory causal research is a type of research that focuses on answering how a variable produces changes in other variables (Cooper & Schindler, 2014: 138).

Causal research is divided into two types, namely the asymmetry relationship (asymmetrical relationship) and the symmetrical relationship (symmetrical relationship), and this study chooses an asymmetric relationship, which means that the type of causal research has only one direction, namely the effect of independent variables on the dependent variable, which means

the direction of the arrow is only one direction, namely from the independent variable to the dependent variable. This means that changes in a variable (independent variable) have an impact on changes in other variables (dependent variable) (Cooper & Schindler, 2014: 138). The research model involved three variables, namely Transformational Leadership (X), Organizational Culture (Y1), and Employee Engagement (EE). How the constellation of the relationship between these variables is visualized in Figure 3.1 below:

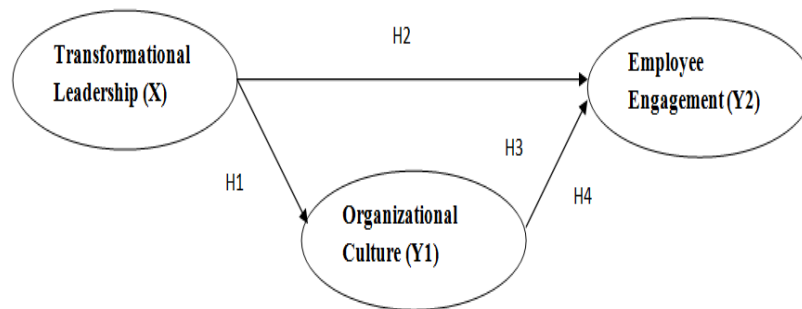


Figure 4. Research Model

3.2 Sampling Design

The population is the total group about something we want to study. (Sekaran & Bougie, 2016:85). The population of this study is at all employees of PT Global Service Indonesia who are still actively working, which as of May 2021 totals 756 employees, which includes permanent and contract employees, spread across Jakarta, Bogor, Depok, Tangerang, and Bekasi. The sample of this research is part of the employees of PT Global Service Indonesia. The study used a simple random sampling design. The corporations will be sampled first using stratified random sampling to ensure all the categories were represented then employees in the sampled corporations were sampled proportional to size by use of systematic random sampling.

3.3 Sample Size

The technique for calculating the number of samples uses the Herry King Table (Sugiyono, 2013: 131), whose pieces from the table that are close to the population figures are shown in Table 3.1. Based on Table 3.1, the population (N) of this study, which is 756, is close to the total population between 750 and 800, which in this case is the largest number (800) with an error rate of 5%, which means the number of samples (n) is 243 respondents.

3.4 Validity Test

1. Validity Test on Research Instruments

The test of the validity of the construction of each questionnaire item in this study used factor analysis, namely by correlating between instrument item scores in a factor, and correlating factor scores with the total score (Sugiyono, 2013: 172-173). The statement item is considered valid if the validity value is greater than the product moment correlation value (r table) at a significance level of 0.05. To find out the " r table", assuming the number of respondents is 30 ($n = 30$) and the degree of freedom or two-tailed Sig (the results of the hypothesis test can be positive or negative) is 0.05, then the value of " r table" is 0.365.

2. Validity Test on Research Result Data

The validity test in SEM-AMOS aims to determine the level of ability of an indicator (manifest variable) in measuring the latent variable. According to Ridgon and Ferguson (Sarjono & Julianita, 2015: 35), a variable is said to have good validity against a latent construct if: (i) The t value of the factor loading is greater than the critical t value 1.96 or practically 2. The value is shown in the AMOS output "Variances (Group Number 1- Default model)". (ii) Standardized loading factors 0.5.

3.5 Data Analysis Technique

Analysis of the data is an activity to classify, create a sequence, manipulate, and sort data, making it easy to read and understand (Hair et al., 2010). The method chosen for data analysis must be in accordance with the pattern of research and variables to be studied. The model used in this study is a model of causality or influence relationships. Data analysis in research includes descriptive analysis, regression analysis, and path analysis, with the following descriptions:

3.5.1 Descriptive Statistic Analysis

Descriptive analysis in this study is intended to describe the demographic characteristics of the sample variables used in the study. Descriptive statistical analysis is used. Descriptive statistics describe or describe data in terms of number of samples (n), average value, minimum value, maximum value, standard deviation, to skewness (Ghozali, 2012: 19).

The average value (mean or arithmetic mean) or average value, is a set of quantitative data that adds up all the data divided by the quantity of data. The minimum value indicates the minimum

value of the data. The maximum value shows the maximum value of the data (Kuncoro, 2011: 45, 51).

Meanwhile, the standard deviation is a measure of the deviation obtained from the square root of the mean number of squares of the deviation between each average value. The meaning of the standard deviation measure is, if the standard deviation of the value is relatively large compared to the mean (mean), it means that the data used is high in distribution / variability, which indicates that the data is not normal. Conversely, if the standard deviation value is relatively smaller than the mean value, it means that the data used is grouped around the average value and the deviation is small, so the data is normal (Kuntjoro, 2011: 50)

3.5.2 Structural Equation Modeling (SEM)

To test the hypothesis proposed in this study, the technique of analysis used is Structural Equation Modelling (SEM). Modelling studies through SEM allows researchers to answer research questions that are dimensional (i.e. measure the indicators of a concept) and regressional (the measure of influence or degree of relationship between the factors identified). Ferdinand (2006) states several reasons for the use of the SEM program as an analytical tool due its compatibility for:

- a. Confirming non-dimension of various indicators to dimension/ construct/ concept/ factor.
- b. Testing suitability/provision of a model based on empirical data studied.
- c. Examining the suitability of the model as well as the causality relationship between the factors constructed/observed in the research model.

This study used confirmatory factor analysis. Confirmatory factor analysis in the SEM is used to confirm the factors predominant in one group of variables. In this study, a confirmatory factor analysis was used to test the indicators that make up the transformational leadership, organizational culture and employee engagement.

In principle, SEM-AMOS analysis is carried out in three stages, namely: (i) The first stage is to test the measurement model. This measurement model is intended to obtain a construct, in this case the latent variable, that is fit. A fit latent variable allows the analysis to be continued at a later stage. Testing this measurement model using Analysis Factor Confirmatory (CFA).

(ii) The second stage is to test the structural model (structural measurement). This test aims to obtain the most fit structural model, using the Goodness of Fit (GOF) test. (iii) The third stage, hypothesis testing (Haryono, 2017).

3.5.3 Path Analysis

Path analysis is a research model that analyzes the pattern of relationships between variables with the aim of knowing the direct and indirect effects of a set of independent (exogenous) variables on the dependent variable (endogenous) (Riduwan & Kuncoro, 2014: 2).

Path analysis in this study uses one exogenous variable, namely Transformational Leadership (X), two endogenous variables which include the intervening endogenous variable, namely Organizational Culture (Y1) and the endogenous variable as the dependent, namely Employee Engagement (Y2).

4. Results

4.1 Respondent Profiles

Respondents in this study amounted to 272 people, all of whom are employees of PT GSI. In terms of gender, there is a balance between male respondents (50.4%) and female respondents (49.6%). In terms of age, most of the respondents (59.55%) are under 30 years old. In terms of education, most of the respondents (69.2%) are high school graduates to diplomas. Judging from the employment status, there is almost a balance between permanent employees (49.6%) and non-permanent employees (50.4%).

Table 4.1 Respondent Profiles

No	Criteria	Frequency	Percentage
1.	Gender		
	Male	137	50.4%
	Female	135	49.6%
	Total	272	100.0%
2	Age Group		
	Less than 25	82	30.14%
	26-30	80	29.41%

No	Criteria	Frequency	Percentage
	31-35	52	19,11%
	36-40	57	20,95%
	41-45	1	0,36%
	46-50	0	0%
	equal or more than 51	0	0%
	Total	272	100,00 %
3	Education		
	High School	88	32.4%
	Diploma Degree	100	36.8%
	Bachelor's Degree	82	30.1%
	Master's Degree	2	.7%
	PhD	0	0%
	Total	272	100.0%
4	Employee Status		
	Permanent Employee	135	49.6%
	Non-permanent Employee	137	50.4%
	Total	272	100.0%
5	Length of Employment at PT Global Service Indonesia		
	Less than a year	76	27.9%
	2-4 years	112	41.2%
	5-7 years	80	29.4%
	9-11 years	2	.7%
	12-14 years	0	0%
	More than 15 years	2	.7%
	Total	272	100.0%
6	Position at PT Global Service Indonesia		
	Operational Position (driver, office-boy, warehouse keeper, etc.)	0	0%
	Administrative positions (staff)	182	66.9%
	Professional positions (accountant, estimator, architect, etc.)	90	33.1%
	Managerial positions	0	0%
	Total	272	100.0

4.2 Validity and Reliability Test

4.2.1 Validity Test

To find out the "r table", assuming the number of respondents is 30 ($n = 30$) and the degree of freedom or two-tailed Sig (the results of the hypothesis test can be positive or negative) is 0.05, then the value of "r table" is 0.365. Furthermore, the researchers tested the validity of all statement items from the four variables studied, namely: The results of the validity test for the Transformational Leadership variable are shown in Table 4.2. The results show that all questionnaire items that measure Transformational Leadership are all valid, because the r scores of all statement items are greater than the "r table" 0.365.

Table 4.2 Transformational Leadership Variable Validity Test

Indicators	r score	Information	Indicators	r score	Information
II1	0.716	Valid	IS3	0.685	Valid
II2	0.722	Valid	IC1	0.683	Valid
II3	0.732	Valid	IC2	0.670	Valid
IM1	0.838	Valid	IC3	0.630	Valid
IM2	0.784	Valid	AC1	0.650	Valid
IM3	0.663	Valid	AC2	0.594	Valid
IS1	0.697	Valid	AC3	0.725	Valid
IS2	0.665	Valid			

The results of the validity test for the Employee Engagement variable are presented in Table 4.4. The results show that all questionnaire items that measure Employee Engagement are all valid, because the r score of all statement items is greater than the "r table" 0.365.

Table 4.3 Organizational Culture Variable Validity Test

Indicators	r score	Information	Indicators	r score	Information
IR1	0.742	Valid	PO2	0.715	Valid
IR2	0.889	Valid	TO1	0.619	Valid
AD1	0.770	Valid	TO2	0.689	Valid
AD2	0.837	Valid	AG1	0.770	Valid
AD3	0.724	Valid	AG2	0.795	Valid
OO1	0.646	Valid	ST1	0.857	Valid
OO2	0.662	Valid	ST2	0.816	Valid
PO1	0.552	Valid			

The results of the validity test for the Employee Engagement variable are presented in Table 4.4. The results show that all questionnaire items that measure Employee Engagement are all valid, because the r score of all statement items is greater than the "r table" 0.365.

Table 4.4 Employee Engagement Variable Validity Test

<i>Indicators</i>	<i>r score</i>	<i>Information</i>	<i>Indicators</i>	<i>r score</i>	<i>Information</i>
<i>JC1</i>	<i>0.850</i>	<i>Valid</i>	<i>ICC1</i>	<i>0.794</i>	<i>Valid</i>
<i>JC2</i>	<i>0.863</i>	<i>Valid</i>	<i>ICC2</i>	<i>0.878</i>	<i>Valid</i>
<i>AI1</i>	<i>0.849</i>	<i>Valid</i>	<i>ICC3</i>	<i>0.795</i>	<i>Valid</i>
<i>AI2</i>	<i>0.893</i>	<i>Valid</i>	<i>WC1</i>	<i>0.727</i>	<i>Valid</i>
<i>SS1</i>	<i>0.717</i>	<i>Valid</i>	<i>WC2</i>	<i>0.623</i>	<i>Valid</i>
<i>SS2</i>	<i>0.842</i>	<i>Valid</i>			

4.2.2 Reliability Test

The second instrument test is the reliability test, as a method to measure a questionnaire item which is an indicator of a variable. One of the reliability testing methods is that a questionnaire is said to be reliable if the answers to the statements are consistent. If the results of the reliability test show that all items (overall) of the questionnaire in the variable have an Alpha coefficient above 0.60, it can be said that the variable is reliable, which means it meets the minimum requirements for reliability, namely the Cronbach's Alpha coefficient > 0.60.

Table 4.5 shows that the three variables have Cronbach's Alpha values greater than 60, namely Transformational leadership with Cronbach's Alpha values of 0.923; Organizational Culture has a Cronbach's Alpha of 0.939; and Employee Engagement has a Cronbach's Alpha of 0.946.

Table 4.5 Reliability Test Result

<i>No</i>	<i>Variable</i>	<i>Cronbach's Alpha</i>	<i>Information</i>
<i>1.</i>	<i>Transformational leadership</i>	<i>0.923</i>	<i>Reliable</i>
<i>2.</i>	<i>Organizational culture</i>	<i>0.939</i>	<i>Reliable</i>

3.	<i>Employee engagement</i>	0.946	<i>Reliable</i>
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4.3 Descriptive Statistic Analysis

The following is a description of the three variables, namely Transformational leadership (Table 4.6). Organizational culture (Table 4.7), and Employee engagement (Table 4/8). The Transformational Leadership variable consists of 15 indicators. The highest average indicator value is IC3 with a value of 4.95, while the lowest indicator average is IC1 with a value of 3.15. The average value for the Transformational Leadership variable is 4.10

Table 4.6. Transformational Leadership

Indicators	Mean	Indicators	Mean
II1	3.16	IS3	4.16
II2	4.10	IC1	3.15
II3	4.50	IC2	4.60
IM1	3.95	IC3	4.95
IM2	4.10	AC1	4.27
IM3	4.05	AC2	4.32
IS1	3.97	AC3	4.32
IS2	4.11	Grand Mean 4.10	

Table 4.7 shows that the Organizational Culture variable consists of 15 indicators. The highest average indicator value is PO1 and ST1 with a value of 5.00 each, while the lowest indicator average is IR1 with a value of 3.16. The average value for the Organizational Culture variable is 4.21.

Table 4.7. Organizational Culture

Indicators	Mean	Indicators	Mean
IR1	3.16	PO2	4.50
IR2	4.10	TO1	3.95
AD1	4.50	TO2	4.10
AD2	3.95	AG1	4.05
AD3	4.10	AG2	3.97
OO1	4.05	ST1	5.00
OO2	3.97	ST2	4.60
PO1	5.00	Grand Mean 4.21	

Table 4.8 shows that the Employee Engagement variable consists of 10 indicators. The highest average indicator value is ICC2 with a value of 4.50, while the lowest indicator average is AI1 with a value of 3.96. The average value for the Employee Engagement variable is 4.11.

Table 4.8. Employee Engagement

<i>Indicators</i>	<i>r score</i>	<i>Indicators</i>	<i>r score</i>
JC1	4.23	ICC1	4.32
JC2	4.30	ICC2	4.50
AI1	3.96	ICC3	3.95
AI2	4.17	WC1	4.12
SS1	4.12	WC2	4.25
SS2		Grand Mean 4,11	

4.4 Inferential Statistic Analysis

4.4.1 Testing the measurement model

The purpose of confirmatory factor analysis (CFA) testing is to find out whether the model contains negative variance and the critical ratio (CR) significance value is less than 1.96 (Haryono, 2017: 2018). Negative variances occur, due to the Heywood case, which indicates the occurrence of an imperfect solution (in-proper solution). The final model must not contain a Heywood case. Consequently, if there is a negative variance, then the negative variance must be removed in the final construct (Haryono, 2017: 165).

Figure 4.1 and Table 4.9 shows that from all indicator relationships with constructs or latent variables there is no negative variance. Likewise, the value between the indicator and the error term has no negative variance. This means that the model does not contain the Heywood case, which means that in this model there is no in-proper solution (Haryono, 2017: 165). Thus, one of the CFA requirements is fulfilled, namely there is no negative variance in the relationship between the indicator and the construct (latent variable) or in the error term.

Table 4.9 shows except for two relationships (OC to EE and TL to EE), then all relationships have a CR value (critical ratio) greater than 1.96. Thus, in general the research constructs have passed the CFA test, except for the relationship between OC to EE and TL to EE.

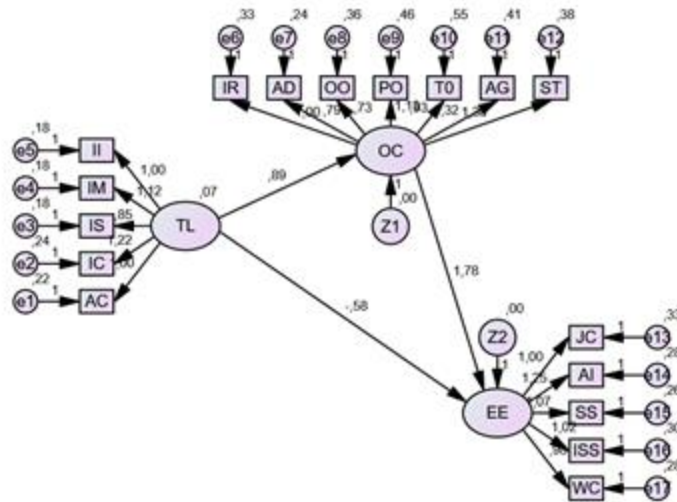


Figure 4.1 Model of SEM-AMOS

Tabel 4.9 Regression Weights: (Group number 1 - Default model)

			<i>Estimate</i>	<i>S.E.</i>	<i>C.R.</i>	<i>P</i>	<i>Label</i>
<i>OC</i>	<---	<i>TL</i>	,886	,182	4,861	***	<i>par_15</i>
<i>EE</i>	<---	<i>OC</i>	1,784	2,729	,654	,513	<i>par_16</i>
<i>EE</i>	<---	<i>TL</i>	-,580	2,442	-,237	,812	<i>par_17</i>
<i>AC</i>	<---	<i>TL</i>	1,000				
<i>IC</i>	<---	<i>TL</i>	1,215	,188	6,474	***	<i>par_1</i>
<i>IS</i>	<---	<i>TL</i>	,855	,146	5,867	***	<i>par_2</i>
<i>IM</i>	<---	<i>TL</i>	1,117	,169	6,600	***	<i>par_3</i>
<i>II</i>	<---	<i>TL</i>	1,004	,163	6,173	***	<i>par_4</i>
<i>IR</i>	<---	<i>OC</i>	1,000				
<i>AD</i>	<---	<i>OC</i>	,789	,177	4,463	***	<i>par_5</i>
<i>OO</i>	<---	<i>OC</i>	,731	,195	3,747	***	<i>par_6</i>
<i>PO</i>	<---	<i>OC</i>	1,126	,256	4,398	***	<i>par_7</i>
<i>TO</i>	<---	<i>OC</i>	,935	,246	3,795	***	<i>par_8</i>
<i>AG</i>	<---	<i>OC</i>	1,323	,272	4,865	***	<i>par_9</i>
<i>ST</i>	<---	<i>OC</i>	1,382	,271	5,104	***	<i>par_10</i>
<i>JC</i>	<---	<i>EE</i>	1,000				
<i>AI</i>	<---	<i>EE</i>	1,252	,212	5,902	***	<i>par_11</i>
<i>SS</i>	<---	<i>EE</i>	1,066	,188	5,669	***	<i>par_12</i>
<i>ISS</i>	<---	<i>EE</i>	1,024	,187	5,492	***	<i>par_13</i>
<i>WC</i>	<---	<i>EE</i>	,982	,185	5,302	***	<i>par_14</i>

After testing the CFA model, a significance test was carried out on the dimensions and indicators that reflect the construct, as well as a construct validity test. The significance test includes the probability value (P value), as shown in Table 4.9. Except for the relationship

between OC to EE and TL to EE, the table shows that all relationships between latent variables and other latent variables as well as between latent variables and their respective indicators (P value) have a star (***). This three star indicates a probability value (P value) < 0.05, which means that all relationships between latent variables and latent variables as well as between latent variables and variables, each indicator has a significant influence, regardless of whether the effect is positive or negative (Haryono, 2017: 218).

4.5.2 Validity and Reliability Test

The validity test in SEM-AMOS aims to determine the level of ability of an indicator (manifest variable) in measuring the latent variable. According to Ridgon and Ferguson (Sarjono & Julianita, 2015: 35), a variable is said to have good validity against a latent construct if: (i) The t value of the factor loading is greater than the critical t value 1.96 or practically 2. The value is shown in the AMOS output “Variances (Group Number 1- Default model)”. (ii) Standardized loading factors 0.5. It means that all elements of the construct are valid.

Table 4.10 Validity Test with Factor Loading (Estimate)

			<i>Estimate</i>
<i>OC</i>	<---	<i>TL</i>	,967
<i>EE</i>	<---	<i>OC</i>	1,549
<i>EE</i>	<---	<i>TL</i>	-,549
<i>AC</i>	<---	<i>TL</i>	,508
<i>IC</i>	<---	<i>TL</i>	,563
<i>IS</i>	<---	<i>TL</i>	,484
<i>IM</i>	<---	<i>TL</i>	,589
<i>II</i>	<---	<i>TL</i>	,538
<i>IR</i>	<---	<i>OC</i>	,398
<i>AD</i>	<---	<i>OC</i>	,373
<i>OO</i>	<---	<i>OC</i>	,294
<i>PO</i>	<---	<i>OC</i>	,384
<i>T0</i>	<---	<i>OC</i>	,301
<i>AG</i>	<---	<i>OC</i>	,461
<i>ST</i>	<---	<i>OC</i>	,491
<i>JC</i>	<---	<i>EE</i>	,449
<i>AI</i>	<---	<i>EE</i>	,564
<i>SS</i>	<---	<i>EE</i>	,516

			<i>Estimate</i>
<i>ISS</i>	<---	<i>EE</i>	,474
<i>WC</i>	<---	<i>EE</i>	,473

The reliability test in SEM-AMOS aims to measure the level of consistency of the manifest variable in measuring its latent construct. Hair et al., (Sarjono & Julianita, 2015: 35) state that a construct has good reliability, if: (i) Construct reliability (CR) value > 1.96; and (ii) the average value (average) variance extracted (VE) or AVE 0.5. As shown in Table 4.9, it can be seen that for all the relationships between the first latent variable and the second latent variable, the construct reliability (CR) value is greater than 1.96. It means that all indicator elements are proven to be reliable.

Table 4.11 EVA Test with Factor Loading (Estimate)

			<i>Estimate</i>	<i>EVA</i>
<i>OC</i>	<---	<i>TL</i>	,967	
<i>EE</i>	<---	<i>OC</i>	1,549	
<i>EE</i>	<---	<i>TL</i>	-,549	
<i>AC</i>	<---	<i>TL</i>	,508	
<i>IC</i>	<---	<i>TL</i>	,563	5,60 (means > 0,05)
<i>IS</i>	<---	<i>TL</i>	,484	
<i>IM</i>	<---	<i>TL</i>	,589	
<i>II</i>	<---	<i>TL</i>	,538	
<i>IR</i>	<---	<i>OC</i>	,398	
<i>AD</i>	<---	<i>OC</i>	,373	
<i>OO</i>	<---	<i>OC</i>	,294	5,04 (means > 0,05)
<i>PO</i>	<---	<i>OC</i>	,384	
<i>T0</i>	<---	<i>OC</i>	,301	
<i>AG</i>	<---	<i>OC</i>	,461	
<i>ST</i>	<---	<i>OC</i>	,491	
<i>JC</i>	<---	<i>EE</i>	,449	

	<i>Estimate</i>	<i>EVA</i>
<i>AI</i> <--- <i>EE</i>	,564	5,17 (means > 0,05)
<i>SS</i> <--- <i>EE</i>	,516	
<i>ISS</i> <--- <i>EE</i>	,474	
<i>WC</i> <--- <i>EE</i>	,473	

4.4.3 Model Feasibility Test

Table 4.12 shows a number of Goodness of Fit (GoF) indicators regarding the three variables (constructs). The feasibility test of this model includes absolute GoF; GoF Incremental, and Golf. Parasinmetry. The results of the model feasibility test show that there are 13 GoF indicators. Of the 13 indicators, there are 6 indicators whose GoF values are Goof of Fit status, so that in general the GoF research is feasible.

Tabel 4.12 Model Feasibility Test

No	Goodness of Fit Index	Cut of Value	Result	Kriteria
GoF Absolute				
1.	X ² -Chi Square (CMIN)	p-value Chi Square > 0,05	0,000	Poor fit
2.	Goodness-of-Fit Index (GFI)	≥ 0,90 acceptable fit, ≥ 0,95 good fit	1,000 (Saturated model)	Good of fit
3.	Adjusted Goodness of Fit Index (AGFI)	≥ 0,90 acceptable fit, ≥ 0,95 good fit	0,589 (Default model)	Poor fit
4.	Root Mean-square Residual (RMR)	<0 expected	0,000 (Saturated Model)	Close fit
5.	Root Mean Square Error of Approximation (RMSEA)	<0,05 closed-fit; 0,05<RMSEA≤0,08 adequate fit; 00,08<RMSEA≤0,10 accepted fit; >0,10 poor fit.	0,113 (Default model)	Poor fit
GoF Incremental				
1.	Normed Fit Index (NFI)	≥ 0,90 acceptable fit, ≥ 0,95 good fit	1,000 (Satutared model)	Good of fit
2.	Relative Fit Index (RFI)	≥ 0,90 good fit	0,531 (Default model)	Poor fit
3.	Incremental Fit Index (IFI)	≥ 0,90 good fit	1,000 (Saturated model)	Good of fit
4.	Comparative Fit Index (CFI)	≥ 0,90 acceptable fit, ≥ 0,95 good fit	1,000 (Saturated model)	Good of fit
GoF Parsimoni				

1.	Akaike Information Criterion (AIC)	used for comparison). AIC value close to 0 (zero) indicates a better fit of the model (Yamin, 2011: 28).	11190,000 (Saturated model)	The value is far from 0 (zero), so it is a poor fit.
2.	Consistent Akaike Information Criterion (CAIC)	used for comparison) A model with an AIC close to 0 (zero) indicates a better model size (Yamin, 214: 28)	2363,604 (Saturated model)	The value is far from 0 (zero), so it is a poor fit.
3.	Parsimonious Goodness of Fit Index (PGFI)	(The value is greater than 0.500, so the PGFI value is Close to Fit	0,559 (Default model)	The value is greater than 0.500, so the PGFI value is Close to Fit
4.	Parsimonious Normed Fit Index (PNFI)		0,524 (Default model)	The PNFI value is close to 1, so it is close to fit

5. Discussion

Based on Table 4.9, each of the hypotheses of this study can be tested.

Hypothesis 1: Transformational Leadership has a significant effect on Organizational Culture.

Based on Table 4.9, the magnitude of the effect of TL on OC is 0.886 or 88.6%. Then the significance level of influence is the critical ratio (CR) or t-value is 4.861, which means it is greater than 1.96. Then the significance value of P is three stars (***) which means < 0.01 . Based on these data, it means that TL has a positive and significant effect on OC, so that hypothesis 1 is proven.

