CHAPTER 3 – RESEARCH METHODS

3.1. Type of Study

As the purpose of this research is to find the factors that influence behavioural intention of household waste, this research paper will provide the dynamic view of analysis that is going in the household of Jakarta. This type of study will be conducted in a quantitative research form to provide the analysis from the data that has been collected over time and to look for the changes in those findings. This means that, questionnaires, interviews and surveys may be used to gather information (Muijs, 2011). As a result, in the information gathered is interpreted numerically.

3.2. Unit Analysis

The unit of analysis is the person who constructs what is being studies, or the person who is being studies as a whole, within which most causality and change components occur (Green & Haines, 2015). Groups, associations and entities are common examination units (Maxfield & Babbie, 2014). Other units such as individuals, places or things are also a common unit (Lapan et al., 2012). For the unit analysis, there are some units that the researcher needs in order to collect the data and applied to the research. Therefore, the unit analysis is the corrugated box industry and the unit observation are the people who own houses, particularly those who lives in Jabodetabek and at the ages of 18 to more than 51, who have done waste sorting beforehand.

3.3. Sampling Design

3.3.1. Population and Sampling

The population is the community of individuals, activities, or items that the researcher is primarily interested in (Sekaran & Bougie, 2016). A subset of the population resulting from the application of different individuals, items, or

events represent the whole population (Sekaran & Bougie, 2016). Thus, the population of this research are the people who have done waste sorting before in their household with minimum once in their past one year. Also, adults who owns or currently living in a house, within Jakarta area. To narrow it down for the research sample, or a smaller portion of the population, only adults within the age range of 18 years above that have conducted waste sorting before in their own house and like to continue the action as part of their behaviour will be eligible to participate.

3.3.2. Sampling Method

For this research, the sampling method that will be used is non-probability sampling. Non-probability sampling, is a system in which non-probability is added to elements in the population being selected as sample subjects (Sekaran & Bougie, 2016). This suggest that the results of sample studies cannot be applied to the whole population. Since the subjects are chosen based on their experience in the topic under investigation, judgemental sampling is used as part of the non-probability process (Sekaran & Bougie, 2016).

3.3.3. Sampling Size

The sample size must be calculated since it allows researchers to obtain accurate and meaningful results from a sample that is the representative of the population. Hair et al (2010) mentioned that sample size should be determined by the sophistication of the variables in the study; thus, the sample size calculations are as follows:

$$n = \text{number of statements x } 5$$

$$n = 26 \text{ x } 5$$

$$n = 130$$

Therefore, the minimum of respondents that is needed for this research is 120 respondents. However, for the purpose of this research the goal is to get 170

respondents for a more constructive data. Additionally, the confidence level for this research is 95%, giving a marginal error of a maximum of 5%.

3.4. Timeframe of Study

Date	Agenda
9 February 2021	Thesis Proposal Approval
15 February 2021	Revised Thesis Proposal Submission
19 February 2021	Revised Thesis Proposal Approval
22 February 2021	Start Thesis
8 March 2021	Thesis Submission Chapter 1 (Introduction)
29 March 2021	Thesis Submission Chapter 2 (Literature Review)
12 April 2021	Thesis Submission Chapter 3 (Methodology)
19 April 2021	Thesis Colloquium
21 May 2021	Thesis Submission Chapter 4 (Data Analysis)
4 June 2021	Thesis Submission Chapter 5 (Conclusion and Recommendation)
14 June 2021	Final Thesis Submission

Table 3. 1 Timeframe of Study
Source: Author, 2021

3.5. Data Source and Collection

3.5.1. Type of Data

As for the type of data that will be used in this study, there are primary and secondary data. These two types of data are strategies that will be used in this research to gather information that is need for research methodology (Saunders et al., 2019). Both of this data will ensure that the data collected is reliable and verifiable.