The results of this study are in accordance with the results of previous studies.

Jacqueline et al (2011) found that transformational leadership has a positive effect on organizational culture. Robbins (2015) states that organizational culture is a variety of systems designed for its members, so that it can differentiate an organization from other organizations. Organizational culture is a kind of values, beliefs, hopes, ambitions, and behaviours with distinctive characteristics that can stand out and can directly or indirectly affect function and appearance, Matei (2015). Karademir et al (2014) said, through good communication, all employees of the company can understand each other with colleagues and superiors, thus creating a good working environment comfortable.

Hypothesis 2: Transformational Leadership has a significant effect on Employee Engagement

Based on Table 4.9, the magnitude of the effect of TL on EE is -0.580 or -58.0%. Then the significance level of influence is the critical ratio (CR) or t-value is -.237, which means it is smaller than 1.96. Then the significance value of P is 0.812 which means > 0.05 . Based on these data, it means that TL has a negative and insignificant effect on EE, so hypothesis 2 is not proven.

The results of this study are in accordance with the results of previous studies. Previous studies have found that transformational leadership to employee engagement (Sahu et al., .2017; Thisera & Sewwandi, 2018; Salau et al., 2018; Mufeed, 2018; Milhem et al., 2019). In addition to the transformational leadership variable, another independent variable that influences employee engagement is the corporate culture variable, as the results of research by Elshanti (2017) and Aldrin & Yunanto (2018).

Theoretically transformational leadership is defined as a leadership style that can motivate followers to go beyond their personal interests for the benefit of the organization and have a major impact on followers, as well as the leadership style of managers who want to maintain the status quo or achieve new organizational goals (Robbins and Judge, 2015). Recent research by Liu and Cho (2018) shows that managers with high levels of emotional intelligence are considered company assets, and even leaders can interact with employees to help them participate in work. Leaders play an important role in motivating employees, and employee's motivation will have an impact on employee performance (John and Gregory 2012).

When employees find meaning and motivation at work, receive positive interpersonal support and are in an efficient working environment, they will feel engaged, Rosas-Gaddi (2011). Robinson et al., (2004) Employee engagement can be achieved through the creation of an organizational environment in which positive emotions such as involvement and pride are encouraged, thereby increasing organizational performance. Solomon et al (2010), Research by Keeble & Armitage (2014) shows that superiors emphasize the long-term commitment of employees which will lead to an increase in the number of employee engagement.

Hypothesis 3: Organizational Culture has a positive and significant effect on Employee Engagement.

Based on Table 4.9, the magnitude of the effect of OC on EE is 1.784 or 178.4%. Then the significance level of influence is the critical ratio (CR) value or t-value is 0.654, which means it is smaller than 1.96. Then the significance value of P is 0.513 which means > 0.05 . Based on these data, it means that OC has a positive but not significant effect on EE, so hypothesis 3 is not proven.

The results of this study contradict the results of previous studies. The independent variable that influences employee engagement is the corporate culture variable, as the results of research by Elshanti (2017) and Aldrin & Yunanto (2018). Organizational culture is the values and norms that govern the behavior of group members which implies what is important or enforced by an organization or effort organization to regulate the behavior expected of its members With this view, organizational culture is relative from one organization to another, depending on the values and norms developed (Harwiki, 2016).

When superiors or organizational leaders allow, employee involvement will increase, employees will participate in decision making, share information, and communicate honestly between employees and employers (Jiang & Men, 2015). By involving employees in the organizational culture and decision-making process, enabling employees to participate more and be able to sustain the growth of organizational talent and organizational change for longer time (Brewer and Kennedy, 2013).

The increase in employee engagement will appear in one or of the five dimensions of employee engagement, The dimensions of the employee engagement variable according to (Balwant et al., 2019). are: (i) Job-control, (ii) Access to Information, (iii) Supervisor support, (iv) Innovative climate, and (v) Work climate. The definition of each dimension is as follows: Job control refers to the degree of influence employees have over their work direction (Linstrom et al, 2000) according to (Balwant et al., 2019). Access to information refers to the information flows or feedback between superiors and subordinates, and in the organization in general (to (Balwant et al., 2019). Supervisor support refers to the extent to which supervisors' support, care about and promote the welfare of employee. (Linstrom et al., 2000) according to (Balwant et al., 2019). Innovatove climate refers to the level of creativity, the promotion of novelty and frequency of improvement within the work environment (Linstrom et al, 2000) according to (Balwant et al., 2019). Meanwhile, Work climate refers to the degree of comfort and supportiveness in the general work environment (Linstrom et al. 2000) according to (Balwant et al., 2019).

6. Conclusion

1. Transformational Leadership (TL) has a positive effect on Organizational Culture (OC) with a standardized coefficient of 0,667 (66,7%). It means that an increase in TL of 1 (one)

unit will increase the OC by 0,667 or a 100% increase in TL will increase OC by 66,7%. It means H1 proved.

2. Transformational Leadership (TL) has a negative effect on Employee Engagement (EE) with a standardized coefficient of -0,549 (-54,9%). It means that an increase in TL of 1 (one) unit will decrease the EE by -0,549, or a 100% increase in TL will decrease EE by -54,9%. It means H2 is not proven.
3. Organizational Culture (OC) has a positive effect on Employee Engagement (EE) with a standardized coefficient of 0,579 (57,9%). It means that an increase in TL of 1 (one) unit will increase the EE by 0,579 or a 100% increase in OC will increase EE by 57,9%. It means H3 proved.

References

- Aldrin, N & Yunanto, K. T. (2018). Job Satisfaction as a Mediator for The Influence of Transformational Leadership and Organizational Culture on Organizational Citizenship Behavior. *The Open Psychology Journal*, 12, 126-134
- Bakker, A. B. (2011). An evidence-based model of work engagement. *Current Directions in Psychological Science*, 20, 265-269.
- Bakker, A. B., & Demerouti, E. (2008). Towards a model of engagement. *Career Development international*, 13, 209-223.
- Balwant, P. T., Mohammed, R., & Singh, R. (2019). Transformational Leadership and Employee Engagement in Trinidad's Service Sector. *International Journal of Emerging Markets*, 15 (4), 691-715
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99-120.
- Bates, (2004). Getting engaged. *HR magazine*, 49 (2) 44–51.
- Berry, L. M. (2010). Examining Turnover Intent: Examining the Effect of Employee Engagement, Compensation Fairness, Job Satisfaction and Age. Unpublished PhD Thesis. Nairobi: Kenyatta University.
- Blessing White. (2011), Beyond the numbers: A practical approach for individuals, managers and executives, Retrieved April 11, 2017 from http://www.blessingwhite.com/content/reports/blessingwhite_2011_ee_report.pdf
- Breaugh, J.A., & Mary, S. (2000). Research on employee recruitment: So many studies, so many remaining questions. *Journal of Management*, 26 (3), 405- 434.
- Chew, J. C. (2004). The influence of Human Resource Management Practices of Australian organization: Unpublished PhD thesis. Singapore. Murdoch University.
- Cooper, D. R., & Schindler, P. S. (2014). *Business Research Methods* (Twelfth Ed).
- Creswell, J. W. (2018). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (Fifth Ed). Sage Publications.
- Cropanzano, R. and Mitchell, M. S., (2005). Social Exchange Theory: An Interdisciplinary Review. *Journal of Management*, 31, 874
- Echols, M. (2007). Winning the turnover war. Retrieved April 11, 2017 from www.talentmgt.com. 17.
- Elshanti, M. (2017). Transformational leadership style and organizational learning: The mediate effect of organizational culture. *International Business and Management*, 15(2), 1-14.
- Ferdinand, A. 2006. Structural Equation Modeling (SEM) in Management Research. Management Master's Degree Program of Dipenogoro University. Semarang.
- Guthridge, M., Lawson, E., & Komm, A. (2008). Making Talent a strategic priority. *Indian Management*, 47(2), 63-64.
- Hair, J.F., Anderson, R.E., Tatham, R.L. and Black, C.W. 2010. *Multivariate Data Analysis*, Seventh Edition. Pearson, New Jersey.

- Harter, J. K., Schmidt F. L., & Hayes, T. L. (2002). 'Business-unit level relationship between employee satisfaction, employee engagement, and business outcomes: A metaanalysis. *Journal of Applied Psychology*, 87 (2), 268–279.
- Hong, E. N. C., Hao, L. Z., Kumar, R., Ramendran, C., & Kadiresan, V. (2012). An effectiveness of human resource management practices on employee retention in institute of higher learning: A regression analysis. *International journal of business research and management*, 3(2), 60-79.
- Holland, J. L., (1959). A theory of vocational choice. *Journal of Counselling Psychology*, 6,35-45.
- Jacqueline. M. Omuya, David M. Kungu, Leonard S. Molongo and Dedan O. Ong'anya. (2011). Effect of Team Building on The Performance of Employees in Organization Towards the Realization of Millennium Development Goals: A Survey of Selected Banks in Eldoret. *International Journal of Current Research*, 3(11), 049-054.
- Jiang, H. & Men, R. L. (2015). The impact of authentic leadership, transparent Organizational communication, and work-life enrichment. *Communication Research* 23(1), 1 - 19.
- John E. Barbuto, Jr. and Gregory T. Gifford. 2012. Motivation and Leader-Member Exchange: Evidence Counter to Similarity Attraction Theory. *International Journal of Leadership Studies*. Vo. 7. Iss. 1. Pp. 18-28
- Kahinde Hamdan, A. R., & Othman, Z. A. (2009). *Knowledge discovery techniques for talent forecasting in human resource application*. Paper presented at the World Academy of Science, Engineering and Technology, Penang, Malaysia
- Karademir, T., Karakaya, Y. E., & Sirin, Y. (2014). Physicals Education Teachers' Perceptions of Organizational Culture and Communications in Educational Institutions. *Journal of Physical Education and Sport*, 14(4), 637–642.
- Keeble-Ramsay D., & Armitage, A. (2014). HRD challenges when faced by disengaged UK workers. *Journal of Workplace Learning*, 26, 217-231.
- Kristof, A. L., Zimmerman, R. D., & Johnson, E. C. (2005). Consequences of individuals'fit at work: a meta-analysis of person–job, person–organization, person–group, and person–Supervisor fit. *Personnel psychology*, 58(2), 281-342.
- Kumar, V.J. (2013), Competency Mapping: A Gap analysis. *International Journal of Education and Research World Business*, 1.
- Liu, J., Cho, S., 2018. Interaction effect of display rules and emotional intelligence on hotel managers' and non-managers' work engagement. *International Journal of Contemporary Hospitality Management*, 30(3), pp.1903-1919.

- Lyria, R. K. (2015). Effect of Talent Management on Organizational Performance in Companies Listed in Nairobi Securities Exchange in Kenya. Unpublished doctoral dissertation, University of Agriculture and Technology.
- Mahapatro B. (2010). Human Resource Management, New Age: New Delhi
- Matei, C. S. (2015). Organizational Culture and Creativity's Perspectives. *Euromentor Journal Studies About Education*, 7(3), 40–47.
- Mathias, L.R, Jackson, H.J (2004). *Human resource management* (10th ed.). London: Thomson South – West.
- Mapelu, I. & Juma, L. (2013). Effects of training and development on employee turnover in selected medium sized hotels in Kisumu city, Kenya. *Journal of Tourism, Hospitality and Sports*, 1, 43-48.
- Markos, Solomon. dan Sridevi, M. Sandhya. (2010). Employee Engagement: The Key to Improving Performance, Vol. 5, No. 12, 89-96. Retrieved from www.ccsenet.org/ijbm.
- Milhelm, M., Muda, H., & Ahmed, K. (2019). The Effect of Perceived Transformational Leadership Style on Employee Engagement: The Mediating Effect of Leader's Emotional Intelligence. *Foundation of Management*. 11. 33-41
- Miller, A.P. (2007), *How to Manage Human Resource in Organizations*. USA: Xulon Press.
- Murthy, P. S. (2010). Next generation talent management-perceptions. *Social Science Research Network*, 13 (1), 11-24
- Mufeed, U. (2018). Effect of Transformational Leadership on Employee Engagement: An Empirical Study in Select Higher Educational Institutions. *Journal of Organizational Human Behavior*. 7 (2). 8-13.
- Murthy, P. S. (2010). Next generation talent management-perceptions. *Social Science Research Network*, 13 (1), 11-24
- Newstrom, J.W. & Davis, K. (2002). *Organizational Behavior: Human Behaviorat Work*. New York: McGraw-Hill.
- Ng'ethe, J. M., Iravo, M. E., & Namusonge, G. s. (2012). Determinants of academic Staff retention in public universities in Kenya: Empirical review. *International Journal of Humanities and Social Sciences*, 2, 205-212.
- Ng, T. W. H., Feldman, D. C., & Lam, S. S. K. (2010). Psychological contract breaches, organizational commitment, and innovation-related behaviors: A latent growth modeling approach. *Journal of Applied Psychology*, 95, 744-751.
- Nunn, J. (2000). Career Planning key to employee Retention, *Journal of Property Management*, 65-67.
- Nyanjom, C. R. (2013). *Factors influencing employee retention in the state corporations in Kenya*. unpublished thesis Nairobi: University of Nairobi.
- Oladapo, V. (2014). Impact of talent management on retention. *Journal of Business studies*, 5(3).

- Powis, A. (2012). A journey to award-winning employee engagement. *Human Resource Management International Digest*, 20(5), 31-34.
- Rizki, M., Parashakti, R. D., & Saragih, L. (2019). The Effect of Transformational Leadership and Organizational Culture Towards Employee's Innovative Behaviour and Performance, *International Journal of Economic and Business Administration*. 1. 227-239.
- Robbins, S.P. & Judge, T.A. (2015). "Organizational Behavior". (16th ed.). Boston: Pearson Education Limited.
- Robinson, D., Perryman, S., & Hayday, S. (2004). The Drivers of Employee Engagement.
- Rosas-Gaddi, R. 2011. Leadership and Employee Engagement: When Employees Give Their All. http://66.179.232.89/pdf/ddi_ph_leadershipandemployeeengagement_ar.pdf,
- Ross, J.A. (2005). Dealing with real reasons people leave, Harvard Management Update, article reprint, no. U0508A.
- Rumelt, R.P. (1984) . *Towards a strategic theory of the firm*. Englewood Cliffs, NJ:Prentice Hall.
- Sahu, S., Pahardikar, A., & Kumar, A. (2017). Transformational Leadership and Turnover: Mediating Effect of Employee Engagement, Employer Branding, and Psychological Attachment. *Leadership and Organization Development Journal*.
- Saks, A. M. & Gruman, J. A. (2014). What do we really know about employee engagement? *Human Resource Development Quarterly*, 25(2), 155-182.
- Salau, O., Oludayo, O., Falola, H., Olokundun, M., Ibidunni, S., & Atolagbe. (2018). Integrated datasets on transformational leadership attributes and employee engagement: The moderating role of job satisfaction in the fast moving consumer goods (FMCG) industry. *Data in Brief*, 19, 2329- 2335.
- Sanghi, S. (2007). *The Handbook of competency mapping, understanding, designing And implementing competency model in organizations: Second edition*. Response Books Sage.
- Saqib Nawaz, M., Hassan, M., Hassan, S., Shaukat, S., & Asadullah, M. A. (2014). Impact of Employee Training and Empowerment on Employee Creativity Through Employee Engagement: Empirical Evidence from the Manufacturing Sector of Pakistan. *Middle - East Journal of Scientific Research*, 19(4), 593–601.
- Sennett, R. (2006). *The Culture of the New Capitalism*, Yale University Press, New Haven, CT.
- Shiau, W. L., & Luo, M. M. (2012). Factors affecting online group buying intention

- And satisfaction: A social exchange theory perspective. *Computers in Human Behavior*, 28(6), 2431-2444.
- Tarique, I., & Schuler, R. S. (2010). Global Talent Management: literature review, interactive framework and suggestions for further studies. *Journal of world business*, (3) 122-133
- Thiriku, J. N. (2013). *Perceived factors affecting employee retention in Safaricom Limited*. Unpublished doctoral dissertation, University of Nairobi.
- Thisera, T. J. R & Sewwadi, E. P. I. (2018). Transformational Leadership and Employee Engagement in Hospitality Sector in Sri Lanka. *Global Journal of Management and Business research: A Administration and Management*. 18 (12).
- Towers Perrin (2003). *Working Today: Understanding what drives employee engagement. The 2003 towers perrin talent report*. Retrieved from March 15, 2017, from http://www.towersperrin.com/tp/getwebcachedoc?webc=hrs/usa/2003/200309/talent_2003.pdf.
- Walsh, K., & Taylor, M. S. (2007). Developing in-house careers and retaining management talent what hospitality professionals want from their jobs. *Cornell Hotel and Restaurant Administration Quarterly*, 48(2), 163-182.
- Wattamwar, N. (2016). *Training needs identification through competency mapping process*. Retrieved on April 20, 2017 from <https://www.linkedin.com/pulse/training-needsidentification-through-competency-nitinkumar-wattamwar>.
- Zikmund, W. G (2003). *Business Research Methods (7th ed.)*. Thomson Southwestern.
- Zikmund, W. G., Babin, B. J., Carr, J. C., & Griffin, M. (2013). *Business research methods (9th ed.)*. New York: SouthWestern/Cengage Learning.

Service Quality, Customer Value, Customer Satisfaction And Loyalty

A Study In Indonesian Heavy Equipment

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ABSTRACT

PT United Tractors Tbk (United Tractors) or UT (IDX: UNTR) is the largest and leading distributor of heavy equipment in Indonesia, providing products from world-renowned brands, namely Komatsu, UD Trucks, Scania, Bomag, and Tadano. Currently United Tractors distribution network has 183 service points throughout Indonesia, including 20 branch offices, 35 support sites and 25 representative offices. United Tractors is also a group of companies engaged in five business fields, namely heavy equipment distribution, mining contractors, mining, civil construction and energy.

UT is currently exploring sales and sales support for several national transportation companies in Indonesia. hereby for service support, in this case the general affairs department of one of the units as transportation service support, researchers are interested in conducting research on customer satisfaction with the use of company transportation services based on the concept of five important service dimensions, namely reliability, responsiveness, assurance, empathy, and form. The purpose of this study was to determine the effect of service quality on the level of satisfaction of company transportation users which is run and controlled by the general affairs department, analyze the level of transportation services based on employee perceptions, propose recommendations to improve service quality to drivers and dispatchers for services provided to employees. This study limits the variables that affect customer satisfaction (service users) on utility transportation including service factors which include: reliability, responsiveness, assurance, empathy, and tangibles. There is a significant positive effect between service quality variables on customer value

Type of Paper: Review

Keywords: *customer satisfaction, transportation, services, united tractors*

1. Introduction

The heavy equipment distribution industry is a very competitive industry. The competitive conditions that occur depend on the price of the coal commodity. Changes in coal prices which are very volatile and the level of price competition from each heavy equipment manufacturer is the main cause. The development of marketing patterns in the service industry is growing rapidly so that it encourages every service agency to prepare strategies to be able to compete in the market.

In addition, the uncertainty in the future makes service agencies have to continue to strive to develop their innovations in order to win the competition. Customers will compare the sacrifices incurred with what they get (Kotler, 1997). The sacrifices incurred by the customer can be in the form of money, time, and effort to get services from service providers. Generally, customers choose and buy certain services on the basis of universal value and personal value of services. Universal value concerns the value that satisfies customer needs, while personal value is related to the value that satisfies customer desires (Tjiptono, 2005). The customer will be very choosy because the customer is well aware that the customer is the real “” holder *trump card* because the customer who determines the sacrifice that is issued has value or not. The delivery of values has two main dimensions, namely effectiveness and efficiency. Effectiveness is a measure of the service's ability to meet customer needs and wants, while efficiency reflects the cost to customers in obtaining that value (measured by the money, time and physical effort required).

According to Kotler *et al.* (2002) there are six reasons that a service agency needs to get loyalty from its customers. First: existing customers are more prospective which means that loyal customers can give the agency a huge advantage. Second: the costs incurred by the agency to acquire new customers far outweigh the costs of retaining existing customers. Third: customers who have trusted an agency will tend to trust the agency in other matters. Fourth: the agency's operating costs are more efficient if the agency has many loyal customers. Fifth: existing customers who have had many positive experiences with a service agency are very profitable for the agency, because they can reduce psychological costs and social costs. Sixth: loyal customers to service agencies will try to attract and advise others to become customers of these service agencies and loyal customers will always defend the service agencies concerned.

The Cost Reduction Program is one solution to be able to win the competition. Inexpensive operational processes will help companies gain more advantage in facing

competition.

PT United Tractors Tbk as one of the companies with the largest market share engaged in heavy equipment distributor services also implements a Cost Reduction Program in various fields. One of the areas targeted for the implementation of the Cost Reduction Program is the General Affairs Department. Cost Reduction Program is carried out with the aim of reducing expand, optimizing work processes and improving service to customers. The author conducted research to see the impact of cost reduction programs carried out on customer satisfaction within the scope of the General Affairs Department. The implementation of the program to be discussed is limited to transportation services activities.

There are three other studies that prove the effect of service quality on satisfaction, namely research conducted by Lertwannawit *et al.* (2011), Chao Chan Wu (2011), and Lee *at al.* (2011). The results of the research by Lertwannawit *et al.* (2011), Chao Chan Wu (2011), and Lee *at al.* (2011) show that there is a significant influence between service quality and satisfaction. This shows that the better the quality of the services provided, the more customer satisfaction will be. Chaniotakis and Lymperopoulos (2009) conducted a study to test and analyze the variables of service quality, satisfaction and *Word of Mouth* (WOM). There are 5 dimensions of service quality analyzed, namely *tangible, responsiveness, reliability, empathy* and *assurance*. The results of his research indicate that the dimension of *reliability* is not significant for satisfaction, while the other four dimensions are significant for satisfaction. Another study conducted by Suki *et al.* (2009) and Milfener *et al.* (2009) also proved the effect of service quality on satisfaction. The results showed that service quality has no significant effect on satisfaction, which means that the higher the quality of service provided, it will not have an impact on customer satisfaction.

Apart from proving the effect of service quality on satisfaction, research conducted by Tuhumena *et al.* (2008) also analyzed the effect of service quality on loyalty. The research findings of Tuhumena *et al.* (2008) show that there is a significant influence between service quality variables on loyalty..

1.1 Research Problems

PT United Tractors Tbk As a distributor of heavy equipment, is very influential with the economic and business conditions that are completely unclear. And also when facing fairly tight business competition, the Cost reduction program is one way to make UT still survive until now in production and operations of the

General Affairs Department As a “public service”, budget / cost management is emphasized on programs that reduce the impact of the company's operational load efficiency program.

At present, many users complain about transportation services, including vehicles that are not optimal, cleanliness areas that have not been maximized The purpose of using the Service

Quality (servqual) dimension and measuring performance and measuring the gap is to make improvements in service control which is used as an alternative suggestion in improving service quality oriented towards customer satisfaction and as a one of the company's strategies in empowering Total Quality Service. Thus, the existence of development strategy this is expected to help the company to make improvements and improve performance in a sustainable manner for competition with other companies.

In connection with the quality of service, researchers are interested in conducting research on customer satisfaction (employees) of PT United Tractors Tbk which is based on the concept of five important dimensions of a service, namely reliability, responsiveness, assurance, empathy, and tangible.

2. Literature Review

Services have many definitions, ranging from *personal service* (personal service) to service as a product. Services can be generated from a process that is determined by using or not using physical facilities. Services can include all economic activities that produce not a product or physical construction and are generally consumed at the same time as their production and provide added value to the buyer (Zeithmal and Bitner, 2003).

According to Kotler (1997), service is an action or activity that is offered from one party to another, is intangible and does not result in a transfer of ownership. The production of services can coincide with physical products or not. According to Rangkuti (2003), service is a performance or action that cannot be seen from one party to another. In general, services are produced and consumed at the same time, with interactions between service providers and service recipients affecting the results of these services.

Lupiyoadi (2006) defines services as a total economic activity whose output is not in the form of a product or in physical form and is usually consumed at the same time as time produced and provides added value (such as comfort, entertainment, pleasure and health) or solving problems faced by consumer. Payne (2000) identifies that service is an activity that has several elements of *intangibilityintangibility* () which involves several interactions with consumers or with *property* in their ownership, and does not result in a transfer of ownership. Changes in conditions may occur and the production of services may or may not be related to physical production.

Based on several definitions of service, service is an economic activity that is not tangible in the form of goods and can only be felt. Services are produced and consumed at the same time which results in an interaction between service providers and service recipients. At the same time, services can provide added value for service recipients.

2.1 Characteristics of Services

Services have four characteristics that influence the design of marketing programs. The

characteristics of services according to Kotler (1997) are:

1. *Intangibility* (intangible)

Services are intangible which means that the service is not felt, seen, heard, tasted, or smelled before the service is purchased. For example, if someone who is undergoing an “*anti aging*” program cannot see the results before purchasing the service.

2. *Inseparability* (inseparable)

Services are produced and consumed simultaneously. Unlike physical goods that are produced, they are stored in stock, distributed through various sellers, and then consumed. If someone performs a service, then the provider is part of the service.

3. *Heterogeneity* (varies)

Services vary widely because it depends on the service provider and the time when the service is performed. For example some doctors have impeccable nurse hospitality and are very good with children while others are more direct and less patient with children.

4. *Perishability* .

Services cannot be stored. The ease with which a service is lost is not a problem when demand is constant because it is easy to arrange staff to perform the service in advance.

2.2 Service Quality

2.2.1 *Definition of Service Quality Service*

Quality can be defined as a comparison of expectations with perceptions of the actual performance of services (Zeithaml and Bitner, 2003). According to Kotler (2002) quality is the totality of features and characteristics of a product or service that affects its ability to meet stated needs. Companies must increase commitment and awareness as well as the ability of Dispatcher in their efforts to improve service quality, especially Dispatcher who deal directly with customers. Even though the quality system and techniques are good, but if the Dispatcher who implement it and the tools are not used in the right way, the expected quality of service will not be realized.

Based on the definition of service quality that has been described, it can be concluded that service quality is the totality of an assessment of the quality of a service that compares expectations with customer perceptions. A company will be increasingly motivated to establish strong relationships with customers in the long term, because in the long term the company can understand carefully the expectations and needs of customers for the company's services. Companies can also improve customer

satisfaction, so that companies can maximize the experience of pleasant customers and minimize or eliminate unpleasant experiences from customers.

2.2.2 Dimensions of Service Quality

According to Parasuraman *et al.* (1988) there are five main dimensions of service quality, namely:

1. *Tangibles* (physical evidence), including physical facilities owned by agencies or service companies. In addition, it also includes Dispatcher and means of communication.
2. *Reliability* (reliability), namely the ability of staff to provide a service promised and satisfy customers.
3. *Responsiveness* (responsiveness), namely the ability of staff to help customers and provide services quickly and responsively.
4. *Assurance* (guarantee), including knowledge, ability, politeness, and the trustworthiness of the staff, free from danger or risk and doubt.
5. *Empathy* (empathy), which includes the ease of making relationships, good communication between service providers and customers, personal attention and understanding the needs of customers.