3.5.1.1. Primary Data

To collect the primary data for this research, the author will create list of questionnaires. These questionnaires will be based from the indicators that has been analysed in the literature review. Then, the questionnaires will be distributed to the participants who have done waste sorting before in their own houses, specifically to those who lives in Jabodetabek. Moreover, before the distribution of the final questionnaires, a pre-test will be conducted to assess that survey instruments' reliability and validity.

3.5.1.2. Secondary Data

Secondary data is data that has already been gathered from other media, such as data published from scientific journal (Mesly, 2015). Moreover, the secondary data that has already been collected for the purpose of this research has been found from the World Bank Group, and other published journals from Science Direct, Google Scholar and Emerald Insight.

3.5.2. Data Collection Method

Data collection refers to the process of collecting dating, testing hypothesis, and evaluating the outcomes (Saunders et al., 2019). The data required for this study will be gathered through researching online and an online questionnaire. The aim of online research is to collect all secondary data, while the purpose of an online questionnaire is to collect primary data. The questionnaire will be design to measure the variables that has been mentioned during this research studies and will be distributed to the individuals who own or live in a household and have the experience on sorting waste before.

3.5.3. Questionnaire Development and Structure

This research study will be using a close-ended questions and Likert scale or rating scale. The survey will include questions regarding the respondents' demographics, attitude, subjective norm, perceived behavioural control, environmental concern, personal moral obligation and behavioural intention. Every variable's indicators will be answered on a Likert scale of 1 to 5 as it shown in Table 3.2:

Scales	Indicators
1	Strongly Disagree
2	Disagree
3	Neutral
4	Agree
5	Strongly Agree

Table 3. 2 Likert Scale
Source: (Cooper & Schindler, 2014)

As it was mentioned above, the indicators and variables were used to create the questionnaires. The variables were revealed from the secondary data research as it defines the operational definition. Moreover, in order to get as many people to answer as possible, 5 lucky people will be chosen to win in a draw. Therefore, the questionnaire structure is shown below:

I. Introduction:
   - Contains an opening statement that outlines the research's key goals and the problems.

II. Screening Questions
   - It consists 3 closed-ended questions that are used to narrow down the study's target population: (1) the respondent age group, (2) has the respondent familiar with waste sorting, (3) has the respondent ever sort their waste in their own household. For those who fail to pass the screening questions will not be allowed

to continue with the rest of the questionnaire, thus, will be directed to exit the question segment.

III. Attitude
- Consists of 4 close-ended questions regarding the respondents' attitude towards waste sorting.

IV. Subjective Norm
- Consists of 5 close-ended questions regarding the respondents' subjective norm around waste sorting.

V. Perceived Behavioural Control
- Consists of 4 close-ended questions regarding the respondents' perceived behavioural control towards waste sorting.

VI. Environmental Concern
- Consists of 4 close-ended questions regarding the respondents' perception on environmental concern.

VII. Personal Moral Obligation
- Consists of 4 closed-ended questions regarding the respondents' personal moral obligation towards waste sorting.

VIII. Behavioural Intention
- Consists of 5 closed-ended questions regarding the respondents' behavioural intention towards household waste sorting.

IX. Respondents' Profile
- Consists of 5 closed ended questions to examine the respondent's profile.

3.5.4. Variable Operationalization

No.	Variable(s)	Definition	Measurement Items
Independent Variables			
1	Attitude	Attitude is defined as individual's perception on whether the action is	ATT1: I think Household waste sorting is important. (Shen et al., 2019)
2			ATT2: I think household waste sorting is beneficial. (Shen et al., 2019)