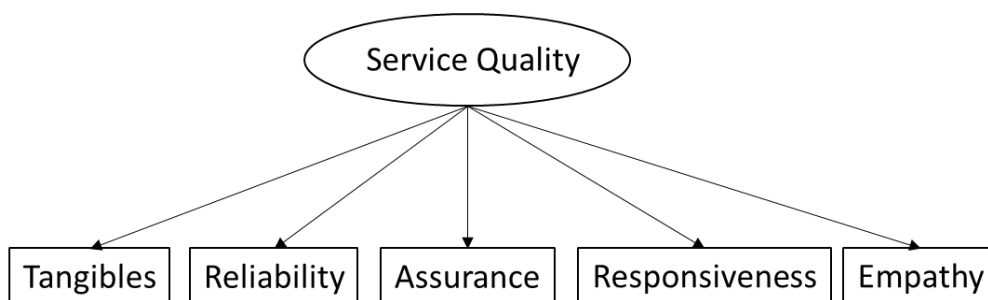


Figure 2.1 Service Quality Measurement Model

2.3 Research hypothesis

Research is basically an attempt to find or collect data and information that will be used to test a hypothesis. As stated by Arikunto (2002), a hypothesis is a statement that is temporarily accepted as truth when there is a phenomenon known and is used as a basis for work and verification guidelines. Hypotheses are also a temporary description of complex phenomena relations. The hypothesis is a provisional assumption about the relationship between variables in a study whose truth needs to be proven.

To describe the hypothesis in this study more clearly, it can be seen in Figure 3.8.

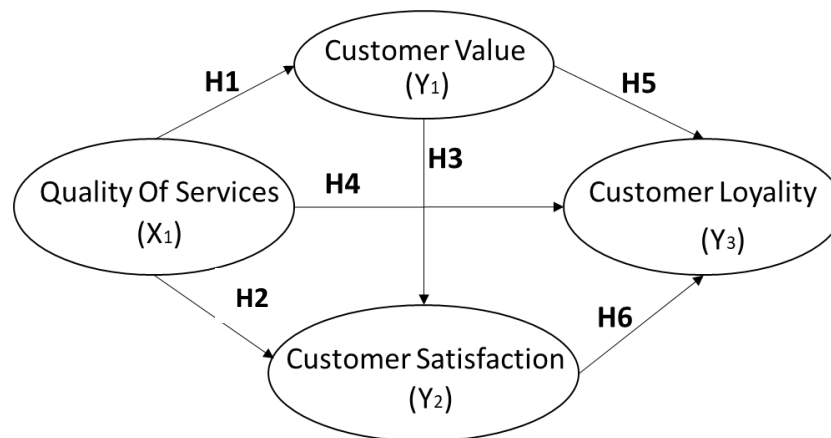


Figure 3.8 Research Hypothesis Model

Based on theoretical studies, the hypotheses to be tested in this study are as follows:

- H1. Service quality has an influence on customer value.
- H2. Service quality has an influence on customer satisfaction.
- H3. Customer value has an influence on customer satisfaction.
- H4. Service quality has an influence on customer loyalty.
- H5. Customer value has an influence on customer loyalty.
- H6. Satisfaction

3. Research Methodology

3.1 Research Frame Work

A research must have a clear concept so that it can be arranged systematically and accurately describes the phenomenon to be studied.

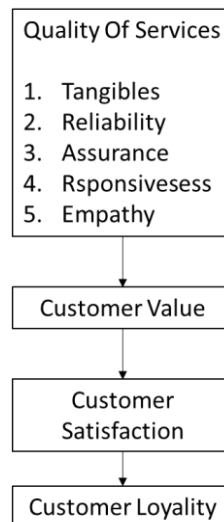


Figure 3.1 Conceptual Framework

3.2 Research Design

In scientific research, research methods are needed as a frame in conducting research, data analysis, and data presentation so that they are integrated in one line of thought and are not biased. Several types of research include descriptive, explanative and exploratory research. In addition, there are several types of research, including survey research, experimentation, *grounded research*, a combination of qualitative and quantitative approaches, and secondary data analysis¹. This type of research is descriptive with a combination of qualitative and quantitative approaches. Data sources use primary data through questionnaires.

3.3 Research Variable

The writing of the variables used in this study is a service component that can be derived from the service dimensions as expressed by Zeihaml, Parasuraman and Berry (1990), namely five dimensions that are very influential in determining service quality assessments.

Table 3.1. Dimensions - Service Dimensions

No.	Dimension	Information
1	<i>Reliability</i>	Ability to carry out the promised services that are reliable and accurate
2	<i>Responsiveness</i>	Willingness to help and provide appropriate, fast and responsive services
3	<i>Assurance</i>	Knowledge and friendliness / courtesy of Dispatcher and their ability to generate a sense of confidence and self-confidence.
4	<i>Empathy</i>	Care and attention to individual consumers
5	<i>Tangibles</i>	Real facilities, physical appearance, equipment, Dispatcher, and communication tools

Source: Zeithaml, Parasuraman and Berry (1990)

3.4 Types of Study

Research is a systematic investigation aimed at providing information to solve problems (Cooper and Emory, 1996). In accordance with the objectives to be achieved in this study, namely to analyze and explain the relationship between several research variables and test the hypotheses that have been set previously, the type of research used is explanatory research (explanatory research) (Singarimbun and Effendi, 2008). The approach used in this research is to use a quantitative approach where there is a process of simplifying the data into a form that is easier to read and interpret by all readers.

The process of quantitative approach begins with the theory collected by the researcher and then lowered into a hypothesis accompanied by measurement and determination of variables. Furthermore, generalizations are made based on the results of statistical data obtained so that conclusions can be drawn as research findings to answer the problems faced by researchers. The findings are expected to be understood by the reader, so that researchers must be able to explain well and concisely (Akbarina, 2013).

3.5 Location and Timeframe of Study

The research location is a location or place used to conduct a research with the aim of obtaining valid, accurate and really needed data in a study. Researchers are also expected to be able to interpret the actual state of the object under study including the characteristics of the

research location, the environment around the research and all activities within the scope of the research. The location of this research is PT United Tractors Tbk – Head Office Jl Raya Bekasi KM 22 – Cakung Jakarta Timur – Jakarta (UT). This research was conducted at UT on the basis of the success and ability of UT which remained consistent in the competition in the transportation service industry.

3.6 Population and Sample Target

3.6.1 Population

Population is the total number of units of analysis whose characteristics will be estimated (Singarimbun, 2008). According to Arikunto (2002:108) the population is the entire research subject. According to Babbie (1973) in Supriyanto (2010) "A population is the theoretical specified aggregation of survey elements. Population or universe is the entire group about which information is desired". The population is a set of elements or the same elements (set) whose characteristics will be studied. Information on the nature or characteristics of the population will be used as a data source. Based on the opinions of experts, it can be concluded that the population is the entire subject of the research whose characteristics or characteristics will be studied and used as a source of research data.

The population in this study are all customers who are enjoying the facilities and visiting UT at the Jakarta Office. The target population of this study are loyal customers who visit UT. The characteristics of the target population of this research that determine that respondents are called loyal employees are:

3.6.1.1 Respondents are employees who use transportation facilities at UT

3.6.1.2 Respondents are employees who experience cleaning services at UT.

3.6.2 Sample size

The sample is part or representative of the population under study (Arikunto, 2002). Supriyanto (2010) revealed that the sample is part of the population that can provide information. According to Singarimbun and Efendi (2008) in a survey it is not always necessary to examine all individuals in the population, because in addition to being very costly, it also takes a long time. Researchers are expected to provide results that describe the nature of the population in question, by examining part of the population so that taking a sample must meet certain conditions.

Determination of the number of samples in this study was determined by the Gay method (descriptive-correlational) that the minimum sample size used data of at least 30 subjects. The researcher used a minimum sample of 30 subjects because it was in accordance with the analytical tool used, namely Partial Least Square (PLS). With certainty, the sample size can be known by multiplying the number of indicators from 4 variables by 5-10, this refers to the opinion expressed by Solimun (2003) that the determination of the sample size is equal to 5 to 10 times the number of manifest variables (indicators) of all variables. latent. Based on these

provisions, the sample size used is $12 \times 5 = 60$ people or respondents.

3.7 Data Collection Method

A sample must be chosen in such a way that each elementary unit has an equal chance and probability of being selected and the magnitude of the probability cannot be equal to zero. In addition, random sampling must use the right method according to the characteristics of the population and research objectives. Although a sample consists of part of the population, part of the population cannot always be called a sample if the methods of collection are not correct (Singarimbun and Effendi, 2008). The ideal sampling method has the following properties:

1. A sample must be able to produce a reliable picture of the entire population.
2. A sample must be able to determine the precision of the research results by determine the standard deviation (standard) of the estimate obtained.
3. A sample should be simple so that it is easy to implement.
4. A sample should be able to provide as much information as possible at the lowest possible cost.

Probability sampling is the sampling technique used in this study. Probability sampling is used in this study based on the concept of random selection which is a controlled procedure to ensure that each element of the population is of course a known nonzero chance of selection. Sampling in this study uses a systematic sample approach (systematic sample) which is one part of the probability sampling technique. Systematic sampling is statistically more efficient than simple random sampling in which similar populations are grouped together in lists. This is possible if the elements in the list are arranged according to time, size, class, and so on (Cooper and Emory, 1996).

UT service hours are divided into two hours, namely for services at 07.30 – 16.30. The sampling technique used is systematically based on time. Questionnaires were distributed to respondents according to population characteristics, then questionnaires were distributed every 10 minutes during service hours.

3.8 Variable and Operational

3.8.1 Variable

Research variables are concepts that are given more than one value (Singarimbun and Effendi, 2008). According to Sekaran (2003) in Wiyono (2011) a variable is anything that can distinguish or bring variation to the value. There are two types of variables in this study, namely the independent variable (independent variable) with the symbol X in the form of service quality and the dependent variable (the dependent variable) with the symbol Y consisting of customer value, customer satisfaction, and customer loyalty. Independent variable (independent variable) is a variable that affects a treatment (Arikunto, 2002). Dependent variable (the dependent

variable) is a variable that is the main concern of researchers because this variable is the main factor in research (Sekaran, 2000).

3.8.2 Operational Definition

The operational definition is an element of research that informs how to measure a variable (Singarimbun and Effendi, 2008). The operational definition of each variable is made to limit the problems in this study. Operational definitions are used to formulate briefly and clearly so as not to cause differences in interpretation. The operational definition of each variable in this study is as follows:

1. *Quality of service (X1)*

Quality of service is the totality of transportation services which includes the ability of Services, the ability of the dispatcher and office facilities to meet customer needs. The indicators of service quality are as follows:

a. Tangibles (physical evidence)

1. Availability of a comfortable waiting room.
2. UT already uses modern equipment in its operations.
3. Availability of lots of snacks in the space in the vehicle
4. All drivers are presentable.

b. Reliability (reliability)

1. The driver is capable in handling every trip.
2. Drivers are able to take action to meet customer needs.
3. The dispatcher is able to record every customer complaint in detail according to customer expectations.

c. Responsiveness (responsiveness)

1. Drivers respond to customer needs responsively.
2. Driver's attitude is always enthusiastic when serving customers.
3. Responsive Dispatcher attitude in serving customer needs.

d. Assurance (guarantee)

1. Driver's attitude in providing professional service so as to provide a sense of security to customers.
2. The way the driver provides services can create trust in customers.
3. The attitude of the Dispatcher in providing services to customers is trustworthy.

e. Empathy (empathy)

1. The driver knows the customer well.
2. Driver is happy to provide the best travel solution to every customer.
3. The driver is able to create familiarity with customers.

2. Customer Value (Y1)

Customer value is a form of customer assessment of the sacrifices that have been made to transportation operational services and their team. The indicators of customer value are as follows:

a. Superiority

1. UT transportation facilities provided to customers are better than other services.
2. Outgoing costs are costs that can be accepted by customers in accordance with the quality of services provided.
3. The information provided by the Driver after traveling is valuable.

b. Benefits

1. For customers, the existence of transportation services has great benefits.
2. The services provided by Driver are useful for customers.

3. Customer Satisfaction (Y2)

Customer satisfaction is an after-use evaluation of the services provided by transportation services and their team. The indicators of customer satisfaction are as follows:

a. Overall Satisfaction (overall satisfaction)

1. Customers are satisfied with the services provided by the Driver.
2. Customers are satisfied with the services provided by the Dispatcher.
3. Customers feel comfortable with the services provided by the Driver.
4. Customers feel comfortable with the services provided by the Dispatcher.

b. Confirmation of Expectation

1. The service from the Driver has met customer expectations.
2. Service from Dispatcher has met customer expectations.
3. Customers get a harmonious relationship with Driver.

4. Customers get a harmonious relationship with the Dispatcher.

c. Comparison of Ideal

1. Customers are satisfied with the overall performance of the Driver in providing services in accordance with customer expectations.
2. Customers are satisfied with the overall performance of the Dispatcher in providing services comparable to customer expectations.

4. Customer Loyalty (Y3)

Loyalty reflects the customer's behavioral intention towards the service, which results in future repeat visits to transportation services at UT. The indicators of customer loyalty are as follows:

a. Recommend Friend (recommendation to friends or other people).

1. Customers convey the advantages of UT Transportation Services to other people.
2. Customers invite other people to use transportation services at UT.
3. The customer recommends the transportation service as a unit with good service to others.

Operational identification of variables, indicators, items, is presented in Table 4.1 as follows:

Table 4.1 Identification of Variables, Indicators, and Research Items

Variabel	Indicator	Item	Source
	Tangible	<ol style="list-style-type: none"> 1. Availability of a comfortable waiting room. 2. UT Transportation Services have used modern equipment in their operations. 3. Availability of lots of snacks in the waiting room 4. All Dispatchers in appearance neat. 	<ol style="list-style-type: none"> 1. Parasuraman <i>et al.</i> (1988) 2. Chaniotakis and Lympelopoulos (2009) 3. Suki <i>et al.</i> (2009) 4. Hidayat (2009) 5. Padma <i>et al.</i> (2010).
	Reliability	<ol style="list-style-type: none"> 1. The driver is able to handle every customer complaint. 2. Drivers are able to take action to meet customer needs. 3. The dispatcher is able to record every customer complaints in detail according to customer expectations. 	

Service Quality	Responsiveness	<ol style="list-style-type: none"> 1. Drivers respond to customer needs responsively. 2. The attitude of the driver who is always enthusiastic when serving customers. 3. Responsive attitude of dispatchers in serve customer needs. 	
	Assurance	<ol style="list-style-type: none"> 1. The attitude of the driver in providing professional services. 2. The way the driver provides services creates trust in customers. 3. The attitude of the dispatcher in giving trustworthy service. 	
	Empathy	<ol style="list-style-type: none"> 1. The driver knows the customer well. 2. The driver is happy to provide solutions to any customer complaints. 3. The dispatcher is able to create familiarity with customers. 	

Variabel	Indikator	Item	Sumber
Customer Value	Superiority	<ol style="list-style-type: none"> 1. UT Transportation Facilities are better than other service units. 2. The fees determined by UT are fees that are acceptable to the customer. 3. The information provided by the driver after performing a valuable service 	<ol style="list-style-type: none"> 1. Kim <i>et al.</i> (2008) 2. Rahyuda dan Atmaja (2011) 3. Lertwannawit <i>et al.</i> (2011)
	Benefits	<ol style="list-style-type: none"> 1. For customers, the existence of UT transportation services has great benefits. 2. The service provided by the driver is useful for the customer. 	
	Overall satisfaction	<ol style="list-style-type: none"> 1. Customers are satisfied with services provided by the driver. 2. Customers are satisfied with the services provided by the Dispatcher 3. Customers feel comfortable with the services provided by the driver. 4. Customers feel comfortable with the services provided by dispatchers 	<ol style="list-style-type: none"> 1. Fornell <i>et al.</i>, (1996) 2. Hidayat (2009)

Customer satisfaction	Confirmation of expectation	<ol style="list-style-type: none"> 1. Driver service meets customer expectations. 2. The dispatcher service meets customer expectations. 3. Customers get a harmonious relationship with the driver. 4. Customers get a harmonious relationship with dispatchers 	
	Comparison of Ideal	<ol style="list-style-type: none"> 1. Customers are satisfied with the whole Driver performance is in line with customer expectations. 2. Customers are satisfied with the overall performance of the Dispatcher in accordance with customer expectations. 	
Customer loyalty	Recommend Friend	<ol style="list-style-type: none"> 1. The customer conveys the advantages of transportation services to others. 2. Customers invite others to use UT transportation services 3. Customers recommend the transportation service unit as a good service to others 	<ol style="list-style-type: none"> 1. Zeithaml <i>et al.</i> (1996), 2. Lee <i>et al.</i> (2011), 3. Laohasirichaikul <i>et al.</i> (2010), 4. Lertwannawit <i>et al.</i> (2011)
	Continue Use	<ol style="list-style-type: none"> 1. Customers prefer services to UT transportation rather than to other service units. 2. Customers only believe in UT transportation services as transportation services that provide services for customers 	

3.9 Validity Test

Validity test is a test of the level of accuracy of the use of measuring instruments on the phenomenon to be measured. According to Santoso (2009), a questionnaire is called valid if the questions in a questionnaire are considered capable of revealing something that will be measured by the questionnaire. Trial of research instruments will be conducted on 30 respondents who are considered relevant to the research before the instrument in the study is used as a medium in collecting data in the field. To test the validity in this study is to calculate the correlation between each statement with a total score using the product moment correlation. According to Arikunto (2002), whether or not an item is valid is known by comparing the coefficient index of the product moment correlation formula (r_{count}) with its critical value, where r_{count} can be obtained from the following equation:

$$r_{hitung} = \frac{n \sum XY - (\sum X)(\sum Y)}{\sqrt{(n \sum X^2 - (\sum X)^2)(n \sum Y^2 - (\sum Y)^2)}}$$

Keterangan :

r_{hitung} = koefisien korelasi
 n = banyak sampel
 X = skor item X
 Y = skor item Y

Testing the validity of the research instrument was carried out by entering the items (points) of the respondents' answers to each variable into the calculation of the bivariate correlation of the SPSS program. The value of the correlation coefficient (r) between question items has a significant level below or equal to 0.05 ($\alpha = 5\%$) or (≥ 0.30), it is said that the statement items used in the research instrument are valid, otherwise if the correlation coefficient value (r) between statement items with a score above 0.05 ($\alpha=5\%$), then the statement items used are invalid.

3.10 Reality Test

Reliability test is a test that shows the extent to which a measuring instrument is reliable or trustworthy. Instruments that are trusted and reliable will produce reliable and reliable data, so that no matter how many times they are taken, the results will remain the same. According to Arikunto (2002), to test the reliability of a research instrument, the following equation is used :

$$r_{11} = \left(\frac{k}{k-1} \right) \left(1 - \frac{\sum a_b^2}{a_1^2} \right)$$

Keterangan :

r_{11} = instrument reliability
 k = the number of questions or the number of questions
 a_b^2 = number of item variances
 a_1^2 = total variance

Reliability test used with Alpha Cronbach. If the alpha is less than 0.6 then it is declared unreliable and vice versa if the alpha is greater than 0.6 then it is declared reliable.

4. Results

4.1 Brief Company Background

PT United Tractors Tbk as one of the companies with the largest market share engaged in heavy equipment distributor services also implements the Cost Reduction Program in various fields. One of the areas targeted for the implementation of the Cost Reduction Program is the Department of General Affairs. Cost Reduction Program is carried out with the aim of reducing expand, optimizing work processes and improving service to customers. The author conducted a study to see the impact of the cost reduction program carried out on customer satisfaction within the scope of the General Affairs Department. The implementation of the program to be discussed is limited to Transportation Service activities

4.2 Respondent Profiles

1. Gender of Respondent

According to the results of research that has been done, from 250 respondents there are 166 people who are male with a percentage of 66.4% and 84 people are female with a percentage of 33.6%. The results showed that the majority of respondents were male. Respondent profile data based on the gender of the respondent is presented in the table :

Table Description of Respondents by Gender

Gender	Total (Person)	Percentage (%)
Male	166	66.4
Female	84	33.6
Total	250	100

2. Description of Respondents by Age

The description of the respondents based on the age of the respondents showed that most of the respondents aged between 33-40 years were 117 people with a percentage of 46.8%. Respondents aged between 41 - 48 years were 63 people with a percentage of 25.2%. In addition, respondents aged between 25 - 32 years were 58 people with a percentage of 23.2%. Respondents aged between 49 – 56 years were 12 people with a percentage of 4.8%. Obtaining these data shows that most of the respondents are between the ages of 33 – 40 years. Respondent profile data based on age can be seen in Table

Table Description of Respondents by Age

Age (Years)	Total (Person)	Percentage (%)
25-32	58	23.2
33-40	117	46.8
41-48	63	25.2
49-56	12	4.8
Total	250	100

3. Respondent Group

Data on the type of work shows that the highest percentage of respondents is 50% in the type of work as non-managerial employees as many as 125 people. Another job of the respondents, namely managerial, was obtained by 50 people with a percentage of 20%. In addition, 33 people obtained Subcon jobs with a percentage of 13.2%. Other jobs, namely Contractors, obtained as many as 25 people with a percentage of 10%, Vendors obtained as many as 8 people with a percentage of 3.2%, and other jobs obtained by 9 people with a percentage of 3.6%. Data collection shows that most of the respondents are non-managerial, because the respondents have a more modern thought that the use of transportation equipment owned by UT for official travel Respondent profile data based on occupation can be seen in Table

Table of Respondents Profile Based on Occupation

Sub Job	Total (Person)	Persentase (%)
Contractor	25	10
Vendor	8	3.2
Subcon	33	13.2
Non Managerial	125	50
Managerial	50	20
Others	9	3.6
Total	250	100

Based on the data on the sex of the respondents, the age of the respondents, and the occupations of the respondents, a cross table can be made. Respondents with contractor work, male gender and aged between 33 - 40 years were 17 people (6.8%) while there were none female respondents. Respondents with contractor work, male sex and aged between 41 - 48 years as many as 4 people (1.6%) while there are no female respondents. Respondents with contractor jobs, male sex and aged between 49 - 56 years as many as 4 people (1.6%) while there are no female respondents. There are no respondents with Contractor jobs, aged between 25 – 32 years, both male and female. Respondents with Vendor jobs are male and aged between 41 - 48 years as many as 4 people (3.2%) while there are no female respondents. There are no

respondents with a job as a vendor between the ages of 25 – 32, 33 – 40, and 49 – 56, both male and female. Respondents with Subcon jobs, male and aged between 33 - 40 years as many as 29 people (11.6%) while there are no women. Respondents who work as Subcon, are male and aged between 41 - 48 years as many as 4 people (1.6%) while there are no women. There are no respondents who work as Subcon, aged between 25 – 32 years and 49-56 years, both male and female. Respondents with non-managerial jobs, male and aged between 33-40 years as many as 38 people (15.2%) While there were 13 women (5.2%). Respondents with non-managerial jobs, male and aged between 41-48 years as many as 21 people (8.4%) while female respondents as many as 8 people (3.2%). Respondents with non-managerial jobs, male and aged between 25-32 years were 8 people (3.2%) while female respondents were 33 people (13.2%). Respondents with non-managerial jobs, male and aged between 49-56 years were 4 people (1.6%) while there were no female respondents. Respondents who work as Managerial, male and aged between 33-40 years as many as 21 people (8.4%) while female respondents as many as 4 people (1.6%). Respondents who work as Managerial, male sex and aged between 25 - 32 years as many as 8 people (3.2%) while 4 women (1.6%). Respondents who work as Managerial, male sex and aged between 41 - 48 years as many as 4 people (1.6%) while women are 9 people (3.6%). There are no respondents who work as Managerial, both male and female, aged between 49 – 56 years. Respondents who work in other categories, are male and aged between 25 - 32 years as many as 4 people (1.6%), respondents who work in other categories, are male and aged between 41 - 48 years as many as 5 people (2%), while there are no female respondents. There are no respondents who work in other categories, aged between 25 - 32 years and 33 - 40 years, both male and female. Based on the cross table, most of the respondents work as non-managerial with ages between 33-40 years and are male. This shows that adult men with jobs as private employees. Cross table (cross table) gender, occupation and age can be seen in Table

Cross Table Gender, Occupation and Age

Age and Gender Job Status	Age 35-32		Age 33-40		Age 41-48		Age 49-56		Total
	M	F	M	F	M	F	M	F	
Contractor	0	0	17	0	4	0	4	0	25
Vendor	0	0	0	0	8	0	0	0	8
Subcon	0	0	29	0	4	0	0	0	33
Non Managerial	8	33	38	13	21	8	4	0	125
Managerial	8	4	21	4	4	9	0	0	50
Others	4	0	0	0	5	0	0	0	9
Jumlah	20	37	105	17	46	17	8	0	250
Persentase (%)	8	14.8	42	6.8	18.4	6.8	3.2	0	100

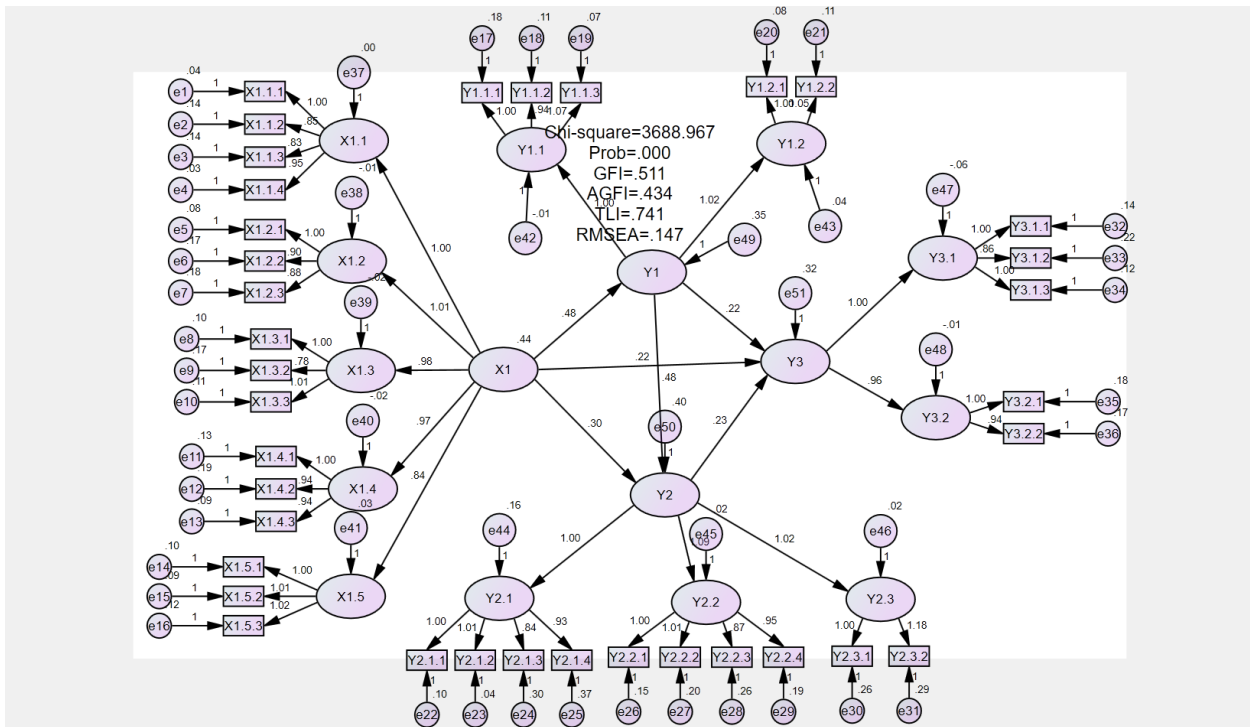


Figure 1 Model before modification

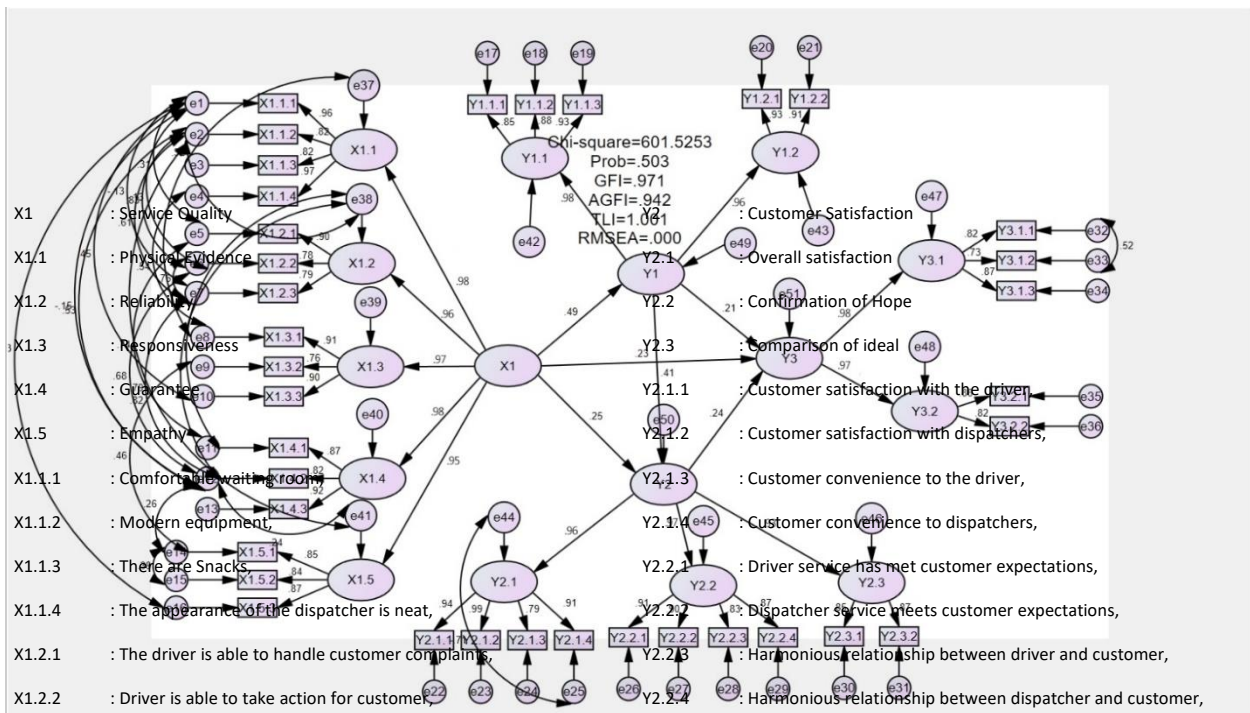


Figure 2 Model after modification

- X1.2.3 : Dispatcher Ability,
- X1.3.1 : Driver responsive to customers,
- X1.3.2 : Driver enthusiastic about customer,
- X1.3.3 : Dispatcher is responsive to customers,
- X1.4.1 : Professional driver attitude,

4.3 Hypothesis Testing

Hypothesis testing in this study was carried out by looking at the Amos output results at the

- Y2.3.1 : Customers are satisfied with the overall performance of the driver,
- Y2.3.2 : The customer is satisfied with the dispatcher's overall performance
- Y3 : Customer Loyalty
- Y3.1 : Recommend Friend
- Y3.2 : Continue Use
- Y3.1.1 : The customer conveys the advantages of the service to others,
- Y3.1.2 : The customer invites others to use the service,
- Y3.1.3 : Customers recommend services to others,
- Y3.2.1 : Customers prefer UT transportation services,
- Y3.2.2 : Customers only believe in UT

estimated path coefficient value and the Critical Ratios (CR*) value > 1.96 which was calculated through the help of the AMOS program with a significant level of alpha 0.05 as shown in Table 15 :

No.	Path Coefficients			
		Estimate	SE	CR
1	Service Quality (X1) → Customer Value (Y1)	0,489	0,063	7,936*
2	Service Quality (X1) → Customer Satisfaction (Y2)	0,250	0,075	3,857*
3	Customer Value (Y1) → Customer Satisfaction (Y2)	0,408	0,079	5,827*
4	Service Quality (X1) → Customer Loyalty (Y3)	0,225	0,067	3,418*
5	Customer Value (Y1) → Customer Loyalty (Y3)	0,213	0,070	2,979*
6	Customer Satisfaction (Y2) → Customer Loyalty (Y3)	0,243	0,061	3,480*
CR* = significant at 5% level				

Tabel 1 Structural Model

Based on Table 16, the overall test of the relationship between variables shows that the six paths have a significant positive relationship. The description of the research hypothesis is as follows:

4.4.10.1.1 H1: Service quality has an influence on customer value. Service quality has an influence on customer value. Service quality has a positive effect on customer value with a path coefficient value of 0.900 and a CR of 7.936 (CR > 1.96), so the test can be said to be significant, so H0 is rejected. This shows that the better the quality of service, the value for customers will increase

4.4.10.1.2 H2: Service quality has an influence on customer satisfaction. Service quality has a positive effect on customer satisfaction with a path coefficient value of 0.250 and a CR of 3.857 (CR > 1.96), so the test can be said to be significant, so H0 is rejected. This shows that the better the service quality, the higher customer satisfaction.

4.4.10.1.3 H3: Customer value has an influence on customer satisfaction. Customer value has a positive effect on customer satisfaction with a path coefficient value

of 0.408 and a CR value of 5.827 ($CR > 1.96$), so the test can be said to be significant, so H_0 is rejected. This shows that the better the value perceived by the customer, the higher the customer satisfaction.

4.4.10.1.4 H_4 : Service quality has an influence on customer loyalty. Service quality has a positive effect on customer loyalty with a path coefficient value of 0, 225 and a CR value of 3,418 ($CR > 1.96$), so the test can be said to be significant, so H_0 is rejected. This shows that the better the quality of service, the more customer loyalty increases.

4.4.10.1.5 H_5 : Customer value has an influence on customer loyalty. Customer value has a positive effect on customer loyalty with a path coefficient value of 0.213 and a CR of 2.979 ($CR > 1.96$), so the test can be said to be significant, so H_0 is rejected. This shows that the better the customer value, the more customer loyalty increases.

4.4.10.1.6 H_6 : Customer satisfaction has an influence on customer loyalty. Customer satisfaction has a positive effect on customer loyalty with a path coefficient value of 0.243 and a CR value of 3.480 ($CR > 1.96$), so the test can be said to be significant so that H_0 is rejected. This shows that the better the customer satisfaction, the customer loyalty increases.

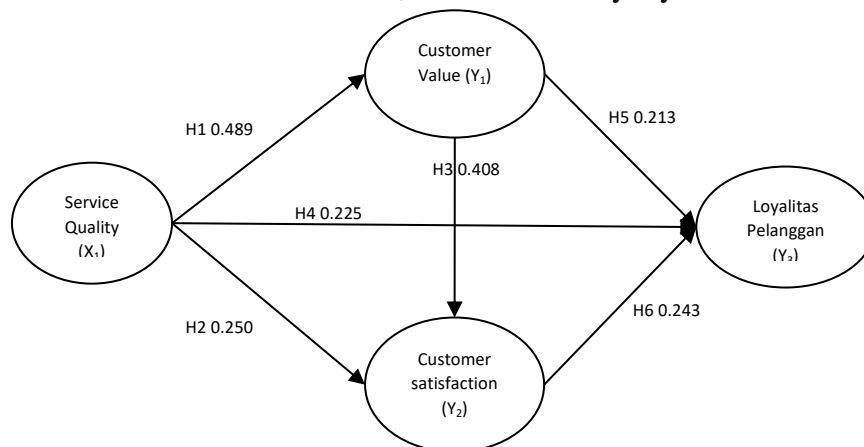


Figure 3 Structural Model of Research Results

5 Discussion

Descriptive analysis is done by interpreting the highest value (mode) of each indicator on the research variable. The highest value (mode) of each indicator and variable serves to provide an overview of the indicators and variables that build the overall concept of the research model. This study discusses descriptive analysis with four variables, namely one independent variable and three dependent variables.

4.4.11.1.1 Discussion of Service Quality Variables

Service quality focuses on efforts to fulfill customer needs and desires and the accuracy of delivery to balance customer expectations, it can be said that service quality is the customer's response to the service it receives. If the quality of service received by the customer is better or the same as expected, the customer tends to repeat using the services of the clinic. However, if it is the other way around, the customer will be disappointed and stop his relationship with the service.

In this study, the service quality variable was measured by five indicators. The results of the descriptive analysis show that the highest value (mode) for the service quality variable is agree with a score of 4. This means that most of the respondents agree with the statement on the transportation service quality variable. The highest value (mode) is obtained from the sum of the most values (mode) of the indicators in the service quality variable.

The first indicator of the service quality variable is Physical Evidence (X1.1), in this case the physical facilities of transportation services. These physical facilities include a comfortable waiting room, the use of modern equipment in transportation services, lots of snacks for customers and attractive-looking dispatchers. Most of the respondents who chose the answer agreed indicated that the majority of respondents agreed with the physical facilities provided by transportation services at UT. Aspects of physical facilities are very important as a measure of service, because respondents will use the sense of sight to assess a service quality. Good physical facilities, will affect customer perceptions, because of good physical facilities, customer expectations will also be higher.

The second indicator is Reliability (X1.2) which includes the ability of drivers and dispatchers to provide good service. The majority of respondents gave answers strongly agree on the reliability indicator. This shows that the respondents gave a very good perception of the ability of drivers and dispatchers in providing services. Ability to provide services as expected by respondents, consistent and reliable.

The third indicator is Responsiveness (X1.3) which includes the responsiveness of drivers and operators to provide services to customers. Speed (responsiveness) is the willingness of drivers and operators to help and provide services quickly and meaningfully and enthusiastically to listen to and handle customer complaints. respondents gave an agree answer on the responsiveness indicator. This shows that respondents give a good perception of the ability of drivers and operators to provide services quickly and precisely.

The fourth indicator is Guarantee (X1.4) which includes assurance of trust and safety when customers use transportation services. Respondents want drivers to

be able to provide guarantees in the form of a sense of security and trustworthiness when using driver services and guarantees of trust when dispatchers provide services. respondents gave a very agree answer on the guarantee indicator which means that the respondent's desire to get driver and dispatcher services can be trusted and provides a sense of security guarantee is fulfilled. According to respondents, the guarantees provided by drivers and dispatchers are very good.

The last indicator is Empathy (X1.5) which is the attitude of empathy given by the driver and operator to the respondent. Empathy is one of the attitudes that can support that the quality of service is said to be good because the drivers and operators pay attention and are able to create an atmosphere of intimacy and build good communication with customers. respondents gave an agree answer on the empathy indicator. This shows that the respondents gave a good perception of the attention given to the driver and operator.

4.4.11.1.2 Discussion of Customer Value Variables

Customer value is the respondent's overall assessment of the usefulness or benefits of a service based on his perception of what is received and what is provided. In this study, the Customer Value variable (Y1) was measured using two indicators, namely Superiority (Y1.1) and Benefits (Y1.2). The results of the descriptive analysis show that the highest value (mode) for the customer value variable is agree with a score of 4. This means that most of the respondents chose the answer to agree with the statement in the customer value variable (Y1). The first indicator of the customer value variable is the Superiority indicator (Y1.1), which includes transportation facilities that are better than others, the costs incurred by the customer are acceptable, and the information provided by the driver is valuable. The majority of respondents gave an agree answer on the superiority indicator. This shows that respondents give a good perception of the main priority that transportation is better and more valuable than other driver's clinics according to the costs incurred.

The second indicator is Benefit (Y1.2) which includes the benefits provided by the service. The majority of respondents gave an agree answer on the benefits indicator. This shows that respondents give a good perception of the benefits of the existence and transportation services. Respondents consider that transportation services have provided great benefits in meeting the needs of their customers.

4.4.11.1.3 Discussion of Customer Satisfaction Variables

Customer satisfaction has become a major concept in the transportation service industry because satisfaction is the result of customer assessment of the services provided. In this study, the customer satisfaction variable was measured using three indicators, namely overall satisfaction (Y2.1), Confirmation of Expectations (Y2.2) and Comparison of Ideal (Y2.3). The results of the

descriptive analysis show that the highest value (mode) for the customer satisfaction variable is agree with a score of 4. This means that most of the respondents chose the answer to agree with the statement in the customer satisfaction variable (Y2).

The first indicator of the customer satisfaction variable is the Overall Satisfaction indicator (Y2.1) which includes the satisfaction and comfort felt by customers with the services provided by the driver and dispatcher. The majority of respondents gave an agreeable answer to the overall satisfaction indicator. This shows that the respondents gave a good perception of the services provided by the driver and dispatcher because the respondents felt happy and satisfied after the visit. Apart from being satisfied, respondents also feel comfortable using the services of a driver and dispatcher.

The second indicator is Confirmation of Expectations (Y2.2) which includes the service of the driver and dispatcher meeting the expectations of the respondent and establishing a harmonious relationship between the respondent and the driver and dispatcher. The majority of respondents gave an agreeable answer to the expectation confirmation indicator. This shows that the respondents gave a good perception of the services of drivers and dispatchers. Respondents feel that the driver and dispatcher services have met their expectations and there is a harmonious relationship between the two parties.

The last indicator on the customer satisfaction variable is the Comparison of Ideal (Y2.3) which includes overall satisfaction with the driver's and dispatcher's performance in proportion to the respondent's expectations. The majority of respondents gave an agreed answer on the comparison of ideal indicator. This shows that respondents give a good perception of the overall performance of drivers and dispatchers as expected. Satisfaction has a great contribution and benefit, namely the creation of repeat use in the future and increasing UT's reputation.

4.4.11.1.4 Discussion of Customer Loyalty Variables

The customer loyalty variable (Y3) in this study was measured using two indicators, namely Recommend Friend (Y3.1) and Continue Use (Y3.2). The results of the descriptive analysis show that the highest value (mode) for the customer loyalty variable is agree with a score of 4. This means that most of the respondents chose the answer to agree with the statement in the customer loyalty variable.

The first indicator, namely Recommend friend (Y3.1) includes the availability of customers to invite and recommend transportation services to others. The majority of respondents gave an agreeable answer to the recommend friend indicator. This shows that respondents give a very good perception of its

availability to invite and recommend transportation services as a very good service to use. Transportation services at UT have paid attention to their customers in an effort to create behavior and interest in order to remain customers of UT. The benefits obtained if loyal customers are to encourage word of mouth promotion, especially for satisfied customers so that later customers will remain loyal and add to the good image of UT. Customers will voluntarily share the advantages and recommend services to others.

The second indicator, namely Continue Use (Y3.2) includes the availability of respondents to prefer transportation services over other service units and respondents' trust only in transportation services. The majority of respondents gave answers strongly agree on the continue use indicator. This shows that respondents gave a very good perception of the choice of transportation services than other units and respondents' trust only in transportation services. It can be concluded that respondents are more confident and continue to choose transportation services over other service units even though there will be attractive offers from other units.

6. Conclusion

Based on the analysis of the discussion of research results and hypothesis testing carried out as described in the previous chapter, the following conclusions are obtained :

5.1.1 There is a significant positive effect between service quality variables on customer value. Customers judge that the perceived value and benefits are in accordance with the sacrifices that have been made in accordance with the quality of services provided. The quality of the services provided is able to generate value for customers, because the quality of these services produces greater benefits for customers when compared to the sacrifices that have been made by customers in obtaining benefits from these services. Value is created when a customer receives more than UT is supposed to provide. Transportation Services is a service industry, therefore service is a major factor in creating value for customers. A good level of service quality is very important for a service industry to be able to compete with competitors.

5.1.2 There is a significant positive effect between service quality variables on customer satisfaction. Customers who enjoy and consume transportation services feel satisfied with the services provided both in terms of facilities and from the driver and dispatcher. Therefore, the satisfaction felt by customers with transportation services is determined by the quality of the services provided, the

better the quality of services provided, the impact on the satisfaction felt by customers. The relationship between service quality and satisfaction cannot be separated from the creativity of transportation services that must be able to identify who is the customer to realize a quality service that leads to satisfaction so that they are able to understand the level of perceptions and expectations of their customers on service quality.

5.1.3 There is a significant positive effect between customer value variables on customer satisfaction. The effect of the customer value variable on customer satisfaction shows that the value has an impact on satisfaction. Customers feel that the services provided by the clinic are very valuable and provide great benefits. Customers also feel that the form of sacrifice incurred is in accordance with the quality of service provided so as to create satisfaction in the customer. Transportation services at UT are considered capable of increasing added value for customers so as to create a sense of satisfaction for customers. The quality, benefits and sacrifices (money, time and effort) provided are a reflection of the value of getting a service. A service is said to have a high or good value in the eyes of its customers if it is able to provide the minimum possible sacrifice with the maximum possible quality and benefits.

5.1.4 There is a significant positive effect between service quality variables on customer loyalty. Customers who consume and enjoy good transportation services lead to loyalty. Good service quality can make customers make repeated use in the future and recommend this service to the people closest to the customer. Loyalty is a commitment to continue to use transportation services even though it is influenced by the situation and offers made by other business units and has the potential for switching customers. UT must hire the right people and experts to serve its loyal customers because those who will contribute make repeat use and recommend to others or not. Loyal customers are very valuable to UT and competitors generally find it difficult to seize them. Loyal customers make good marketers. This is demonstrated by the recommendation process to others and contributes greatly to UT's profits because loyal customers influence the usage patterns of other customers and the free recommendations provided given to someone else. A business can be said to be successful if it manages to get, retain, and grow customers.

5.1.5 There is a significant positive effect between customer value variables on customer loyalty. This shows that the better the customer value, the loyalty will also increase.

5.1.6 There is a significant positive effect between the variables of customer satisfaction on customer loyalty. This shows that the better the value of customer satisfaction, the loyalty will also increase.

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References

Aaker, David. (1997). *Manajemen Ekuitas Merek*. Jakarta, Spektrum Mitra Utama.

Akbarina, Farida. (2013). *Pengaruh Citra Perusahaan (Corporate Image) dan Penanganan Keluhan (Complaint Handling) Terhadap Kepuasan (Satisfaction), Kepercayaan (Trust) serta Loyalitas (Loyalty)*. Tesis, Fakultas Ilmu Administrasi Bisnis, Universitas Brawijaya.

Alfin, Rita. (2013) *Pengaruh Kualitas Layanan dan Kualitas Produk terhadap Citra Perusahaan, Kepuasan, Nilai, Kepercayaan dan Loyalitas Pelanggan (Studi pada Nasabah Tabungan Plus (Taplus) BNI Provinsi Jawa Timur)*. Disertasi, Fakultas Ilmu Administrasi Bisnis, Universitas Brawijaya.

- Arikunto, Suharsimi. (2002). *Prosedur Penelitian Suatu Pendekatan Praktek*. Edisi Kelima. Jakarta, Rineka Cipta.
- Barnes, James G. (2003). *Secrets of Customer Relationship Management*. Diterjemahkan oleh Andreas Winardi, S.Pd. Andi. Yogyakarta.
- Chaniotakis, Ioannis E. and Constantine Lymperopoulos. (2009). *Service Quality Effect on Satisfaction and Word of Mouth in the Health Care Industry*". *Managing Service Quality*, Vol. 19, No. 2, 2009, pp.229-241.
- Cooper, Donald R. and C. William Emory. (1996). *Metode Penelitian Bisnis*. Jilid ke 1, Edisi Kelima. Alih bahasa Ellen Gunawan dan Imam Nurmawan. Jakarta, Erlangga.
- Djajanto, Ludfi. (2014). *Pengaruh Self-Service Technology, Kualitas Layanan, dan Relationship Marketing terhadap Nilai Nasabah, Kepuasan dan Loyalitas Nasabah (Studi pada Nasabah BNI Taplus di Provinsi Jawa Timur)*. Disertasi, Fakultas Ilmu Administrasi Bisnis, Universitas Brawijaya.
- Engel, James F., Roger D. Balckwell, dan Paul W. Miniard. (1995). *Perilaku Konsumen*, Jilid 1 dan Jilid 2. Edisi Ke enam. Alih Bahasa Drs. F.X Budiyanto. Jakarta, Binarupa Aksara.
- Ferdinand, Augusty. 2006. *Metode Penelitian Manajemen*. Edisi Kedua, Semarang, Universitas Diponegoro.

Analysis Usage of Social Media Marketing Towards Customer Trust, Customer Intimacy and Purchase Intention Based on High Street Fashion Brand

(Case Study of Forever 21 in Jakarta)

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ABSTRACT

In this era of globalization, the business competition is very competitive especially on how each company makes their strategy to market their products. That's why the author decide to make the purpose of this study is to analyse usage of social media marketing towards customer trust, customer intimacy and purchase intention. Quantitative method was applied to this research and was conducted of customers of brand Forever21 in Jakarta area, by using questionnaire as the data. The number of samples that has been obtained in this research is 30 respondents for the pre-test and 140 respondents for the actual data. The tools used in data processing is PLS-SEM Smart PLS 3.3.2 and the result of the research conclude that usage of social media marketing does influence customer trust, usage of social media marketing influence customer intimacy, customer trust does influence purchase intention, customer intimacy does influence purchase intention, usage of social media marketing does not influence purchase intention, usage of social media marketing does influence on purchase intention through customer trust, usage of social media marketing does influence on purchase intention through customer intimacy

Type of Paper: Empirical

Keywords: social media marketing activities, customer trust, customer intimacy, purchase intention

1. Introduction

These days, the Internet is taking a big role in consumer's daily life, a lot of people are using the Internet for their interests such as information, and also has become their online purchasing process (Tran, 2014). Brands have to incessantly re-innovate, re-evaluate, re-invent their value offerings and products to deliver the advantages consumers genuinely desire to survive competitive advantages. To be categorized differently, the businesses need to achieve and become a brand that offers customer their services and products in their ways so that this will be different from other companies. The greater the communication between companies and consumers, the higher the chance of consumer's brand preference and brand loyalty. The fashion industry's export capacity increased from 2016-2017 to 8.7% based on data from the Ministry of Industry. According to the results of a survey from the Central Statistics Agency (BPS), it is known that the fashion industry accounts for 56% of the creative industries of total exports compared to other sub-sectors. Indonesian people, these days are following the development of fashion trends and very well aware of. Furthermore, social media is only based on web-based and mobile technologies to connect, share, and discuss with highly interactive platforms. It provides pervasive and substantial development to communication between organizations, communities, and individuals (Kaplan & Haelein, 2010).

In October 2019, Forever 21 announced that a globally recognized company with 800 stores worldwide, was bankrupt. They closed 178 stores in the US, losing their appetite for fast fashion, and avoiding the possibility of surviving in the same industry (Forbes, 2019). Contrasting H&M and Zara, who keep updating the purpose, product selection, quality, and overall brand relevance to make more engagement with customers on social media, Forever 21 decided not to update its manufacturing process (Forbes, 2019). The reasons for bankruptcy are an unprofitable market, expensive to store rental costs, and being eroded by online retailers so that people prefer to shop online. (Kompas, 2019). This brand should focus on what their competitors are doing on the e-commerce platform, which took the fame from Forever 21 and made them famous. It might be social media, that presents the biggest problem for Forever 21 as it moves forward. This study also investigated how customers' use on platforms such as Facebook, Instagram, and Twitter could influence customer relationship construction, such as trust. then it became a buying intention related to high-end fashion brand social media marketing properties. Thus, high-street fashion brands are exciting because of lower purchasing

power, cultural influences that must be taken into account, intense competition, the short life cycle of each seasonal collection, and consumer preferences changes (Tont, 2014). The researcher decided to analyze social media's influence on customer trust, purchase intention, and intimacy in this study.

1.1 Reseach Questions

Based on the research problem therefore the following questions can be formulated into three questions which are:

1. Does the usage of social media marketing influence customer trust?
2. Does the usage of social media marketing influence customer intimacy?
3. Does customer trust influence purchase intention?
4. Does customer intimacy influence purchase intention?
5. Does the usage of social media marketing influence purchase intention?
6. Does usage of social media marketing influence on purchase intention through customer trust?
7. Does usage of social media marketing influence on purchase intention through customer intimacy

1.1 Reseach Objectives

Based on the research questions that have been formulated, therefore these are the research objectives:

1. To analyze whether the usage of social media marketing influence customer trust
2. To analyze whether the usage of social media marketing influence customer intimacy
3. To analyze whether the usage of social media marketing influence purchase intention
4. To analyze whether customer trust influence purchase intention
5. To analyze whether customer intimacy influence purchase intention
6. To analyze whether usage of social media marketing does influence on purchase intention through customer trust
7. To analyze whether usage of social media marketing does influence on purchase intention through customer intimacy

2. Literature Review

The internet today connects hundreds of millions of people and plays an essential role in leisure, social life, and work. (Hamburger and Ben-Artzi, 2000). Nie, Hillygus, and Erbring (2002) explain the less time they spend with family and friends because they spend more time on the Internet at home. It was found that there was a reduction of about one-third from one minute spent with family members for every minute participants spent on the Internet during the previous 24 hours. The same goes for their use of the Internet at work, the less time they spend interacting with co-workers, the more time people spend on the Internet at work (Kane, Alavi & Labianca, 2014).