		right or wrong, good or bad, beneficial, attractive, friendly, and interesting to the person. (Chan, 1998)	
3			ATT3: I think household waste sorting is wise. (Shen et al., 2019)
4			ATT4: I think household waste sorting is important to protect the environment. (Developed from B. Zhang et al., 2019)
5	Subjective Norm	Subjective norm is defined as an individual's perception of social pressure from people who are important to him or her, who believe that specific individual should or should not do something. (Gao et al., 2017)	SN1: My family thinks that I should do household waste sorting. (Shen et al., 2019)
6			SN2: My friends think I should do household waste sorting. (Developed from Shen et al., 2019)
7			SN3: My colleagues think that I should do household waste sorting. (Developed from B. Zhang et al., 2019)
8			SN4: My families and friends are doing household waste sorting. (Developed from Shen et al., 2019)
9	Perceived Behavioural Control	Perceived behavioural control is concerned with the judgements of how well one can execute courses of action required to deal with prospective situations. (Ajzen, 1991)	PBC1: Household waste sorting is effortless. (Developed from Shen et al., 2019)
10			PBC2: I have the time and opportunities, to perform household waste sorting. (Developed from Shen et al., 2019)
11			PBC3: I have the willingness to perform household waste sorting. (Developed from Shen et al., 2019)
12			PBC4: I can control myself to do household waste sorting. (Developed from Q. Wang et al., 2020)

13			PBC5: It is up to me to sort waste in my house. (Developed from Q. Wang et al., 2020)
14	Environmental Concern	Environmental concern is defined as one's attitude toward specific environmental topic that are distinct in some ways, but are ultimately reflections of a single, broad environment attitude (Dunlap & Jones, 2002)	EC1: Environmental issue such as waste is related to human survival. (Developed from Shen et al., 2019)
15			EC2: Activities such as household waste sorting affect the environment survival. (Developed from Shen et al., 2019)
16			EC3: A proper waste sorting is an act to live in harmony with nature to survive. (Developed from Shen et al., 2019)
17			EC4: Unsorted waste is harmful for the environment. (Developed from Shen et al., 2019)
18	Personal Moral Obligation	Personal moral obligation refers to a person's sense of duty to carry out a specific action based on the individual's own principles, which ultimately benefits the common good. (Han & Hyun, 2017)	PMO1: Everyone has a moral obligation to conduct household waste sorting behaviours in daily life. (Shen et al., 2019)
19			PMO2: I believe that I have a responsibility to conduct household waste sorting behaviours in daily life. (Shen et al., 2019)
20			PMO3: I would feel guilty if I were not involved in household waste sorting behaviours in daily life. (Shen et al., 2019)
21			PMO4: I have a commitment to do household waste sorting to reduce environmental damage. (Q. Wang et al., 2020)

Dependent Variable			
22	Behavioural Intention	Behavioural intention is a person's subjective probability that he will perform some behaviour. In this context, performing a behaviour of waste sorting. (Fishbein & Ajzen, 1975)	BI1: I plan to take part in household waste sorting behaviour shortly. (Shen et al., 2019)
23			BI2: I will make an effort to take part in household waste sorting behaviour shortly. (Shen et al., 2019)
24			BI3: I intend to isolate recyclable waste separately when discarding. (Shen et al., 2019)
25			BI4: I intend to sort waste although nobody does in my neighbourhood. (Shen et al., 2019)
26			BI5: Although household waste sorting consume time, I still do it. (Shen et al., 2019)

Table 3. 3 List of Variable Operationalization
Source: Author, (2021)

3.6. Data Processing Procedure

3.6.1. Pre-Test

The aim of a preliminary test of the questionnaires is to reduce errors and identify potential complications (Sekaran & Bougie, 2016). This study's questionnaires were distributed to 30 respondents in the process. Following that, errors were corrected to meet up the variable questionnaires' accuracy. Moreover, since the majority of the respondents that were tested are Indonesians and prone to only speak Bahasa Indonesia, therefore, as suggested from Surgawi et al. (2017), translation of the questionnaire is important to be understand by the respondents so that the result from the answers of the questionnaires is accurate. Thus, the questionnaires that have been distributed has both of the languages, Bahasa Indonesia and English. Additionally, the researcher conducted an informal test from 5 sample of the respondents and asked them if they can easily understand the meaning of each translation of the variable

questionnaires. Based from the result, the 5 respondents understand the translation of the questionnaires. Subsequently, the researcher distributed to 30 respondents via online to inspect if there are any errors. Furthermore, pre-test was conducted and validity of the questionnaire was proved.