2.1 Social Media Marketing

Social media has really influenced customer trust and the desire to buy a product that needed or what they have been looking for, but sometimes it can be just a wants not a needs (Lu and Hsiao, 2010, Hajli, 2013). Tsimonis and Dimitriadis (2014) found that social media has become a popular media tool among businesses to create fast-growing companies or brands that control and take an essential business strategy role. In developing online brand experiences and engaging with their target consumers, brands need to know and understand offline and online consumer behavior (Woodcock et al. 2011). Greenberg (2010) explains that SCRM is a business strategy that engages customers through social media with the aim of building trust and brand loyalty. Brands on social media should focus on facilitating customer desires and providing them with a good experience (Baird and Parasnins, 2011).

2.2 Intimacy and Trust

Albert, Merunka, Valette-Florence (2013) introduced passion for enthusiasm, madness, and even consumer obsession with a brand. In other words, intimacy lasts longer than other emotional relationships and is knowledge accumulated over time (Kim and Ko 2010). On the other hand, trust is a critical component of enhancing the relationship between consumers and brands in the long run. It refers to the degree of tendency to believe in a particular brand's ability to perform its promised functions (Kim and Ko 2010). The intention to buy and recommend can be developed through positive behavior towards the brand (Kim and Ko 2010). This intimacy and trust will lead the customer to engage through the brand or company because they already develop a communication relationship. It is just how the company maintains that relationship with the customers.

2.3 Purchase Intention

Purchase intention is defined as the probability and future purchase decision. Companies must understand consumer buying behavior as essential to attract and retain their customers (Ko, Kim, and Zhang, 2008). Attitudes and preferences towards a brand or product are closely related to customer purchase intentions (Kim and Ko, 2010; Kim and Lee, 2009). Purchase intention is usually influenced by relationships manufactured because the customer relationship is constructed based on a brand. Mirabi, Akbariyeh, and Tahmasebifard (2015) introduce that the most critical factors contributing to consumer purchase intentions consist of the quality of the product, brand, and advertisement. These factors are why companies invest more on the marketing site to achieve more gain from customers.

3. Research Methodology

There are seven hypotheses that has been developed in this research.

3.1 Hypotheses Development

Consumer responses to various trust interactions play an essential role in translating marketers' efforts into equity and loyalty and impact online activities (Tatar and Eren Erdogmus, 2016). Pentina, Zhang, and Basmanova (2013) revealed that a compatibility between social media is related to trust in the site and user personality. Kim and Park (2013) investigated the mediating role of trust in the relationship between behavioral intention attributes and social trading. Furthermore, Tatar and Eren-Erdogmus (2016) stated that brand trust and brand loyalty influence social media marketing in the tourism sector. Trust drivers are essential because they are judged by a clear website, website security, collaboration, and online interactivity.

H₁ : Usage of social media marketing does influence on consumer trust

Intimacy has been linked to the level of social presence available in various media. It refers to how close individuals feel to similar online communication users based on the literature of online marketing and information systems (Kumar and Benbasat, 2002). Leaper (2011) believes that understanding consumer preferences and interests serves to design successful marketing strategies, such as developing brand intimacy through monitoring social media platforms to obtain data.

H₂ : Usage of social media marketing does influence on consumer intimacy

Sultan and Mooraj (2001) state a strong correlation in online and offline businesses regarding trust and purchase intention. Trust is essential in the context of online business. Users can rate the online platform's services and consider that the services offered are safe if it is deemed to be safe. Purchase intention arises, and they will start the buying process. Moreover, McKnight and Chevary (2002) state that trust is an important subject discussed before deciding to buy a product, especially in an online environment.

H₃ : Customer trust does influence purchase intention

The importance of familiarity requires companies to redesign the interaction between customers and staff (Yim, Tse, and Chan, 2008). Loyalty is built between service firms and customers through two service contexts that examine affectionate bonds' role. The findings suggest that intimacy and passion are needed to build loyalty and cultivate bonds of affection. Lee and Kwon (2011) describe the affective concepts of closeness and intimacy. In addition, emotional influences such as intimacy are greater than cognitive factors such as perceived usefulness. Besides, the results show that the effect of intimacy on the user's continuous intention is greater than the influence on intimacy. However, Brock and Zhou's (2012) findings indicate that customer intimacy positively affects repurchase intentions.

H₄ : Customer intimacy does influence purchase intention

Purchase intention is closely related to preferences for a brand or product and consumer attitudes (Kim and Ko, 2010; Kim and Lee, 2009). application in purchase process as a mean to create awareness and support purchase decision. The shift of brands to social media serves as a means of communication, sales, and customer relations. Sharing information and opinions is very suitable for two-way communication platforms (Adi, Najhila, and Sanny, 2020). Moreover, purchase intention is also influenced by Social Media Marketing Activities (Kim and Ko, 2010)

H₅ : Usage of social media marketing does influence on purchase intention

Social media facilitates exchanging information through texts, films, pictures, discussion forums, blogs, e-mails and chat rooms (Mangold and Faulds, 2009). Social media provides opportunities for marketers to access valuable information that maintains feedback to consumers and influences relationship building, which can be seen as a marketing tool and

resource (Golden, 2011). In other words, intimacy is a problem that lasts longer than other emotional relationships and is the knowledge that is accumulated over time (Kim and Ko 2010).
H₆: Usage of social media marketing does influence purchase intention through customer trust

4. Methodology

This study is an empirical research with cross-sectional approach. It was conducted in Jakarta with 163 respondents.

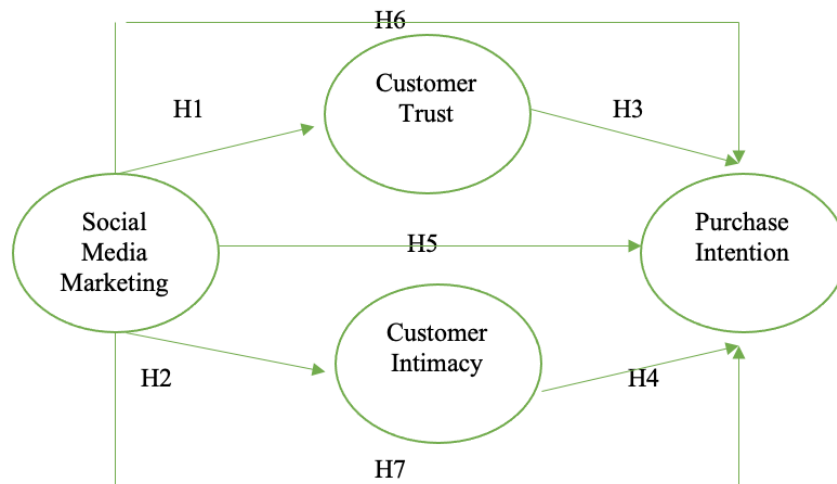


Figure 1 : Research Model

The format was standardized using a 5-point Likert scale from “Strongly Disagree” which is number (1) and to “Strongly Agree” which is number (5).

This research are looking if some variables which is usage of social media marketing to know the depth of how effective the of customers trust, intimacy and intention to make a purchase also in finding out about the brand and can maintain the engagement between brands and customers. Several recent studies have analysed that the use of social media in terms of trust, loyalty, brand value, and brand communication that appears on social media is built on purchase intention through online and offline markets. (Nagel and Santos 2017; Hu, and Rahman 2013; Schivinski and Dabrowski 2016; Brynjolfsson Hajli 2014).

In this study, inferential statistics are used to describe two-variable relationships, namely independent variable social media marketing and dependent variables customer loyalty, purchase intention and customer trust.

According to Hair et al. (2014, 97), convergent validity includes factor loadings and AVE whereas the factor loadings considered as valid should be greater than 0.70, AVE should be

greater than 0.50. While for the reliability test, the measurement should be done by composite reliability which should be greater than 0.70 (Hair et al., 2014, 98). Also, according to *Cronbach's alpha*, if the alpha value is 0.7-0.9 then all items are considered reliable and all tests constantly have strong reliability. If alpha is more than 0.9, it can be said to be perfect, but if there are items that have an alpha value below 0.7 then the reliability is low and that means there may be some items in the instrument that are not reliable. SEM (Structural Equation Modeling) was used for testing the hypotheses. The use of SEM allows researchers to conduct tests on the form of a single relationship (simple regression), multiple regression, relationship recursive and reciprocal relationships, or even to latent variables as well as the observed variables measured directly (Irwan and Idris, 2014).

5. Results

The total respondents is 163, 122 respondents (74.8%) were female and male with a total of 41 respondents (25.2%). Majority of respondents were aged 18-19 years as many as 41 respondents (25.2%) with the most used social media is Instagram (66.3%). (85.9%) of respondents are aware of fashion brand Forever 21, with the average of time in Forever 21 social media is less than 1 hour per day (43.6%).

As for the average of time that they spend on social media, 58 respondents (41.4%) spend their time on Facebook less than 1 hour per day, followed by 51 respondents (36.4%) spend their time on Twitter less than 1 hour per day, and 58 respondents (42%) spend their time on Instagram more than 3 hours per day.

Each indicator has different factor loadings and all of those meet the requirements and considered as valid and reliable. In the social media marketing (Entertainment) variable, the highest factor loading value is obtained by E1 (0.976), followed by social media marketing (Consumer Engagement) variable, CE3 (0.975) is the highest value of factor loading. Next, in the social media marketing (Self Constructed based on Netnography) variable obtained SCN2 (0.986) as the highest value of factor loading. Social media marketing (Word of Mouth) variable obtained WOM3 (0.998) as the highest value of factor loading. While in customer trust variable, the highest factor loading is obtained by CT1 (0.882) and customer intimacy variable obtained CI3 (0.918) as the highest factor loading, lastly in purchase intention variable obtained PI2 (0.892) as the highest factor loading. the variables meet the composite reliability requirements which are greater than 0.70 whereas social media marketing variable has the

highest composite reliability value of 0.995 and customer trust variable has the lowest composite reliability value of 0.855 but still considered as reliable.

Table 1 : Result

Hypothesis	t-value	p-value	Decision
H1: Usage of social media marketing does influence on customer trust	47.673	0.000	Accepted
H2: Usage of social media marketing does influence on customer intimacy	80.636	0.000	Accepted
H3: Customer trust does influence on purchase intention	4.114	0.000	Accepted
H4: Customer intimacy does influence on purchase intention	3.293	0.001	Accepted
H5: Usage of social media marketing does influence on purchase intention	0.739	0.460	Rejected
H6: Usage of social media marketing does influence on purchase intention through customer trust	4.270	0.000	Accepted
H7: Usage of social media marketing does influence on purchase intention through customer intimacy	3.262	0.001	Accepted

6. Discussion and Conclusion

Research by Kim and Ko (2010) states that social media is an efficient marketing media activity and affects positively related to attitudes or responses to future purchases. This research is worth trying because at this time and the future, social media marketing is about to influence brand equity in the fashion industry. In the future, fashion brands want to use social media more and reduce traditional marketing because they require large payments. Another major

alibi is research that examines social media marketing affecting brand equity in the Forever fashion brand forever 21. A positive brand image can have a good impact on citizens, thereby increasing brand equity. Social media marketing is used to build brand equity by an industry. Social media or social media regulatory systems, marketing activities can increase brand equity for consumers. This results in this research indicate that usage of social media marketing is significantly influence both trust and intimacy. But to significantly influence purchase intention it's better to have an intervening variable, and in this case trust and intimacy can be the intervening variables. These findings offer new insights for both research and managerial implications. Social media marketing is really an important tool for now to attract customers around the world, people can just sit back and relax while shopping and they can spend hours by looking at social media. So, in this era social media marketing play an important role for any brand, company, and startup to make their strategy. It can lead to purchase intention if the brand or company learn what is the customer buying behaviour and characteristics.

7. Limitation and Future Research

Every research carried out its own limitations, the expectation is that further research is conducted, researchers can overcome existing limitations in this study.

The first limitation is the sample population and used only be within the scope of a customer of Forever21 in Jakarta only. If there is a similar study, then we recommend the number of its sample is added so that it can represent the larger population of customer of Forever21 in Indonesia.

The second limitation is the limitations of time in processing data into SmartPLS 3.3.2 where researchers only use free trial so only could use SmartPLS 3.3.2 maximum one month, whereas more from that must pay per month or per year.

And third, this study only focus on two intervening variables that leads into purchase intention. Further research is expected to be able to take advantage of this study to be further developed and tested again with other dependent variables, independent variables and intervening variables or add appropriate variables and also can use different methods and different type of processing data. The author hopes that the next research can include the best questions in the questionnaire so that they will get the best results.

References

- Albert, N., Merunka, D., & Valette-Florence, P. (2013). Brand passion: Antecedents and consequences. *Journal of Business Research*, 66(7), 904-909. doi:10.1016/j.jbusres.2011.12.009
- Baird, C. H., & Parasnis, G. (2011). From Social Media to Social Customer Relationship Management. *Strategy and Leadership*, 39(5), 30-37. doi:10.1108/10878571111161507
- Greenberg, P. (2010). The impact of CRM 2.0 on customer insight. *Journal of Business & Industrial Marketing*, 25(6), 410-419. doi:10.1108/08858621011066008
- Hair, J. F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European Business Review*, 26(2), 106–121. <https://doi.org/10.1108/EBR-10-2013-0128>
- Hajli, M. N. (2013). A study of the impact of social media on consumers. *International Journal of Market Research*, 56(3), 387-404.
- Hamburger, Y. A., & Hartzi, E. B. (2000). The Relationship Between Extraversion and Neuroticism and the Different Uses of the Internet. *Computers in Human Behavior*, 16(4), 441-449. doi:10.1016/S0747-5632(00)00017-0
- Kane, G. C., Alavi, M., & Labianca, G. (2014). What' different about social media networks? A framework and research agenda. *MIS Quarterly*, 38(1), 274-304.
- Kaplan, A., & Haenlein, M. (2010). Sers of the world, unite! The challenges and opportunities of Social Media. *Business Horizons*, 53(1), 59-68. doi: 10.1016/j.bushor.2009.09.003
- Kaplan, A., & Haenlein, M. (2010). Sers of the world, unite! The challenges and opportunities of Social Media. *Business Horizons*, 53(1), 59-68. doi: 10.1016/j.bushor.2009.09.003
- Kim, A. J., & Ko, E. (2010). Impacts of Luxury Fashion Brand's Social Media Marketing on Customer Relationship and Purchase Intention. *Journal of Global Fashion Marketing*, 1(3), 164-171. doi:10.1080/20932685.2010.10593068

- Kim, H. J., & Lee, H. (2009). The Effect of the Well-being Consumer Value Orientations, the Perceived Value and Brand Preference on Purchase Intention of the Environment-friendly Cosmetic. *Journal of Korean Society Clothing Industry*, 15(1), 327-348.
- Kim, S., & Park, H. (2013). Effects of various characteristics of social commerce (s-commerce) on consumers' trust and trust performance. *International Journal of Information Management*, 33(2), 318-332. doi:10.1016/j.ijinfomgt.2012.11.006
- Ko, E., Kim, K. H., & Zhang, H. (2008). A Cross Cultural Study of Antecedents of Purchase Intention for Sports Shoes in Korea and China. *Journal of Global Academy of Marketing Science*, 18(1), 157-177. doi:10.1080/12297119.2008.9707281
- Kumar, & Benbasat. (2002). Para-Social Presence and Communication Capabilities of a Web Site: A Theoretical Perspective. *E-Service Journal*, 1(3), 5. <https://doi.org/10.2979/esj.2002.1.3.5>
- Mangold, W. G. and Faulds, D. J. (2009). Social media: The new hybrid element of the promotion mix. *Business Horizons*, 54(2), 357-365.
- Mirabi, V., Akbariyeh, H., & Tahmasebifard, H. (2015). A Study of Factors Affecting on Customers Purchase Intention. *Journal of Multidisciplinary Engineering Science and Technology*, 2, 267-273.
- Nagel, M., & Santos, C. (2017). The Relationship Between Satisfaction with Complaint Handling and Repurchase Intentions: Detecting Moderating Influences in E-Tail. *Brazilian Business Review*, 14(5), 510–527. <https://doi.org/10.15728/bbr.2017.14.5.4>
- T., Tran. (2014, October). A status analysis of current digital marketing: A case study of Kauneusstudio FAB. Laurea University of Applied Science
- Tatar, Ş. B., & Eren-Erdogmuş, İ. (2016). The Effect of Social Media Marketing on Brand Trust and Brand Loyalty for Hotels. *Information Technology and Tourism*, 16(3), 249–263. <https://doi.org/10.1007/s40558-015-0048-6>
- Tont, D. (2019). Social media marketing: A gateway to consumers' wardrobe?
- Tsimonis, G., & Dimitriadis, S. (2014). Brand Strategies in Social Media. *Marketing Intelligence & Planning*, 32(3), 328-344. doi:10.1108/MIP-04-2013-0056

Woodcock, N., Green, A., & Starkey, M. (2011). Social CRM as a business strategy. *Journal of Database Marketing & Customer Strategy Management*, 18(1), 50-64. doi:10.1057/dbm.2011.7

Yim, C. K., Tse, D. K., & Chan, K. W. (2008). Strengthening Customer Loyalty Through Intimacy and Passion: Roles of Customer-firm Affection and Customer-Staff Relationships in Services. *Journal of Marketing Research*, 45(6), 741–756. <https://doi.org/10.1509/jmkr.45.6.741>

Appendix C. Questions

1. Social Media Marketing

No	Indicator	Element					
Social Media Marketing							
Entertainment			1	2	3	4	5
1	E1	The content found on brand Forever21’s social media seems interesting to see					
2	E2	It is fun to collect information on fashion items through brand Forever21’s social media					
3	E4	It is exciting to use brand Forever21’s social media					
4	E5	I feel happy when I’m scrolling through the feeds of brand Forever21’s social media					
Consumer Engagement			1	2	3	4	5
1	CE1	Brand Forever21’s social media inspires me					
2	CE3	Browsing brand Forever21’s social media is so absorbing that I forget about everything else					
3	CE4	It is possible to exchange opinions or conversation with other users through brand Forever21’s social media					
Self construct based on netnograohy			1	2	3	4	5
1	SCN1	When I am curious about latest fashion trends or fashion news I check out brand forever21’s social media					

2	SCN2	Brand Forever21's social media informs me on how I can dress like celebrities in an affordable manner					
3	SCN3	When I need fashion advice, I check out brand Forever21's social media for inspiration					
Word of Mouth			1	2	3	4	5
1	WOM3	I would like to share opinions on brands, items, or services acquired on Forever21's social media with my acquaintances.					
2	WOM4	I would like to upload contents from Forever21's social media to my social media					
3	WOM5	I would like to tell my friends if there is any discount or sale shown in Forever21's social media					

2. Customer Trust

No	Indicator	Element					
Customer Trust							
			1	2	3	4	5
1	CT1	I have a strong belief in Forever 21					
2	CT2	I know what to expect when I buy from Forever21					
3	CT4	Forever21's social media gives me a trustworthy impression					

3. Customer Intimacy

No	Indicator	Element					
Customer Intimacy							
			1	2	3	4	5
1	CI1	I am a true fan of Forever21					
2	CI2	I know Forever21 better than other brands					
3	CI3	Forever21 makes me comfortable with the products just by looking from social media					

	CI5	I have a high intention to become Forever21's customer					
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4. Purchase Intention

No	Indicator	Element					
Purchase Intention							
			1	2	3	4	5
1	PI2	I would buy product from Forever21 rather than any other brands					
2	PI4	I intend to keep buying from Forever21 for the foreseeable future					
3	PI5	Next time I buy a fashion product, I would be willing to pay more from Forever21					

The Influence of Brand Image, Trust and Price on Purchase Decision: A Case Study of Lion Air

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ABSTRACT

Lion Air dominates the Indonesia Airline market share, but the achievements are not followed by the company's good image. Mass media is filled with negative news for lion air services, this will impact the image of the company, and the customer confidence in using its services which will theoretically impact purchase decisions. Based on the problem, this research will analyse whether the brand image, trust and price of Lion Air influence customer purchase decisions.

This research is a descriptive study using a quantitative approach. This study will examine the influence of brand image, trust and price on purchase decisions of Lion Air service users in Jabodetabek Area with respondents of 220 people. In accordance with the problems and formulation of the problems that have been presented and the importance of hypothesis testing, the analysis techniques used in the research are Structural Equation Model (SEM) using AMOS software.

The results of testing the influence of trust on purchase decisions obtained cr value of 1,998 with probability value of 0.046 at significance level of 5%, the influence of brand image on purchase decisions obtained cr value of 3,320 with probability value of 0.000 at significance level of 5%, and the effect of price on purchase decision obtained cr value of 5,595 with probability value of 0.000 at significance level of 5%. The obtained results are in accordance with the research hypothesis, so there is an influence of trust, brand image and price on purchase decisions.

Type of Paper: Empirical

Keywords: *Purchase Decisions, Trust, Brand Image, Price.*

1. Introduction

Air transportation is one of the preferred models of transportation tools used to travel both domestically and internationally. Therefore, air transportation service providers strive to improve facilities, services, and security for the convenience of passengers to travel.

A Low-Cost Carrier is an airline that does not offer traditional services that are normally included as part of the fare, thereby offering lower fares at the expense of fewer comforts. (Zara, 2016). The increasing low-cost carrier airline industry in Indonesia was triggered by the high demand for LCC plane tickets. This is also supported by Angkasa Pura, by turning terminal 2F of the highest number of flights in Indonesia, Soekarno Hatta International Airport in Cengkareng, Jakarta, as a special LCC flight terminal equipped with facilities for the convenience of prospective aircraft passengers. (Awaloeddin, 2020).

PT Lion Mentari Airlines, operating as Lion Air, is an Indonesian low-cost carrier airline (LCC). Based in Jakarta, Lion Air is the country's largest privately run airline, the second largest LCC airline in Southeast Asia (after Air Asia) and the largest airline of Indonesia. With Wings Air and Batik Air, Lion Group is the country's largest airline's group.

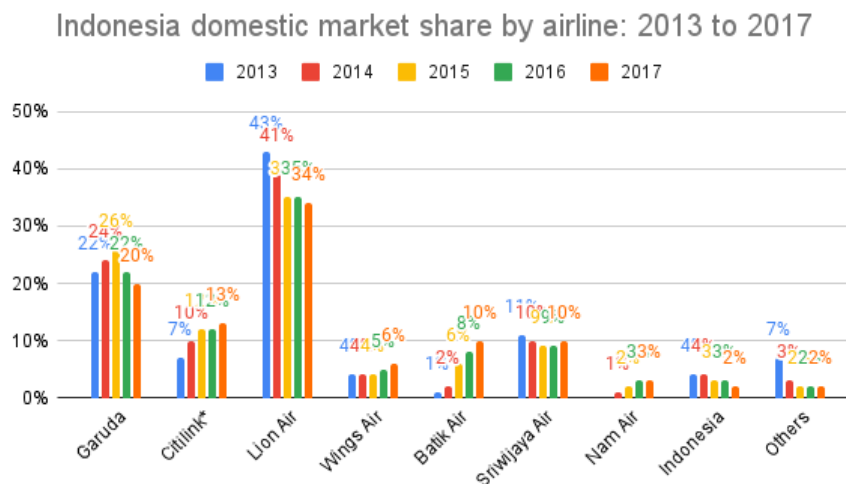


Figure 1.1 Indonesia Domestic Market Share by Airline

Based on figure 1.1 above, it can be known that the market share of the aviation industry in Indonesia in 2013-2017, Lion Air maintained its position with the highest market share. This indicates that Lion Air is the ruler of the air transportation market in Indonesia.

Lion Air's achievements are not followed by the company's good image with the events of recent years, in the mass media filled with negative news for Lion Air services. For example, news related to the plane crash, cancellation, even Lion Air often delayed the departure schedule, and this impacted the image of the company.

The number of negative news coverage of Lion Air will impact on customer confidence in using the airline's services which ultimately impacts the purchase decision. This is supported by the results of research conducted by Anthasari and Widiastuti (2016) which explains that trust has a significant influence on consumer purchasing decisions. Ebrahimi & Tootoonkavan (2014) said brand image is a belief that consumers have in a product by discovering what it wants rather than something else, when a consumer has believed in a brand then this will produce positive results for the company, therefore the brand trust conceptualized has two different dimensions that reflect different perspectives from which the brand is considered trustworthy.

Negative news coverage of Lion Air also impacts the image of the company, this statement is supported by the result of a survey done by Top Brand Award Indonesia (2020); Garuda Indonesia leads the index of 40,5%, followed by Citilink 15.1%, then Lion Air 12,7%

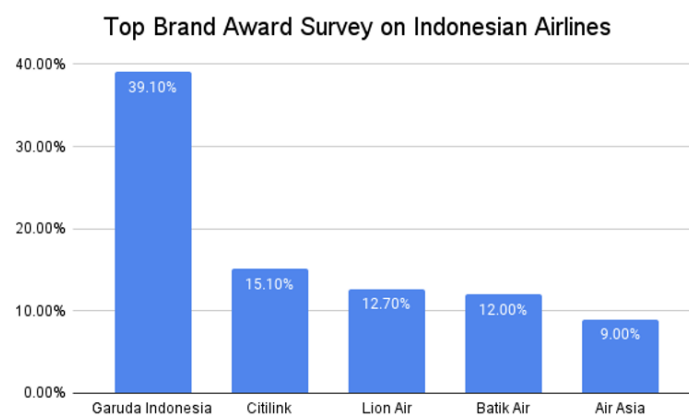


Figure 1.2 Top Brand Award Survey on Indonesian Airlines

For consumers in choosing airline brands for their flights, the main thing that consumers see is the flight schedule, then in terms of the price of the plane ticket. (Shankman, 2014). According to Lamb et.al (2001) price is what must be given by consumers to get a product. Lion Air is one of the airlines in the LCC category that offers competitive prices compared to its competitors, so it can control the domestic flight market share in Indonesia. The results of

Harahap and Amanah (2020) found that the more attractive the price offered in the purchase of products, the more it will be able to increase the decision of consumers to purchase products, therefore, price influences purchase decision. After considering the schedule and the price of the tickets, there will be choices of multiple airline brands that these consumers can choose.

Based on various descriptions related to purchasing decision factors influenced by brand image, trust and price in research conducted by Foster (2016) on brand image, and Anthasari and Widiastuti (2016) on trust, on the other hand Lion Air is factually faced with a low brand image and low passenger trust caused by negative news in the media but Lion Air still dominates the market share of aviation in Indonesia. Therefore, this research is important to know the consumer behavior of Lion Air users in making purchasing decisions.

2. Literature Review

2.1 Purchase Decision

Purchasing decisions are a stage in the purchasing decision-making process where consumers actually buy. Decision making is an individual activity directly involved in obtaining and utilizing the goods offered, (Kotler & Armstrong, 2014).

Purchasing decision is a person's attitude to buy or use a product of goods or services that has been believed to satisfy him/her and willing to bear the risks that may cause. Purchase decisions taken by buyers are a set of organized decisions (Adirama, 2012 in Kodu, 2013). According to Kotler and Keller (2016), there are four stages of the purchasing decision-making process, as follows:

1. Introduction to the problems

The buying process begins when the buyer recognizes a problem or need triggered by internal stimuli as well as external stimuli.

2. Information search

The next process is the search for information conducted by the consumer. There are 4 main sources of information consumers use:

- 1) Personal: family, friends, neighbors, and associates
- 2) Commercial: advertising, websites, salespeople, dealers, packaging, display
- 3) Public: mass media, social media, consumer rating organizations
- 4) Experiential: handle, check, and use of products.

3. Alternative evaluation

Alternative evaluation is an assessment of choices made by consumers in making purchases, such as brand selection. There are several basic concepts of selection that help the process of evaluating consumers in making purchases:

- a. consumers trying to satisfy the needs,
 - b. consumers looking for the benefits or advantages of product solutions,
 - c. consumers see each product as a collection to provide benefits.
4. Post purchase behaviour
 5. The process by which the consumer will feel satisfaction or dissatisfaction with the products that they have purchased and used.

2.2 Brand Image

According to Kotler and Keller (2016) brand image is the perceptions and beliefs held by consumers, as reflected in the associations held in consumer memory. According to Aaker in Ebrahimi and Tootoonkavan (2014) brand image is an assessment given by consumers to the brand of a product that is in a market. Brand image has a role in building consumer perception of products offered to consumers. Factors that become the benchmark of a brand image are as follows:

1. Product attributes.
2. Consumer benefits.
3. Brand personality.

Fianto, et al (2014) said that brand image is something that is considered capable of forming opinions and perceptions of consumer confidence in a product. The role of brand image as one of the things that is able to develop the company. Lien, et al (2015) revealed that the importance of brand image for the company is to make it easier for consumers to recognize a brand and make it easier for consumers to distinguish from competitor products.

Furthermore, Setiadi (2003) said that brand image is a representation of the overall perception of the brand and is formed from past information and experience of the brand. Brand image is related to attitudes in the form of beliefs and preferences towards a brand. Consumers who have a positive image of one brand, will be more likely to make purchases. The decision to buy a product is strongly influenced by the quality assessment of the product.

Research conducted by Foster (2016) found that brand image is positively influenced on purchasing decisions among buyers. Similar results were also found in research conducted by Amin, et al (2018) that brand image has a role in consumer decision making to repurchase.

2.3 Trust

According to Ebrahimi and Tootoonkavan (2014), brand trust is the belief that consumers have in a product by finding something they want. Zehir, et al (2011) stated that brand trust has always been seen as confidence and hope, so it will build a dependence between consumers and companies. A company policy to do better for the wishes and needs of consumers based on common goals and values. Therefore, trust about reliability, comfort, security and honesty becomes a very important aspect that must be owned by a company in taking the hearts of consumers.

According to Flavian and Giunaliu (2007) In Putri and Seminari (2015), trust can be formed through several indicators as follows:

1. Honesty;
2. Benevolence;
3. Competence

The consumer decision model explains brand trust from consumers as the desire of customers to trust a brand with the risks faced because expectations for the brand will lead to positive results and can be maintained and build repurchase decisions by consumers. As described by Prameka, et al. (2016) revealed that trust is portrayed in a good relationship between consumers and companies based on trust and performance owned by the company.

Trust in the brand can be seen from various dimensions, e.g., consumers believe in quality, reliability, guarantees of no loss and provide maximum performance. Consumers who already have confidence in a particular brand tend to have high loyalty, so will not turn to other products. Consumers will not be disappointed and will even feel proud if they buy the product because they already have high trust in the product. The improvement is reinforced by the results of research conducted Anthasari & Widiastuti (2016) stated that variable brand trusts have a positive influence in improving consumer purchasing decision.

2.4 Price

Peter and Olson (2013) said that price perception is related to how price information is understood by consumers and gives them deep meaning. Price can describe a brand and provide a functional competitive advantage. According to Tjiptono (2014) price is the total amount of value given to consumers for benefits obtained or used for products or services that have been given to consumers. The valuation of the price of a product by consumers will vary depending on each individual's purchasing ability.

According to Kotler (2007) there are 4 indicators that characterize price, which will be an indicator in this study as follows:

1. Affordability

The first aspect of price that needs to get attention from businesses is the issue of affordability of prices. The selling price of a product or service must be reachable by consumers who are the target market.

2. Price conformity with product quality

Businesses must adjust the price of their products to the quality they have.

3. Price competitiveness

Businesses must be able to determine the price of their products or services so that they can compete with existing competitors.

4. Price conformity with and benefits

While according to Fure (2013) in Gain et al. (2017), indicators used to measure prices include:

1. Prices that match the benefits

2. Price perception and benefits;

3. Affordable goods prices;

4. Price competition;

5. Price conformity with its quality.

Tjiptono (2014) also explained that the relationship between price and benefits in consumer purchasing decisions has made companies have to choose a price that is not too high or too low. This is reinforced by previous research conducted by Harahap and Amanah (2020) which found that the more attractive the price offered in the purchase of products, the more it will be able to increase the decision of consumers to purchase products.

Therefore, as stated in the literature. This research proposed the following hypothesis;

H1 : Brand image has a positive influence on purchase decisions.

H2 : Trust has a positive influence on purchase decisions.

H3 : Price has a positive influence on purchase decisions

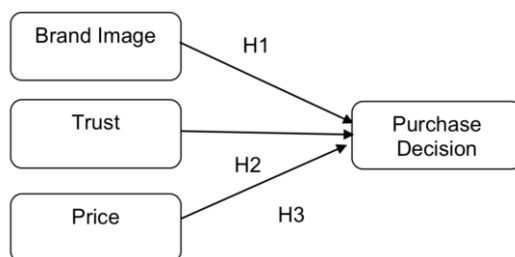


Figure 2.1 Research Model

3. Research Methodology

3.1 Type of Study

The research approach used in this study is conclusive research. Conclusive research consists of two types, namely descriptive and causality. Descriptive research is used to collect information on the characteristics of respondents. While causal is used to explain the influence of brand image, trust, and price on purchasing decisions on lion air flight tickets.

3.2 Population and Sample

The population contained in this study of all lion air service users in 2020 amounted to 12.5 million people. The sampling method in this study is based on a simple random sampling technique, with sample criteria, namely customers domiciled in Jabodetabek who use Lion Air in the past 6 months. Using the Hair et al formula, $n = 39 \text{ indicators} * 5$, it will determine the minimum sample of the research which is 195 respondents. To prevent decreasing data on analysis, the respondents number is added up to **220** people.

3.3 Types of Data and Data Collection Method

The primary data will be collected through survey via online questionnaires as its quantitative data collection method, and the secondary data will be collected through journals, books, literature, reports, and other online sources

3.4 Data Analysis Technique

3.4.1 Structural Equation Model (SEM)

In accordance with the problems and formulation of the problems that have been presented and the importance of hypothesis testing, the analysis techniques used in the research are Structural Equation Model (SEM) using AMOS software.

1. Data Quality Testing

a) Normality Test

Normality test is used to check whether the data distribution falls within normal distribution standards or at least closes it. The test is conducted on single data (univariate) and end data (multivariate). The univariate normality test can be seen from the critical value (c.r.) skewness, while the multivariate normality test can be seen from the critical value (c.r.) kurtois.

- Univariate Outliers, Univariate Outliers by tracing the z-score threshold value in the range of 3 to 4 (Ferdinand, 2012). The z-score value has a standard deviation of 1 with an average (mean) of 0. If there is a z-score $\geq \pm 3$, it will be called Univariate Outliers.
- Multivariate Outliers This evaluation is presented in the AMOS output displayed with the mahala Nobis distance with a p level $< 0,001$. Distance was evaluated using χ^2 (chi-square) at a free degree (df) of the number of variables used in the study. Multivariate Outliers are detected when the mahala Nobis distance is greater than χ^2 (chi-square).

b) Structural Model Conformity Test (GOF)

According to Ghozali (2016) *SEM* is carried out in several stages, namely model conceptualization, flowcharting, model specifications, model identification, parameter estimation, fit model assessment, model modification, and model cross validation.

The explanation of each stage is as follows:

- 1) Conceptualization Model
- 2) Flow Charting
- 3) Model Specifications
- 4) Model Identification

5) Parameter Estimation

6) Fit Model Assessment

Absolute Fit Measures

The measures commonly used to evaluate *SEM* are (Ghozali, 2016):

- Chi-Square (X^2). The first and only statistical test in GOF is X^2 .
- CMIN/DF is a Chi-Square value divided by a Degree of Freedom.
- Goodness of Fit Index (GFI). GFI values range from 0 (Poor Fit) to 1 (Perfect Fit) and GFI values ≥ 0.90 are called Marginal Fit
- Root Mean Square Error of Approximation (RMSEA). RMSEA value ≤ 0.05 indicates Close Fit while $0.05 \leq \text{RMSEA} \leq 0.08$ indicates Good Fit

4. Results

4.1 Characteristics of Respondents

Based on data obtained in the field through questionnaires, 220 respondents obtained an overview of the tendency of respondents' perception of each question asked. Respondents' answers to each question are distinguished into 5 (five) interval levels: strongly disagree (STS) with a score of 1, disagree (TS) with a score of 2, neutral (N) with a score of 3, agree (S) with a score of 4, and strongly agree (SS) with a score of 5. The result of the questionnaire shows that 35% of respondents are male, and 65% are female, with the majority age of 20-29, undergraduate degree, and are private employees. As consumers of Lion Air within the last 6 months, and domiciled from the Jakarta, Bogor, Depok, Tangerang, and Bekasi areas.

4.2 Research Instrument Test

4.2.1 Dependent Variable Confirmatory Factor Analysis (CFA) Test

The indicator is said to be valid if the criteria ratio (CR) > 1.96 with a probability value (P) < 0.05 using AMOS software. It is found that all CR values > 1.96 , it can be concluded that instrument purchase decisions of CFA assumptions have been met.

4.2.2 Independent Variable Confirmatory Factor Analysis (CFA) Test

The indicator is said to be valid if the criteria ratio (CR) > 1.96 with a probability value (P) < 0.05 using AMOS software. It is found that all CR values > 1.96 , it can be concluded if all instruments including the trust, brand image and price of CFA assumptions have been met.

4.3 Research Model Assumption Test

Structural equation modeling (SEM) using the AMOS program. The AMOS program demonstrates measurement and structural problems and is used to analyze and test hypothetical models.

4.3.1 Data Normality Test with Univariate Outliers

This test is carried out by observing the skewness value of the data used, if the CR value on the skewness of the data is in the range between + 2.58 or at a significance level of 0.01. From the results of data processing, there is no C.R. for those outside the +2.58 range. Thus, the research data used has met the data normality requirements, or it can be said that the research data has been normally distributed.

4.3.2 Multivariate Outliers Data Test

This evaluation is presented in AMOS output displayed with the mahala Nobis distance with a level of $p < 0.01$. Distance was evaluated using χ^2 (chi-square) at degrees of freedom (df) for the number of variables used in the study. The Multivariate Outliers category is detected when the mahala Nobis distance is greater than χ^2 (chi-square). It is found that all data have a value of mahala Nobis distance smaller than the χ^2 (chi-square) table of 61.162 so that it can be concluded that the research data is free from outlier problems.

4.4 Structural Model Conformity Test (GOF)

With the acceptance of each indicator used to define the latent variable (construct) based on the results of the measurement model estimation carried out using confirmatory factor analysis techniques, the estimation is continued on the estimation of the structural equation model with the full model analysis technique. This estimation is intended to see the suitability of the model and the causal relationship that occurs in a tiered relationship. The research model used in this study is described as follows:

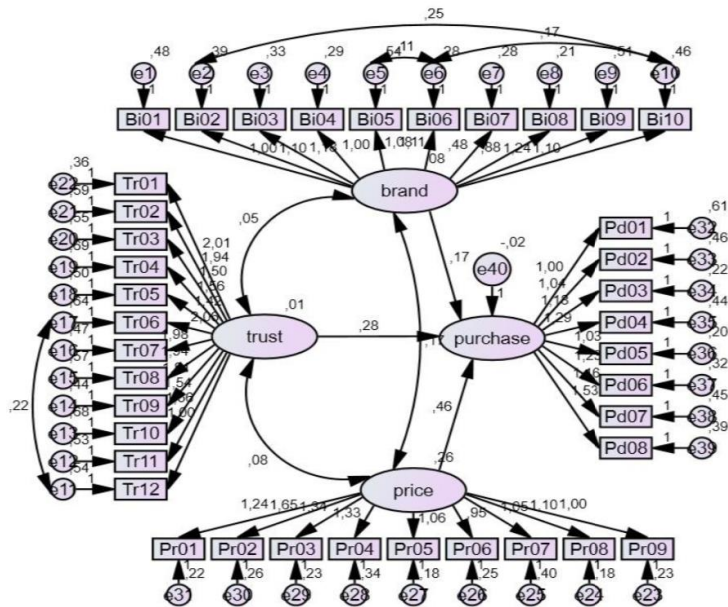


Figure 4.1 Research Structural Equation Model

Based on the results of the further estimation test on the structural equation model, the following details are obtained:

Table 4.1 Model Feasibility Test Result

Parameter	Value	Minimum value	Information
CMIN/DF	1.695	≤ 3	Good
P	0.052	> 0.05	Good
GFI	0.900	≥ 0,90	Good
AGFI	0,867	≥ 0,90	Marginal
CFI	0.912	≥ 0,90	Good
TLI	0,894	≥ 0,90	Marginal
RMSEA	0.056	≤ 0,08	Good
RMR	0,034	≤ 0,05	Good

Based on table 4.1, it is found that all the tests in the model feasibility test have met the predetermined criteria values. The values obtained for AGFI and TLI are quite good/marginal, value of CMIN/DF, P, GFI and CFI are meet the provisions value as shown in the table, while the RMSEA value is below 0.08 and the RMR value is below 0.05 so it can be said that the model is feasible and fit.

4.5 Recapitulation of Hypothesis Test Result

The hypothesis was tested by a t-test on each influence path partially. The results of the analysis can be briefly seen in Table 4.16 which presents the results of hypothesis testing:

Table 4.2 Recanitulation of Hvnthesis Test Result

			Estimate	S.E.	C.R.	P	Label
purchase	<---	trust	0,247	0,123	1,998	0,046	Significant
purchase	<---	brand	0,302	0,091	3,320	0,000	Significant
purchase	<---	price	0,414	0,074	5,595	0,000	Significant

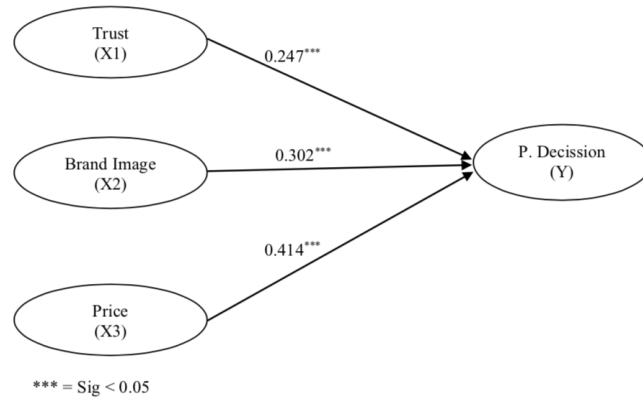


Figure 4.2 Hypothesis Test Result

1. First Hypothesis Testing: the effect of trust on purchase decisions.

The results of testing the influence of the trust on purchase decisions obtained a cr value of 1,998 with a probability value of 0.046 at a significance level of $\alpha = 5\%$. The contribution of the influence of the trust variable to the purchase decisions is known to be 0.247 or 24.7% which means that the trust variable is able to explain the purchase decisions variable by 24.7%. The obtained results are in accordance with the research hypothesis, so there is an influence of trust on the purchase decision.

2. Second Hypothesis Testing: the effect of brand image on purchase decisions.

The results of testing the influence of brand image on purchase decisions obtained a cr value of 3,320 with a probability value of 0.000 at a significance level of $\alpha = 5\%$. The contribution of the influence of the brand image variable on purchase decisions is known to be 0.302 or 30.2% which means that the brand image variable is able to explain the purchase decision variable of 30.2%. The results obtained are in accordance with the research hypothesis, so there is an influence of brand image on purchase decisions.

3. Third Hypothesis Testing: the effect of price on purchase decision

The results of testing the influence of price on purchase decisions obtained a cr value of 5,595 with a probability value of 0.000 at a significance level of $\alpha = 5\%$. The contribution of the influence of the price variable on purchase decisions is known to be 0.414 or 41.4% which means that the price variable is able to explain the purchase decision variable of 41.4%. The obtained results are in accordance with the research hypothesis, so there is an influence of price on purchase decisions.

5. Discussion

5.1 The Effect of Brand Image on Purchase Decision

The obtained results are in accordance with the research hypothesis, so there is an influence of brand image on purchase decisions. The findings in this study are in accordance with the results of research conducted by Foster (2016); and Amin (2018) that brand image can have an impact on purchase decisions. Brand image is a representation of the overall perception of the brand and is formed from information and past experiences of the brand. The brand image is related to attitudes in the form of beliefs and preferences for a brand. Consumers who have a positive brand image are more likely to make a purchase (Setiadi, 2006). The Lion Air brand from the research results show that the perception of the brand is reflected by consumers who hold on to consumer memory. Building a positive brand image can be achieved with a strong marketing program for the product.

5.2 The Effect of Trust on Purchase Decision

The obtained results are in accordance with the research hypothesis, so there is an influence of trust on the purchase decision. This finding is supported by Anthasari and Widiastuti (2016) and Lubis and Ashal (2018) in their research which also found that trust was able to have an impact on consumer purchase decisions. The positive and significant influence between consumer confidence in purchasing decisions can be seen, where consumers choose to travel with Lion Air more than other airlines. These results indicate that according to buyers, trust is caused by security, the information conveyed is accurate and there are various kinds of products in it. From this study it was found that of the many factors that can influence the occurrence of transactions through e-commerce, trust is the key factor.

5.3 The Effect of Price on Purchase Decision

The obtained results are in accordance with the research hypothesis, so there is an influence of price on purchase decisions. The results of this study are supported by previous research conducted by Harahap and Amanah (2020) which found that price had an influence on purchase decisions. Prices are all forms of monetary costs incurred by consumers to obtain, own, utilize a number of combinations of goods and services from a product (Hasan, 2008). Price is the only element of the marketing mix that generates income, while the other elements generate costs (Kotler, 2002). This shows the relationship between price and the decision to buy flight tickets. The more economical (affordable) prices offered by airlines are, the decision to buy Lion Air flight tickets will increase. This study is in accordance with previous research regarding the effect of a positive price significantly on purchasing decisions done by Achidah, et al (2016) and Habibah and Sumiati (2016).

6. Conclusion

Based on the results of the research data test and discussion, it can be concluded as follow

1. The results of testing the influence of the trust on purchase decisions obtained a cr value of 1,998 with a probability value of 0.046 at a significance level of $\alpha = 5\%$. The obtained results are in accordance with the research hypothesis, so there is an influence of trust on the purchase decision.
2. The results of testing the influence of brand image on purchase decisions obtained a cr value of 3,320 with a probability value of 0.000 at a significance level of $\alpha = 5\%$. The results obtained are in accordance with the research hypothesis, so there is an influence of brand image on purchase decisions.
3. The results of testing the effect of price on the purchase decision obtained a cr value of 5,595 with a probability value of 0.000 at a significance level of $\alpha = 5\%$. The obtained results are in accordance with the research hypothesis, so there is an influence of price on purchase decisions.

References

- Aaker, D. A., & Joachimsthaler, E. (2012). *Brand leadership*. Simon and Schuster.
- Achidah, N. M., Warso M. & Hasiloan, L.B. (2016). The Effect of Promotion, Price and Design on Purchase Decisions for Mio GT Motorcycles (Empirical Study on Yamaha Mio GT Products in Waleri-Kendal). *Journal of Management*, Vol 2 No. 2 March, 2016.
- Amin, N. B. H. H. M., Rommy, S. N., & Nur, A. R. Y. N. (2018). Effect of Brand Image and Price Perception on Purchase Decision. *IOSR Journal of Business and Management (IOSR-JBM)* e-ISSN: 2278-487X, p-ISSN: 2319-7668. Volume 20, Issue 8. Ver. II (August. 2018), PP 76-81.
- Amron, A. (2018). The Influence of Brand Image, Brand Trust, Product Quality, and Price on the Consumer's Buying Decision of MPV Cars. (2018). *European Scientific Journal* May 2018 edition Vol.14, No.13 ISSN: 1857 – 7881 (Print) e - ISSN 1857- 7431
- Anthasari & Widiastuti. (2016). The Influence of Trust, Security and Risk Perception Factors on Purchase Decisions for Shopie Martin Products Through the Online System in Surakarta. *Journal of Research and Scientific Studies, Faculty of Economics*. Vol.14 No.3
- Cooper & Schindler (2014). *Business Research Method*. New York: McGrawHill
- Ebrahimi, M. R., & Tootoonkavan, S. (2014). Investigating the Effect of perceived Service Quality, Perceived Value, Brand Image, Trust, Customer Satisfaction on repurchase Intention and Recommendation to Others, Case study: LG Company. *European Journal of Business and Management*.
- Fianto, A. Y., Hadiwidjojo, d., Aisjah, S., & Solimun. (2014). The Influence of Brand Image on Purchase Behaviour Through Brand Trust. *Business Management and Strategy*.
- Foster, B. (2016). Impact of Brand Image on Purchasing Decision on Mineral Water Product "Amidis" (Case Study on Bintang Trading Company. *American Research Journal of Humanities and Social Sciences (ARJHSS)* ISSN (Online): 2378-7031 Volume 2, 2016, 1- 11 pages DOI: 10.21694/2378-7031.16023
- Fristiana, D. A., Prihatini, A. E., & Listyorini, S. (2012). The Influence of Brand Image and Price on Purchase Decisions at Many Supermarkets in Peterongan Semarang. *Journal of Business Administration*, 1(2), 118-127.
- Gain, R., Herdinata, C., & Sienatra, K. B. (2017). The effect of product quality and price on consumer purchasing decisions for Vodkasoda shirts. *PERFORMANCE: Journal of Management and Business Start-Ups*, 2(2), 143-150.

- Ghozali, I. (2016). *Multivariate Analysis Application With Program IBM SPSS 23* (8th edition). VIII Printing. Semarang: Diponegoro University Publishing Agency.
- Harahap, D. A., & Amanah, D. (2020). Determinants of Consumer Purchase Decision in SMEs. *International Journal of Scientific & Technology Research*, 9(3), 3981- 3989.
- Habibah, Ummu & Sumiati. (2016). The Influence of Product Quality and Price on Wardah Cosmetic Product Purchase Decisions in Bangkalan Madura City. *Journal of Economics & Business*, Vol 1 No. 1 Maret, 2016.
- Hasan, A. (2008). *Marketing. Mold 1*. Yogyakarta: Media Pressindo.
- Kodu, S. (2013). Price, product quality and service quality influence the decision to purchase a Toyota Avanza. *EMBA Journal: Journal of Economic Research, Management, Business and Accounting*, 1(3).
- Kotler, P. (2002). *Marketing Management, Interpreting Hendra Teguh, Ronny*
- Kotler, P. (2007). *Marketing Management 2*, Millennium Edition, PT. Independent Pledge, Jakarta.
- Kotler, P., & Keller, K. (2012). *Marketing Management* (14e. Global Edition ed.). New Jersey: Prentice Hall International.
- Kotler, P., & Armstrong, G. (2014). *Principles of marketing*. Pearson education.
- Kotler, P., & Keller, K. L. (2016). *Marketing Management*. England: Pearson
- Lamb, C. W. et.al., (2001). *Marketing. First Edition*, Jakarta: Salemba Empat
- Lien, C. H., Wen, M. J., Huang, L. C., & Wu, K. L. (2015). Online Hotel Booking: The effects of Brand Image, Price, Trust and value on purchase intentions. *Asia Pacific Management Review*.
- Lovelock, Christopher & Wirtz J. (2011). *Service Marketing People, Technology Strategy*. 7th Edition. Pearson International Edition.
- Lubis, D. I. D., & Hidayat, R. (2019). The Influence of Brand Image and Price on Purchase Decisions at the Sukma College of Management, Medan. *Journal of Science: Journal of Management Science*, 5(1).
- Lupiyoadi, H. (2008). *Service Marketing Management*. Second Edition. Jakarta: Salemba Empat.
- Nugroho, J.S. (2003). *Consumer Behavior Concepts and Implications for Marketing Strategy and Research*. Jakarta: Kencana.

- Peter, & Olson (2013). *Consumer Behavior: Consumer Behavior and Marketing Strategy*. First Printing Indonesian Edition. Erlangga Publisher. Jakarta.
- Prameka, A. S., Do, B.-R., & Rofiq, A. (2016). How Brand Trust is Influenced by Perceived value and service quality: mediated by Hotel Customer Satisfaction. *Asia- Pacific Management and business application*.
- Putri and Seminari. (2015). The Influence of Service Quality, Customer Trust and Value on Customer Decisions. *E-Journal of Management Unud Manajemen*. Vol. 4 No. 5.
- Robbins, Stephen, P., Judge, T.A., (2011). *Organizational Behavior* 14th ed. Pearson
- Sari, F. P., & Yuniati, T. (2016). The influence of the price of brand image and word of mouth on consumer purchasing decisions. *Journal of Management Science and Research (JIRM)*, 5(6).
- Setiadi, N. J. (2006). *Perilaku Konsumen: Konsep Dan Implikasi Untuk Strategi Dan Penelitian Pemasaran*. Jakarta: Preneda Media.
- Sheeraz, M., Khattak, A.K., Mahmood, S. N. I., (2016). Mediation of Attitude toward Brand in the Relationship between Service Brand Credibility and Purchase Intentions. *Pakistan Journal of Commerce and Social Sciences*, 10(1), pp. 149–163.
- Sugiyono. (2019). *Business Research Methods*. Bandung: ALFABETA
- Sujarweni, V. W.. (2015). *Statistics for Business and Economics*. Yogyakarta: New Library Press
- Tjiptono, F. (2014). *Marketing Management Jasa*. Yogyakarta: Andi Offset.
- Wen, C., Prybutok, V.R. & Xu, Chenyan. (2011). An Integrated Model for Customer Online Repurchase Intention, *The Journal of Computer Information Systems*.
- Yoo, B. & Donthu, N. (2001). Developing and Validating a Multidimensional Consumer Based Brand Equity Scale. *Journal of Business Research*. 52(1), pp. 1-14.
- Zehir, C., Sahin, A., Kitapci, H., & Mehtap, O. (2011). The Effect Of Brand Communication and Service Quality in Building Brand Loyalty Through Brand Trust; The Empirical Research on Global Brands. *Procedia Social and Behavioral Sciences*.

The Effects of Product Design, Instagram Post Visual Aesthetics and Brand Equity to Consumer's Propensity to React to Brand Related Content on Social Media (COBRAs)

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ABSTRACT

With increasing internet penetration and social media use in Indonesia, especially Instagram, and the ever increasing competition for consumer's engagement in the platform, this study aims to find out whether the product design, instagram post visual aesthetics and brand equity of the products featured in the Instagram account has effects on the consumer's propensity to engage with brand related content on social media. In this study, the Instagram account @asianbearindo, belonging to Asian Bearindo Group, a significant player in the bearing and spareparts industry in Indonesia is studied. After examining 141 valid responses of the followers of @asianbearindo using SEM, it has been found that for this account, the instagram post visual aesthetics and brand equity of the products correlates to COBRAs, however this is not the case with product design.

Type of Paper: Empirical

Keywords: Product Design; Instagram; Visual Aesthetics; Brand Equity; COBRA; Social Media

1. Introduction

In Indonesia, with internet penetration doubling from 2015-2019 (World Bank, 2021), the usage of social media has also grown, and emerged as a major form of communication. Social media has become a platform that is easily accessible to anyone with internet access, opening doors for organizations to increase their brand awareness and facilitate conversations with the customer (Davick & Sharma, 2015). In the Indonesian context, there are a total of 63.5 Million Millennials (otherwise known as Gen Y) consuming media and make purchase decisions through social media (Utomo & Noormega, 2019). The use of social media accounts allows for a two-way communication, content providers to followers and vice versa. The relationship that social media members have with each other in a virtual community, makes it more likely that members trust each other's recommendations on social networks sites (Phua & Ahn, 2016; Ridings & Gefen, 2002). This makes social media a very good breeding ground for Word of Mouth Advertising (WOM). WOM is social media is also known as electronic WOM (Park, J., Hyun, H., & Thavisay, T., 2021; Lee & Yang, 2017).

This makes social media to be an up and coming marketing tool, that is used by many marketers as one of their major communication channel. (Rialti, Pellegrini & Ciappei, 2017; Sheth & Sharma, 2005). As a marketing tool, social media is also proven to be better than traditional media, as it helps marketers to foster deeper relationships with consumers through storytelling or more intense interactions (Geissinger & Laurell, 2016), this is contrary to the monologues by traditional advertising. Furthermore, social media also enable brands to convey marketing information in more engaging and interesting ways (Roncha & Radclyffe-Thomas, 2016) by using features, such as hashtags (Shin, Jae & Kho, 2018; Seo, Kim, Kim, et al. 2019), pictures or visual images (Luarn, Lin & Chiu, 2015), or even videos (Kim, Spiller & Hettche, 2015; Schultz, 2017). These features enhance brands 'potential reach by creating richer content.

Social media enable consumers to seamlessly shift from passive consumers to active contributors and creators of brand-related content (Bandera, 2020 ; Muntinga, Moorman & Smit, 2011; Schivinski & Christodoulides, 2016). All this means that there has been increasing significance of brand- related behavior, as passive consumers of their social media page, can suddenly become source of income.

Given the increasing significance of brand-related behavior for business, this study focuses on whether consumers' perception of brand equity influences their brand related behaviour on social media. The brand related behaviour on social media can be seen from the customer engagement. Social media engagement is very important, therefore this study aims to study customer's propensity to engage with social media content.

One of the biggest social media platform is Instagram. Since its inception, the number of members on Instagram has grown exponentially with approximately 700m registered users in 2017 (Dogtiev, 2018). Another reason for growth is likely to be attributed to the growing number of mobile devices including tablets and smartphones which are capable of capturing high quality images for sharing.

According to Napoleoncat (2021), the number of instagram users in Indonesia reached around 62 MiO, as of January 2020, which accounts for 22.1% of Indonesian population. This number grows to around 83,7 Million in December 2020, which accounts for 30.5% of Indonesia's population.

Questions about the drivers of consumer's propensity to react to brand related content in Instagram still remains.

One of the factors is brand equity, on social media, brands are used as props by social media users to build their identity and fuel their relationships. This means that the brand itself is a possible reason for the user to engage. (Eelen, Özturan, & Verlegh ,2017). An example to see how the brands are used to build their identity, especially on Instagram, is by seeing the tagged posts of luxury brand products. By tagging the brands on their posts, they want to associate themselves with the image of the brand itself, of being youthful, trendy and luxurious. The brand differentiate themselves from others in this way. This is why brand is one of the important intangible benefit in a product, as it is intended to identify the products and services from one group of providers to another (Davies, Smit & Salter, 2015).

Another factor is instagram post's visual aesthetics, holding customer's attention is one of the key factors to success in Instagram. As Instagram is a visual-based platform (Valentini, Stefania, Murtarelli & Pizzetti, 2018), the use of effective visual strategy becomes important for brand posts to hold Instagram users' attention long enough for them to absorb the content before they scroll away to see other photos (Lin 2016; Bhandari et al., 2019). The time required to form an impression

is 50 ms, and it remains stable even after a considerably longer exposure. This is long enough time to catch the Instagram user's attention. (Lindgaard, Fernandez, Dudek & Brown, 2006)

This prolonged view of the product, comment or even likes are advantageous to the brand, as it increases purchase intentions (Cousaris, Van Osch & Albin, 2018). So, the visual aesthetics of the Instagram post is affecting propensity to engage.

Other than the aesthetic of the post, the user also sees the actual product in the post. An example is from the food industry, where Instagram dramatically changes the way consumers behave regarding food consumption, such as choosing Instagrammable food or restaurants or taking pictures of their food and posting it to their Instagram accounts before consuming it (Tandoh, 2016). This means the design of the product, which in the case of restaurant, is food, not only increases the consumer's propensity to engage with the brand on social media, but also affects on purchasing decision of the customers.

1.2 Research Problem

With the increasing popularity of Instagram, this platform is becoming more and more competitive, due to content saturation and overload (Horst & Duboff, 2015). According to Osman (2017) Instagram users do not see 70 per cent of its content. It is ever more so important to see what drives consumer's propensity to engage in Instagram.

Customers' perception of product design itself, when looking at posts, and making posts generally affects their engagement on Instagram. Unfortunately, the knowledge of design (let alone specifically product design) and the customers propensity to engage remains particularly limited (Azar, Machado, Vacas-De-Carvalho, & Mendes, 2016; Maslowska, Malthouse, & Collinger, 2016). After looking that hundreds of studies relating to product design, it was found that studies that analyzes the effects of product design and customer interaction has been mostly focused on writing online reviews on e-commerce sites, and in general, less on visual marketing platforms like Instagram. This creates a gap that can be addressed in this study.

Regarding visual aesthetics, according to research, the classical visual aesthetics is proven to improve a customer's trust in a brand. Trust is seen as mediator to consumer engagement thus a classical aesthetics, with trust as the mediating variable, can act as driver of engagement (Chanal & Rani, 2017). On the other hand, according to Kusumasondjaja (2019) expressive aesthetics is

seen to be more powerful than classical aesthetics when trying to get customer responses (in other words pushing the customers to engage). There is a lack of consistency is also seen as a research gap, that can be addressed in this study.

This study also investigates whether brand equity influences consumers' propensity to engage with brand related content on social media. This is important as the knowledge of the brand-specific drivers of engagement remains particularly limited, if not completely absent (Azar, Machado, Vacas-De-Carvalho, & Mendes, 2016; Maslowska, Malthouse, & Collinger, 2016).

Furthermore, Instagram is not yet widely used in the bearing industry, and as such this study will add to the descission of the usage of instagram as a strategic marketing tool in the bearing industry. The worldwide bearing industry is predicted to be valued at USD 206 Billion in 2030. The global bearing market is showing a CAGR of around 7%.

The level of competition in the bearing industry is high, with large numbers of both small and big players in the market. The common strategy is through differentiation by product innovation, and mergers and acquisitions to increase market share. In Indonesia, Instagram is a growing social media platform, where around 30% of the population is involved. As not many in the bearing industry has shown a lot of activity in the instagram department, this can also mean that investing in the instagram platform is a relatively "blue-ocean" stratetegy. This can also be another means of differentiation, as the traditional method for marketing communications in the bearing industry uses the traditional sales personell, going door to door.

1.3. Research Questions

Q1: Is there a correlation between Product Design of the products featured in @asianbearindo and Consumer's Propensity to Engage in a Brand's Social Media(COBRAs)?

Q2: Is there a correlation between Instagram Post Visual Aesthetics of @asianbearindo and COBRAs?

Q3: Is there a correlation Brand Equity of the products featured in the account @asianbearindo and COBRAs?

Q4: Is there a correlation Product Design and Brand Equity of the products featured in the account @asianbearindo in the context of Instagram platform?

1.4 Scope and Limitation

The scope of this research looking at the subjective opinions of Indonesian Instagram users, ages 18 and above about product and Instagram post design, brand equity and how it affects their engagement on Instagram. The age of 18 and above represents 86.9% of Instagram users in Indonesia (Napoleoncat, 2021), and also with this age, it can be expected that they can answer the questions maturely. Other than the age, this study also only focuses on the followers of the Instagram page @asianbearindo. This is to narrow down the scope of the study, and allow the respondents to respond with a brand Asian Bearindo Group in mind. Thus, this study is only specific to the Instagram account @asianbearindo, thus the data here cannot be generally applied and can only be used in this research.

The limitation is that this study is not a longitudinal study, it uses a cross-sectional time frame. This study may find out the relationship between the variables, in this case: Product Design, Brand Equity, and Visual Aesthetics to Consumers Propensity to Engage with Brand Related Content on Social Media.

2. Literature Review

2.1. Product Design and COBRA

The main star of many brand-related posts are the products, especially when one looks at the context of the account @asianbearindo, as the Instagram page of a bearing company, it shows a lot of bearings in the posts. As the users scroll through Instagram, the product itself will be one of the main defining parts of the post, so it is therefore crucial to see whether or not the product design affects customer's propensity to engage with brand-related posts.

There has been many discussions about product design over many papers, trying to identify its main constructs (Gilal, Gilal & Zhang, 2018), with older constructs, that focus more on the customer's attributes (Bloch, Arnold & Brunel, 2003), specifically for vehicles (Srinivasan & Sridhar, 2012), lacking several hedonic elements (Voss, Grohman & Spangenberg, 2003), lacking relevant aspects of product design (Homburg, Schwemmler & Kuehln, 2015). Therefore, a newer study by Gilal et al. in 2018 is taken. It addresses the problems of overwhelming questions, lack of hedonic elements and relevancy issues in the previous studies. These constructs take the subjective responses of customers on four different aspects of product design.

The 4 constructs taken for the product design is taken mainly from “*The four-factor model of product design*”: affective, aesthetics, emotional, hedonic or visceral ; cognitive, instrumental, utilitarian, rational or functional; ergonomics; reflective, symbolism or meaning.”

Product design can drive consumers' behavioral responses (Bloch, 1995; Brakus, Schmitt, & Zarantonello, 2009; Chitturi et al., 2008), which encompass a range of possible outcomes, including Word of Mouth, repurchase intentions, and other post-purchase behaviors (Enrique Bigné, Mattila, & Andreu, 2008; Santos & Boote, 2003). Some parts of COBRAs are Word of Mouth related activities, like liking, commenting and sharing. As product design can elicit E-WOM in online reviews (Candi, Jae, Makarem & Mohan, 2017) , it makes sense to find the relationship between product design and Consumer’s Propensity to Engage (which is also a form of E-WOM) in social media, especially Instagram.

As the account @asianbearindo, hosts multiple products, ranging from multitude of bearings, belts and chains, in this study, we can observe whether the product design affect COBRA.

Hypothesis 1.0: There is no correlation between Product Design of the products featured in the account @asianbearindo and customer’s propensity to react to brand related content on social media (COBRAs)

Hypothesis 1.1: There is a correlation between Product Design of the products featured in the account @asianbearindo and customer’s propensity to react to brand related content on social media (COBRAs)

2.2. Instagram Post Aesthetics and and COBRA

As Instagram is a very visual social media platform (Gayberi & Oguducu, 2019), in order to see what incites the customers to react to social media posts, it makes sense to research what kind of visual aesthetics works, especially for the account @asianbearindo. According to Lavie and Tractinsky (2004), visual aesthetics is the “pictorial attractiveness that conveys a clear and unique image or pleasing appearance of an image or object”.

Visual Aesthetics, according to existing literature, involves a balance between design elements (like colour, form, shape, shade, texture and tone) and concepts (e.g. balance, contrast, composition, proportion and harmony) (Cai & Xu, 2011; Lavie & Tractinsky, 2004; Moshagen &

Thielsch, 2010). When an object's design focusses solely on displaying elements individually, whether they create a balanced composition or not, there is a risk of design failure. That is why visual aesthetics should not be seen as different elements, but as a whole. That is why consumers perceive the aesthetics of online interfaces, including social media, in two ways: classical and expressive aesthetics (Bhandari, Chang & Neben, 2019 ; Lavie & Tractinsky, 2004):

According to Socialbakers (2018) visual_nature of Instagram elicits positive user reactions, for instance: "liking" posts, comment-ing, following brands. It also elicits purchase behaviors, resulting in higher engagement.

Visual Aesthetics can be seen as one of the factors influencing a customer's propensity to engage to a branded post, because many studies suggest that a visually attractive object draws consumers' motivations to clarify and interpret the visual object cognitively (Kumar, Muniandy & Yahaya, 2018; Pengnate & Sarathy, 2017). This means that visual aesthetics is one of the factor why users stay longer on a post, which is one of the ways a customer can engage with a branded post.

It is argued by Kusumasondjaja (2019) that instagram posts with expressive type of aesthetics will attract more attention to a post, and thus resulting in more engagement rate, however the classical visual aesthetics is proven to improve a customer's trust in a brand (Kusumasondjaja,2019), and according to Chanal and Rani (2017) ,trust is seen as mediator to consumer engagement thus a classical aesthetics, with trust as the mediating variable, can act as driver of engagement (Chanal & Rani, 2017).

As the account @asianbearindo, has posts that err to both directions, with classical & expressive aesthetics. In this study, we can observe which type of post is the most effective to COBRA.

Hypothesis 2.0: A post's visual aesthetics of the account @asianbearindo has no correlation on customer's propensity to react to brand related content on social media(COBRA)

Hypothesis 2.1: A post's visual aesthetics of the account @asianbearindo has a correlation on customer's propensity to react to brand related content on social media(COBRA)

2.3. Brand Equity and COBRA

According to Schivinski, Muntiga, Pontes & Lukasik (2019), whether or not a customer wants to react to a brand related post, also depends on the equity of the brand. The concept of brand equity began to be used widely in the 1980s by advertising practitioners (Fayrine & Lee ,2011; Barwise 1993). Important academic contributors throughout the 1990s were Aaker (1991), Srivastava and Shocker (1991), Kapferer (1992), and Keller (1993, 1998). However, a universally accepted brand equity content and meaning (Vazquez, Rio & Iglesias, 2002; Keller 2003) as well as measure has not been forthcoming (Washburn, 2002). Almost all conceptualizations of brand equity agree today that the phenomena involve the value added to a product by consumers' associations and perceptions of a particular brand name (Fayrine & Lee ,2011; Winters 1991, Chaudhuri 1995).

Fayrene and Lee (2011), have compiled various ways to define brand equity by various studies, including by Leuthesser (1988), Aeker (1991), Swait, Erdem, Louviere & Dubelaar (1993), Kamakura & Russel (1993), Keller (1993), Lassar, Mittal & Sharma (1995) and Aeker (1996), and here it is clear that multiple researchers define the dimension of brand equity in different ways. However, it is simple to see that the common denominator in all models is the utilization of one or more dimension of the Aaker model (Keller 1993; Motameni & Shahrokhi 1998; Yoo and Donthu 2001; Bendixen, Bukassa & Abratt, 2003; Kim, Kim & An, 2003), and thus the consumer oriented dimensions of brand equity is used in this study, with the dimensions being: Brand Awareness, Brand Associations, Percieved Quality and Brand Loyalty

The relationship between brand equity and consumer's propensity to react to brand related content on social media, is postulated through theory of reason action (TRA) (Schivinski et al, 2019; Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975).

TRA suggests that the attitudes and subjective norms (which means the attitude of the person and the way a person percieve norms subjectively) influences their intentions and in turn can drive behavior. TRA is also known as standard learning hierarchy.

This hierarchical structure, in this context, involve what social factors are driving consumers' social media usage (Chen, Yen, & Hwang, 2012); Customer response to viral marketing on social networking sites (for example: viral marketing driving purchase behavior; Gunawan & Huarng, 2015); Customer's brand-related social media behavior (for example: how customers react to ads on social media; Zhang & Mao, 2016). As consequence, evaluating consumers' beliefs about and

associations with a product/brand may result in engagement through consumption, contribution, and creation of brand-related social media content.

In line with the TRA model, consumers initially develop preferences for a brand and positive associations, which then lead to increased brand-related social media behavior (i.e. reading, watching, commenting, sharing, ‘liking’, and creating content). As the instagram account @asianbearindo also hosts multiple brands, as Asian Bearindo Group sells bearings, belt and chain from multiple brands. Here we can see whether the brands affect the decision

Hypothesis 3.0: There is no correlation between Brand Equity of the products featured in the account @asianbearindo and customer’s propensity to react to brand related content on social media (COBRAs)

Hypothesis 3.1: There is a correlation between Brand Equity of the products featured in the account @asianbearindo and customer’s propensity to react to brand related content on social media (COBRAs)

2.4. Product Design and Brand Equity

Products are known to cause irrational emotional appeal, like the feeling of happiness when buying something you like. This emotional appeal can be directed to form a desired brand image, communicate brand values, thus increasing brand equity, through means of product design (Stomppf, 2010).

According to various research product design’s elements like reflective aspect (Brunner, Ulrich, Jungen & Esch, 2016), affective, cognitive (Page & Herr, 2002), ergonomics (Sheng & Teo, 2012) affects several elements of brand equity or even brand equity holistically.

These can also be seen from the examples described earlier in the chapter on the virality of the strawberry dress and vacuum cleaner. They are also evidences of product design affecting brand equity, as before it went viral, not that many people are even aware of the brand, and as stated by the Aaker (1991), elements on brand equity are seen as hierarchie, where it starts with brand awareness, then brand association, percieved quality and brand loyalty.

Hypothesis 4.0: There is no correlation between Product Design Features and Brand Equity of the products featured in the account @asianbearindo

Hypothesis 4.1: There is a correlation between Product Design Features and Brand Equity of the products featured in the account @asianbearindo

3. Research Methodology

3.1. Sample and Procedure

The data collection is done through means of online questionnaire (Google Forms) distributed to the followers of the account, with compensation of IDR 10 000 per questionnaire filled for the first 150 valid respondents, each account can only answer once. It is distributed to all of the followers via Direct Message and WhatsApp groups. The online questionnaire was administered in English and Bahasa Indonesia.

The respondents answer questions relating to product design, instagram post visual aesthetics, brand equity and COBRAs, with variable operationalization of the study as shown in Table 1. The control variables include: gender, age group and social media use.

Table 1: Variable Operationalization

Construct	Dimension	Observed Variable	Source
Product Design	Affective Design	3	Gilal et al,2018; Hirschman and Holbrook, 1982; Verganti, 2011
	Cognitive Design	4	Gilal et al,2018; Crilly et al., 2004; Fox, 1995
	Ergonomics Design	4	Gilal et al,2018; Bloch, 1995; Montini, 2014; Moon et al., 2015
	Reflective Design	4	Gilal et al,2018
Instagram Post Aesthetics	Classical Aesthetics	3	Kusumasondjadja, 2019; Lavie and Tractinsky, 2004; van Schaik & Ling,2009; Oybo et al, 2018

	Expressive Aesthetics	3	Kusumasondjadja,2019; Lavie and Tractinsky, 2004; van Schaik & Ling 2009 Oybo et al, 2018
Brand Equity	Brand Awareness	6	Schivinski et al ,2019; Fayrine and Lee ,2011 Aeker,1991, Aeker ,1996, Keller,1993
	Brand Associations	6	Schivinski et al ,2019; Fayrine and Lee,2011; Keller,1993; Hankinson and Cowking,1993; de Chernatony and McWilliam, 1989; Pitta & Katsanis,1995
	Percieved Quality	6	Schivinski et al., 2019; Fayrine and Lee,2011; Olson and Jacoby,1972; Zeithaml,1988; Ophuis and Van Trijp,1995; Richardson et al.,1994; Acebro'n and Dopico, 2000
	Brand Loyalty	6	Schivinski et al, 2019; Fayrine and Lee ,2011 ;Aeker,1991; Aeker, 1996; Grembler and Brown,1996; Keller, 1998; Oliver 1997, 1999
COBRAs (Consumers Propensity to Engage with Brand Related Content on Social Media)	Creating	3	Muntinga et al., 2011
	Contributing	3	
	Consuming	2	

The conceptual model of the study is shown in Figure 1:

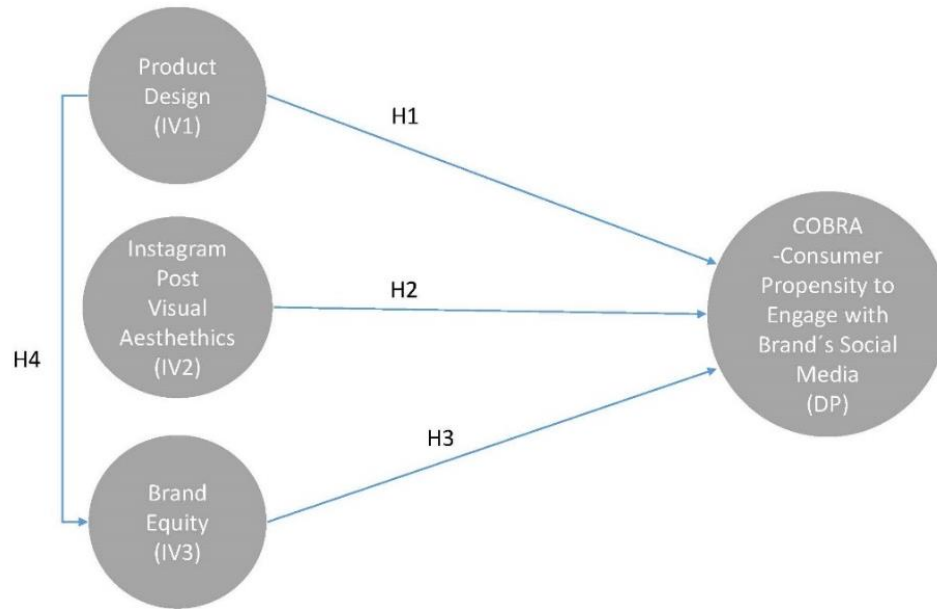


Figure 1: Conceptual Model of the Study

3.2. Measurement Methodology

The collected data from the questionnaire is analyzed using SEM, short for Structural Equation Model. It is believed that SEM is a better technique for data analysis than common regression and various other multivariate techniques (Hair, 2007).

In this research, Structural Equation Modelling (SEM) is used to analyze the construct validity of this research. It is used in many social science research (Shaheen, Ahmad, Waqas, Waheed & Farooq, 2017). It is particularly useful for research that have complex, multifaceted constructs, and have system of relationships, instead of an independent variable and set of predictors. SEM is defined as a family of statistical models that help to explain relationship between multiple variables. It includes the use of measurement theory, latent variable analysis, path analysis, regression and simultaneous equations. (Sturgis, 2016).

Hair(2007) believed that SEM can estimate the interrelated dependence relationship simultaneously. He also believed that SEM is able to show relationships between latent variables, whilst at the same time estimating errors. Furthermore, SEM is also able to define models to explain the entirety of the relationships. SEM is seen as confirmatory technique of analyzing

relationship, instead of exploratory. This means that SEM analyzes the relationship between variables to constructs.

Other than the collected data, the validity of the measurement model is also key. To measure the validity of the measurement model, this study analyzes the model fit with GOF indices (also known as “goodness of fit” indices). The results of GOF is an indication on how well the model reproduces the covariance matrix from the indicators, mainly the similarity of the observed and estimated covariance matrix. Factors like parameters and the cut-off value. The two main measurements used in this study is shown in Table 2.

Table 2: Main GOF Indexes used in this study

Measurement		Parameters	
Measurement	Construct Validity	T- Value	≥ 1.96
Model Fit		Standard Factor Loading (SFL)	≥ 0.3

4. Results

To ensure the validity and reliability of the questionnaire, the questionnaire was pre-tested to 34 respondents, with 31 valid respondents. It is proven to be valid and reliable with cronbach alpha of the overall questionnaire to be 0.961 which is above the threshold of 0.6. The variables are all pre-tested, with T-test, and has T-values above the threshold of 1.96.

4.1. Demographics of Survey Respondents

Out of 152 respondents, 141 (92,8%) are valid respondents. Out of the 141 respondents, there are 94 male respondents (66.7 %) and 47 female respondents (33.3 %).

There are 17 (12.1%) respondents aged 18-22, 31 (22%) respondents aged 23-28, 32 (22.7%) respondents aged 29-34, 33 (23.4%) respondents aged 35-39, 20 (14.2%) respondents aged 40-45, 6 (4.3%) respondents aged 46-51, 1 (0.7%) respondent aged 52-57, 1 (0.7%) respondent aged 57-62, 0 (0%) respondents aged 63-68 and 0 (0%) respondents aged 68+.

Their social media use also varies, with 104 respondents reporting “More than once a day” (73.8 %) , 25 respondents reporting “One time a day” (17.7 %), 7 respondents reporting “3-4 times a

week” (5 %), 1 respondent reporting “1-2 times a week” (0.7 %), 1 respondents reporting “One day a week” (0.7 %) and 3 respondents reporting “Less than weekly” (2.1%)

4.2. Descriptive Statistics

The descriptive result shows that the respondents generally find the overall product design of the products in Asian Bearindo Group to be pleasing, with a mean of 6,5370 (SD=0,9405), the post aesthetics of the account @asianbearindo group has both expressive and classical aesthetics, with a mean of 6,5473 (SD=0,9619), the brand equity of the brand to be generally strong with a mean of 6,4762 (SD=1,0249). The consumer’s propensity to engage with brand related post to be quite high, with a mean of 5,9058 (SD=1,6266).

4.2. Measurement Model Analysis

Product Design (PD) has 14 indicators, which are characterized into 4 dimensions. The SFL of all of the indicators and dimensions, in Singe Factor Model (SF) , Oblique Model (OM) and Higher Order (HO) ranges from 0.66-0.98, which is higher from the threshold of 0.3. The T-Value of all of the indicators and dimensions, in SF, OM and HO ranges from 8.74- 13.08, which is above the threshold of 1.96. This indicates that the constructs are valid and reliable.

Instagram Post Aesthetics (AE) has 6 indicators, which are characterized into 2 dimensions. The SFL of all of the indicators and dimensions, in SF and OM ranges from 0.85-0.94, which is higher from the threshold of 0.3. The T-Value of all of the indicators and dimensions, in SF, OM and HO ranges from 9.84- 14.85, which is above the threshold of 1.96. This indicates that the constructs are valid and reliable.

Brand Equity (BE) has 20 indicators, which are characterized into 4 dimensions. The SFL of all of the indicators and dimensions, in SF, OM and HO ranges from 0.72-0.98, which is higher from the threshold of 0.3. The T-Value of all of the indicators and dimensions, in SF, OM and HO ranges from 8.91- 14.2, which is above the threshold of 1.96. This indicates that the constructs are valid and reliable.

COBRAS (COB) has 7 indicators, which are characterized into 3 dimensions. The SFL of all of the indicators and dimensions, in SF and OM ranges from 0.48-0.97, which is higher from the threshold of 0.3. The T-Value of all of the indicators and dimensions, in SF, OM and HO ranges

from 5.97- 14.26, which is above the threshold of 1.96. This indicates that the constructs are valid and reliable.

4.3. Hypothesis Testing Results

Out of the 4 main hypotheses that are tested in this study H 1.0, H2.1, H3.1 and H 4.1 are supported by this study. It means that the post’s visual aesthetics and brand equity has correlation with COBRAs. Product Design also has a correlation with COBRAs, however, the Product Design has no correlation to COBRAs. As previously mentioned in Table 4.7, SFL value of higher than 0.3 and T value of higher than 1.96 proves good fit. If the values shows good fit, it shows that the H N.1 hypothesis is appoved, if it does not show good fit, then the H N.0 hypothesis is appoved. The results are summarized in Table 4.2., the full figure with T-values and SFLs can be seen in Table 3

Table 3: Summary of Hypothesis Testing Result

No	Hypothesis	SFL	T-Value	Conclusion
H 1.0	<i>There is no correlation between Product Design of the products featured in the account @asianbearindo and customer’s propensity to react to brand related content on social media (COBRAs)</i>	0.01	0.2	supported
H 1.1	<i>There is a correlation between Product Design of the products featured in the account @asianbearindo and customer’s propensity to react to brand related content on social media (COBRAs)</i>			not supported
H 2.0	<i>A post’s visual aesthetics of the account @asianbearindo has no correlation on customer’s propensity to react to brand related content on social media(COBRAs)</i>	0.4	4.49	not supported
H 2.1	<i>A post’s visual aesthetics of the account @asianbearindo has a correlation on customer’s propensity to react to brand related content on social media(COBRAs)</i>			supported
H 3.0	<i>There is no correlation between Brand Equity of the products featured in the account @asianbearindo and customer’s propensity to react to brand related content on social media (COBRAs)</i>	0.62	4.98	not supported
H 3.1	<i>There is a correlation between Brand Equity of the products featured in the account @asianbearindo and customer’s propensity to react to brand related content on social media (COBRAs)</i>			supported
H 4.0	<i>There is no correlation between Product Design Features and Brand Equity of the products featured in the account @asianbearindo</i>	0.92	7.98	not supported
H 4.1	<i>There is a correlation between Product Design Features and Brand Equity of the products featured in the account @asianbearindo</i>			supported

(1)

5. Discussion

5.1. Demographics Perspective

The demographics of the study includes several factors like, whether or not the respondent follows the account @asianbearindo, the age range of the respondents, their use of social media. It has been shown in this study that, in general, these variables do not moderate the hypotheses significantly.

5.1. Hypotheses

The first hypothesis is supported by this study. It is shown that there is a positive relationship between between product design, and consumer's propensity to react to brand related contents on social media (COBRAs) for the case of the instagram account @asianbearindo. Although according to Bloch (1995) and Wringley (2013), the product's exterior form elicits consumer's responses, but this maybe the case only for in trend products. The marketing of sparepart products are found to be competence based (Li, 2011) , which is only one part of product design, which include aesthetics design, cognitive design, ergonomics design and reflective design (Gilal et al., 2018). This may cause the minimal effect of product design towards COBRAs. People may not percieve bearings as a product that is aesthetically pleasing, and reflects their personality. The result of SFL and T- value shows to be 0.92 and 7.98, which are well below the threshold of 0.3 and 1.96, this means that H 1.0 is supported by this study.

The H 2.1 is proven to be supported by this study. The post visual aesthetics made of the post's classical aesthetics and expressive aesthetics both corellates to COBRAs. In the account @asianbearindo, there have been attempts on making posts with elements of these two aesthetics.

The visual aesthetics is also seen, as oe of the factors in influencing the customer's propensity to engage in branded posts, as visually attractive objects draws the consumer's motivation to clarify and interpret the object more cognitively (Kumar et al, 2018; Pengnate & Sarathy, 2017). This prolonged time with a post, is one of the ways that the customer can engage with a branded post. This study also supports the theories by Kusumasondjaja (2019), which said that expressive aesthetics results in more consumer engagement in social media, as well as theories by Chanal & Rani(2017), that said classical aesthetics results in more consumer engagement in social media.

The result of SFL and T- value shows to be 0.4 and 4.49, which are above the threshold of 0.3 and 1.96, this means that H 2.1 is supported by this study.

The H 3.1 hypothesis is also proven to be supported by this study. The brand equity has by far the strongest correlation to COBRAs, as the stronger the brand equity is, it is seen as influencing COBRA the most.

This is in line with the discussion of theory of reason action (TRA), which suggest that subjective norms influences their intentions and also their behavior (Schivinski et al, 2019, Ajzen & Fishbein, 1980, Fishbein & Ajzen, 1975). These subjective norms include social factors such as beliefs about a brand, and the consumer's association with it, does lead to more engagement through consumption, contribution and to some extent creation of brand related activities (Zhang & Mao, 2016). This study supports the TRA model, where here the consumers usually first develop preferences and positive associations about a brand, and this leads to increased brand-related social media behavior, in the context of instagram this includes looking at the posts, sharing, liking, commenting , and so on. The result of SFL and T- value shows to be 0.62 and 4.98, which are above the threshold of 0.3 and 1.96, this means that H 3.1 is supported by this study.

This study supports the findings made by Stompff (2010), which found that due to the emotional appeal of products, that is expressed through its product design, can be used to communicate brand values, thus increasing brand equity.

Brenner et al. (2016) believes that the reflective aspect of product design affect brand equity, whilst, Page & Herr (2008), believes that the affective and cognitive parts of the product design affects brand equity. Sheng & Teo (2011), believes that the ergonomics of the product affect brand equity. This study supports the notion that product design as a whole affects brand equity holistically.

The result of SFL and T- value shows to be 0.62 and 4.98, which are above the threshold of 0.3 and 1.96, this means that H 3.1 is supported by this study.

6. Conclusion

This research sought to find out whether there is a relationship between product design, post visual aesthetics and brand equity to COBRAs, also to find out whether there is a relationship between

product design and brand equity, and based on the findings and analysis done in this study, it is concluded that:

- There is no correlation between product design and consumer's propensity to react to brand related posts on instagram, in the case of the account @asianbearindo
- There is a correlation between instagram post aesthetics and consumer's propensity to react to brand related posts on instagram, both in the case of expressive aesthetics and classical aesthetics, in the case of the account @asianbearindo
- There is a correlation between brand equity and consumer's propensity to react to brand related posts on instagram. This is the strongest factor affecting consumer's propensity to react to brand related posts on instagram in this study
- There is a correlation between product design and brand equity, in the case of the account @asianbearindo

6.1 Practical Implications

The results of this study is especially useful for the marketing team managing the instagram account @asianbearindo, in order to increase it's consumer's propensity to react to brand related content on it's instagram page.

According to the findings in this study, it is better for the managers of the @asianbearindo account, to focus the content more on the product's brand equity to improve consumer's propensity to react to brand related contents in terms of views, follows, likes, comments, reposts, and so on.

The study has found that both classical and expressive visual aesthetics can be used to improve consumer's propensity to react to brand related contents in the account @asianbearindo.

The Asian Bearindo Group can also recommend the findings to it's bearing suppliers, saying that better product design does result in better brand equity. The group can also use this information in the future, when wanting to create their own brands

6.2 Recommendation for Future Research

This research has found out, for the context of the account @asianbearindo, that product design , instagram post aesthetics and brand equity does positively correlate to COBRAs. There is also a

correlation between product design and brand equity. This study has taken gender, social media usage and age groups into context.

For future research, it is recommended to do a study based on other instagram accounts, if possible from various industries, as the results of this study are very specific for the account @asianbearindo. The research should also segment the market to urban and rural populations. This is not done in this study, as all of the respondents in this study are in urban areas.

When executing the study, it is also hard to track whether the follower is an active or passive follower, in the future, there may be a method that can be developed to track the level of activity of followers. This would improve the realibility and generalizability of the results. Such study will need a lot of time and deeper investigation on various industries in Indonesia.

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References

- Aaker, D. A. (1996) Measuring brand equity across products and markets. *California Management Rev.* 38(Spring): 102-120.
- Aaker, D.A. (1991) *Managing Brand Equity*. New York: Free Press. Acebro'n, L.B. and Dopico D.C.(2000) The importance of intrinsic and extrinsic cues to expected and experienced quality: an empirical application for beef. *Food Quality and Preference* 11(3): 229-38.
- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behaviour*. Englewood Cliffs, NJ: Prentice Hall
- Azar, S. L., Machado, J. C., Vacas-de-Carvalho, L., & Mendes, A. (2016). Motivations to interact with brands on Facebook – Towards a typology of consumer–brand interactions. *Journal of Brand Management*, 23(2), 153–178. doi:10.1057/bm.2016.3
- Bandera, A (2020): Influencer marketing, visual attention and engagement on Instagram: The Westwing Italia case

- Barwise, P. (1993) Brand equity: Snark or Boojum? *International Journal of Marketing Research* 10 (March): 93-104.
- Bendixen, M., Bukasa K.A. and Abratt R. (2004) Brand equity in the business-to-business market. *Industrial marketing Management* 33(5): 371-380.
- Bhandari, U., Chang, K. and Neben, T. (2019), "Understanding the impact of perceived visual aesthetics on user evaluations: an emotional perspective", *Information & Management*, Vol. 56 No. 1, pp. 85-93.
- Bloch, P.H. (1995), "Seeking the ideal form: product design and consumer response", *The Journal of Marketing*, Vol. 59 No. 3, pp. 16-29.
- Bloch, P.H., Brunel, F.F. and Arnold, T.J. (2003), "Individual differences in the centrality of visual product aesthetics: concept and measurement", *Journal of Consumer Research*, Vol. 29 No. 4, pp. 551-565.
- Brakus, J.J., Schmitt, B.H. & Zarantonello, L. (2009). Brand Experience: What is It? How is it Measured? Does it Affect Loyalty?. *Journal of Marketing* Vol. 73 (May 2009), 52–68. DOI: <https://doi.org/10.1509/jmkg.73.3.052>
- Cai, S. and Xu, Y. (2011), "Designing not just for pleasure: effects of web site aesthetics on consumer shopping value", *International Journal of Electronic Commerce*, Vol. 15 No. 4, pp. 159-188.
- Chahal, H., Rani, A. (2017). How trust moderates social media engagement and brand equity. *Journal of Research in Interactive Marketing*, 11(3): 312-335.
- Chaudhuri, A. (1995) Brand Equity or Double Jeopardy? *Journal of Product & Brand Management* 4(1): 26-32.
- Chen, S.-C., Yen, D. C., & Hwang, M. I. (2012). Factors influencing the continuance intention to the usage of web 2.0: An empirical study. *Computers in Human Behavior*, 28(3), 933–941
- Chitturi, R., Raghunathan, R. and Mahajan, V. (2008), "Delight by design: the role of hedonic versus utilitarian benefits", *Journal of Marketing*, Vol. 72 No. 3, pp. 48-63.
- Coursaris, C. K., Van Osch, W., & Albin, A. (2018). Antecedents and Consequents of Information Usefulness in User-generated Online Reviews: A Multi-group Moderation Analysis of Review Valence. *AIS Transactions on Human-Computer Interaction*, 10(1), 1-25. <https://doi.org/10.17705/1thci.00102> DOI: 10.17705/1thci.00102
- [Davicik, N.S.](#) & [Sharma, P.](#) (2015), "Impact of product differentiation, marketing investments and brand equity on pricing strategies: A brand level investigation", *European Journal of Marketing*, Vol. 49 No. 5/6, pp. 760-781. <https://doi.org/10.1108/EJM-03-2014-0150>
- Davies, Smith, Salter (2015), "The Ultimate Marketing & PR Book", Page 82,85
- Eelen, J., Özturan, P., & Verlegh, P. W. J. (2017). The differential impact of brand loyalty on traditional and online word of mouth: The moderating roles of self-brand connection and the desire to help the brand. *International Journal of Research in Marketing*, 34(4), 872–891. doi:10.1016/j.ijresmar.2017.08.002
- Enrique Bigné, J., Mattila, A. S., & Andreu, L. (2008). The impact of experiential consumption cognitions and emotions on behavioral intentions. *Journal of Services Marketing*, 22(4), 303–315. doi:10.1108/08876040810881704

- Fayrene, C. & Lee, C.G. (2011). Consumer-based brand equity: a literature review. *International Refereed Research Journal* ol.– II, Issue –1, January 2011. P 33-42
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley
- Gayberi, M. & Oguducu, S.G. (2019). Popularity Prediction of Posts in Social Networks Based on User, Post and Image Features. MEDES '19: 11th International Conference on Management of Digital EcoSystems. DOI:[10.1145/3297662.3365812](https://doi.org/10.1145/3297662.3365812)
- Geissinger, A., & Laurell, C. (2016). User engagement in social media – an explorative study of Swedish fashion brands. *Journal of Fashion Marketing and Management: An International Journal*, 20(2), 177–190. doi:10.1108/jfmm-02-2015-0010
- Gilal, F.G., Zhang, J., Gilal, R.G. and Gilal, N.G. (2018), “Association between a parent’s Brand passion and a child’s brand passion: a moderated moderated-mediation model”, *Psychology Research and Behavior Management*, Vol. 11, pp. 91-102.
- Gunawan, D. D., & Huarng, K.-H. (2015). Viral effects of social network and media on consumers’ purchase intention. *Journal of Business Research*, 68(11), Elsevier Inc., 2237–2241
- Hair, Joseph F, Arthur H. Money, Phillip Samouel, and Mike Page. *Research Methods for Business*. Chichester: John Wiley and Sons, 2007. Print.
- Homburg, C., Schwemmler, M. and Kuehnl, C. (2015), “New product design: concept, measurement, and consequences”, *Journal of Marketing*, Vol. 79 No. 3, pp. 41-56.
- Horst, P. and Duboff, R. (2015), “Don’t let big data bury your brand: what capital one learned about overrelying on analytics”, *Harvard Business Review*, Vol. 93 No. 11, pp. 78-84.
- Kamakura, A. W. and Russell G. J. (1993) Measuring brand value with scanner data. *International Journal of Research in Marketing* 10(March): 9-22.
- Kapferer, J.N. (1997) *Strategic Brand Management: Creating and Sustaining Brand Equity Long Term*. 2nd edition. London: Kogan Page.
- Keller, K. L. (1993). *Conceptualizing, measuring, managing customer-based brand equity*. research. Reading, MA: Addison-Wesley
- Keller, K.L. (1998) *Strategic Brand Management: Building, Measuring and Managing Brand Equity*. Upper Saddle River NJ: Prentice Hall
- Keller, K.L. (2003), “Brand synthesis: the multidimensionality of brand knowledge”, *Journal of Consumer Research*, Vol. 29 No. 4, pp.595-600.
- Kim H-b.; Kim W.G.; An J.A. (2003) The effect of consumer-based brand equity on firms' financial performance. *Journal of Consumer Marketing* 20(4): 335-351.
- Kim, D.-H., Spiller, L., & Hettche, M. (2015). Analyzing media types and content orientations in Facebook for global brands. *Journal of Research in Interactive Marketing*, 9(1), 4–30. doi:10.1108/jrim-05-2014-0023
- Kumar, D.S., Purani, K. and Viswanathan, S.A. (2018), “Influences of ‘appscape’ on mobile app adoption and m-loyalty”, *Journal of Retailing and Consumer Services*, Vol. 45, pp. 132-141.

- Kumar, J. A., Muniandy, B., & Yahaya, W. A. J. W. (2018). Exploring the effects of visual aesthetics in e-learning for engineering students. *Knowledge Management & E-Learning*, 10(3), 250–264.
- Kusumasondjaja, S. (2019), "Exploring the role of visual aesthetics and presentation modality in luxury fashion brand communication on Instagram" *Journal of Fashion Marketing and Management*
- Lassar, W., Mittal B. , and Sharma A. (1995) Measuring Customer-Based Brand Equity. *Journal of Consumer Marketing* 12(4): 11-19.
- Lavie, T. and Tractinsky, N. (2004), "Assessing dimensions of perceived visual aesthetics of web sites", *International Journal of Human-Computer Studies*, Vol. 60 No. 3, pp. 269-298.
- Lee Y.J., Yang S. (2017) Evolution of Interactivity from B2C to C2C: Exploring Flow Theory and WOM—An Abstract. In: Stielor M. (eds) *Creating Marketing Magic and Innovative Future Marketing Trends. Developments in Marketing Science: Proceedings of the Academy of Marketing Science*. Springer, Cham. https://doi.org/10.1007/978-3-319-45596-9_226
- Leuthesser, Lance. (1988) Defining, measuring and managing brand equity: A conference summary. Report #88-104, Cambridge, MA: Marketing Science Institute.
- Li, L. (2011). Marketing of competence-based solutions to buyers in exploratory relationships: Perspective of OEM suppliers. *Industrial Marketing Management*, 40(7), 1206-1213. doi:10.1016/j.indmarman.2010.11.001
- Lin, I.Y. (2016), "Effects of visual servicescape aesthetics comprehension and appreciation on consumer
- Lindgaard, G., Fernandez, G., Dudek, C., Brown, J.: Attention web designers: You have 50 milliseconds to make a good impression. *Behavior & Information Technology* 25(2), 115–126 (2006)
- Luarn, P., Lin, Y.-F., & Chiu, Y.-P. (2015). Influence of Facebook brand-page posts on online engagement. *Online Information Review*, 39(4), 505–519. doi:10.1108/oir-01-2015-0029
- Maslowska, E., Malthouse, E., & Collinger, T. (2015). The Customer Engagement Ecosystem. *SSRN Electronic Journal*. doi:10.2139/ssrn.2694040
- Moshagen, M. and Thielsch, M.T. (2010), "Facets of visual aesthetics", *International Journal of HumanComputer Studies*, Vol. 68 No. 10, pp. 689-709.
- Motameni, R., Shahrokhi M. (1998). Brand equity valuation: A global perspective. *Journal of Product & Brand Management* 7(4): pp275-290.
- Muntinga, D. G., Moorman, M., & Smit, E. G. (2011). Introducing COBRAs. *International Journal of Advertising*, 30(1), 13–46. doi:10.2501/ija-30-1-013-046
- Napoleoncat (2021), "Instagram user demographics in Indonesia – January 2020", available at: [Instagram users in Indonesia - January 2020 | NapoleonCat](#) (accessed 19 January 2021).
- Osman, M. (2017), "18 Instagram stats every marketer should know for 2018", Sprout Social, 12 February, available at: <https://sproutsocial.com/insights/instagram-stats/> (accessed 5 July 2018).
- Page, C., & Herr, P. M. (2002). An Investigation of the Processes by Which Product Design and Brand Strength Interact to Determine Initial Affect and Quality Judgments. *Journal of Consumer Psychology*, 12(2), 133–147. doi:10.1207/s15327663jcp1202_06
- Park, J., Hyun, H., & Thavisay, T. (2021). A study of antecedents and outcomes of social media WOM towards luxury brand purchase intention. *Journal of Retailing and Consumer Services*, 58, [102272]. <https://doi.org/10.1016/j.jretconser.2020.102272>

- Pengnate, S.F. and Sarathy, R. (2017), “An experimental investigation of the influence of website emotional design features on trust in unfamiliar online vendors”, *Computers in Human Behavior*, Vol. 67, pp. 49-60.
- Phua, J., Jin, S.V. and Hahm, J.M. (2017), “Celebrity-endorsed e-cigarette brand Instagram advertisements: effects on young adults’ attitudes towards e-cigarettes and smoking intentions”, *Journal of Health Psychology*, Vol. 23 No. 4, pp. 550-560.
- Phua, Joe & Ahn, Sun Joo (2016) Explicating the ‘like’ on Facebook brand pages: The effect of intensity of Facebook use, number of overall ‘likes’, and number of friends’ ‘likes’ on consumers’ brand outcomes, *Journal of Marketing Communications*, 22:5, 544-559, DOI: [10.1080/13527266.2014.941000](https://doi.org/10.1080/13527266.2014.941000)
- Rialti, Riccardo, Zollo, Lamberto, Pellegrini, Massimiliano M. & Ciappei, Cristiano (2017) Exploring the Antecedents of Brand Loyalty and Electronic Word of Mouth in Social-Media-Based Brand Communities: Do Gender Differences Matter?, *Journal of Global Marketing*, 30:3, 147-160, DOI: [10.1080/08911762.2017.1306899](https://doi.org/10.1080/08911762.2017.1306899)
- Ridings, C. M., Gefen, D., & Arinze, B. (2002). Some antecedents and effects of trust in virtual communities. *The Journal of Strategic Information Systems*, 11(3-4), 271–295. doi:10.1016/s0963-8687(02)00021-5
- Roncha, A., & Radclyffe-Thomas, N. (2016). How TOMS’ “one day without shoes” campaign brings stakeholders together and co-creates value for the brand using Instagram as a platform. *Journal of Fashion Marketing and Management: An International Journal*, 20(3), 300–321. doi:10.1108/jfmm-10-2015-0082
- Santos, J., & Boote, J. (2003). A theoretical exploration and model of consumer expectations, post-purchase affective states and affective behaviour. *Journal of Consumer Behaviour*, 3(2), 142–156. doi:10.1002/cb.129
- Schivinski, B., Christodoulides, G., & Dabrowski, D. (2016). Measuring Consumers’ Engagement With Brand-Related Social-Media Content. *Journal of Advertising Research*, 56(1), 64–80. doi:10.2501/jar-2016-004
- Schivinski, B., Muntinga, D.G., Pontes, H. M. & Lukasik, Przemyslaw (2019) Influencing COBRAs: the effects of brand equity on the consumer’s propensity to engage with brand-related content on social media, *Journal of Strategic Marketing*, 29:1, 1- 23, DOI: [10.1080/0965254X.2019.1572641](https://doi.org/10.1080/0965254X.2019.1572641)
- Schultz, C. D. (2017). Proposing to your fans: Which brand post characteristics drive consumer engagement activities on social media brand pages? *Electronic Commerce Research and Applications*, 26, 23–34. doi:10.1016/j.elerap.2017.09.005
- Seo, S., Kim, J.K., Kim, S.I. et al. Semantic Hashtag Relation Classification Using Co-occurrence Word Information. *Wireless Pers Commun* 107, 1355–1365 (2019). <https://doi.org/10.1007/s11277-018-5745-y>
- Sheng, M. L., & Teo, T. S. H. (2012). Product attributes and brand equity in the mobile domain: The mediating role of customer experience. *International Journal of Information Management*, 32(2), 139–146. doi:10.1016/j.ijinfomgt.2011.11.017
- [Sheth, J.N.](#) and [Sharma, A.](#) (2005), "International e-marketing: opportunities and issues", [International Marketing Review](#), Vol. 22 No. 6, pp. 611-622. <https://doi.org/10.1108/02651330510630249>

- Shin, J., Chae, H., & Ko, E. (2018). The power of e-WOM using the hashtag: focusing on SNS advertising of SPA brands. *International Journal of Advertising*, 37(1), 71–85. doi:10.1080/02650487.2017.1401519
- Socialbakers (2018). Instagram engagement: Everything you need to know. Retrieved from: www.socialbakers.com/blog/instagram-engagement , accessed: 1 March 2021
- Srivastava, Rajendra K. and Shocker Allan D. (1991) *Brand Equity: A Perspective on its Meaning and Measurement*. Cambridge Mass: Marketing Science Institute.
- Stompff, G. (2010). The forgotten bond: Brand identity and product design. *Design Management Journal (Former Series)*, 14(1), 26–32. doi:10.1111/j.1948-7169.2003.tb00336.x
- Sturgis, P (2016). Structural Equation Modelling (SEM): What it is and what it isn't. <https://www.ncrm.ac.uk/resources/online/all/?main&id=10416> . accessed on: 24 April 2021
- Swait, J., Erdem T., Louviere J. & Dubelaar C. (1993) The equalization price: A measure of consumer-perceived brand equity. *International Journal of Research in Marketing*, 10: 23-45.
- Utomo & Noormega (2019). Indonesia Millennial Report 2020. Retrieved from: cdn.idntimes.com/content-documents/Indonesia-millennial-report-2020-by-IDN-Research-Institute.pdf , accessed on: 3 April 2021
- Valentini, C., Romenti, S., Murtarelli, G. and Pizzetti, M. (2018), “Digital visual engagement: influencing purchase intentions on Instagram”, *Journal of Communication Management*, Vol. 22 No. 4, pp. 362-381.
- Vázquez R., Ríó A.B., Iglesias V. (2002) Consumer-based Brand Equity: Development and Validation of a Measurement Instrument. *Journal of Marketing Management* 18(1-2): 27-48.
- Voss, K.E., Spangenberg, E.R. and Grohmann, B. (2003), “Measuring the hedonic and utilitarian dimensions of consumer attitude”, *Journal of Marketing Research*, Vol. 40
- Washburn, J.H. and Plank R.E. (2002). Measuring brand equity: an evaluation of a consumer-based brand equity scale. *Journal of Marketing Theory and Practice* 10(1): 46-62.
- Winters, L.C. (1991) Brand Equity Measures: Some Recent Advances. *Marketing Research* 3: 70-73.
- Yoo, B. and Donthu N. (2001) Developing and validating a multidimensional consumer-based brand equity scale. *Journal of Business Research* 52(1): 1-14.
- World Bank (2021). World Development Indicators,. Retrieved from: www.datatopics.worldbank.org/world-development-indicators/. Accessed: 12 May 2021
- Wrigley, C. (2013), “Design dialogue: the visceral hedonic rhetoric framework”, *Design Issues*, Vol. 29 No. 2, pp. 82-95.
- Yoo, B. and Donthu N. (2001) Developing and validating a multidimensional consumer-based brand equity scale. *Journal of Business Research* 52(1): 1-14.
- Zhang, J., & Mao, E. (2016). From online motivations to Ad clicks and to behavioral intentions: An empirical study of consumer response to social media advertising. *Psychology & Marketing*, 33 (3), 155–164.

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