3.6.2. Validity Test

According to Sekaran and Bougie (2016), a validity test determines how reliable elements are in their ability to contribute to research hypotheses and aid researchers in solving the research issue. As for the validity test for this study, it will be evaluated with the Statistical Package for the Social Sciences (SPSS) software, and the correlation will be calculated with Pearson Correlation. As a result, the research's validity will be calculated and evaluated using the parameters below:

Construct Validity Parameters	Acceptance Parameter
Overall Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO)	KMO > 0.50
Anti-image Matrices (MSA)	MSA ≥ 0.50
Bartlett's Test of Sphericity Significance	Sig < 0.05
Component Matrix Score (Factor Loading)	Factor ≥ 0.50
Component Matrix Column	Showing the components matrix in 1 column

Table 3. 4 Validity Test Acceptance Parameter
Source: Adam, 2018

After all the data from the respondents are collected, the next step is to form a raw data from the respondents into Excel spreadsheet. These data from Excel spreadsheet will be used to prepare for data screening. From those screening, the data will be analysed if they are valid or not valid. The researcher has collected the required amount of data from the questionnaires that has been distributed before, from those data collected, a pre-test was conducted to show if the data are valid or not. The result of each variables pre-tests is shown below:

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.685
Bartlett's Test of Sphericity	Approx. Chi-Square	54.590
	df	6
	Sig.	.000

Table 3. 5 Pre-Test KMO and Bartlett's Test of Attitude
Source: Author, SPSS Output, 2021

In table 3.5 it shows the KMO and Bartlett's Test of Attitude. The score of the KMO pre-test of Attitude is 0.685, showing that it is above 0.50, meaning that it is above the KMO's validity parameter and can be used for further research. Furthermore, the Bartlett's Test significance value of attitude shows that it is below 0.05 that measures 4 indicators of the variables. Meaning that all the indicators of Attitude are valid and can be used for further research.

Anti-image Matrices

		ATT1	ATT2	ATT3	ATT4
Anti-image Covariance	ATT1	.486	-.202	-.174	.124
	ATT2	-.202	.505	-.055	-.095
	ATT3	-.174	-.055	.289	-.228
	ATT4	.124	-.095	-.228	.405
Anti-image Correlation	ATT1	.659[a]	-.407	-.465	.280
	ATT2	-.407	.818[a]	-.144	-.210
	ATT3	-.465	-.144	.662[a]	-.666
	ATT4	.280	-.210	-.666	.627[a]

a. Measures of Sampling Adequacy(MSA)

Table 3. 6 Pre-Test Anti-image Matrices of Attitude
Source: Author, SPSS Output, 2021

In table 3.6 it shows the result of the anti-image correlation value (value a) such as 0.659; 0.818; 0.662; 0.627. these values are above 0.50 which are within the acceptance parameter of MSA. Meaning that the 4 indicators of Attitude are valid and the variable can be used to be analysed further in this research.

Communalities

	Initial	Extraction
ATT1	1.000	.602
ATT2	1.000	.693
ATT3	1.000	.828
ATT4	1.000	.626

Extraction Method: Principal Component Analysis.

Table 3. 7. Pre-Test Communalities of Attitude
Source: Author, SPSS Output, 2021

Furthermore, in table 3.7 is shown the score of communalities of Attitude, which all of the indicators' score is above 0.50. This means that all the indicators for Attitude variable are all valid. Therefore, the variable can be used further in this research.

Component Matrix[a]

	Component 1
ATT1	.776
ATT2	.832
ATT3	.910
ATT4	.791

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Table 3. 8. Pre-Test Component Matrix of Attitude
Source: Author, SPSS Output, 2021

Moreover, as it shown on table 3.8 regarding component matrix of Attitude variable, shows that all the indicators or measurement items scores are all above 0.50, which is more than the based acceptance parameter of component matrix. Therefore, the variable of Attitude is valid and can be used to analysed further in this research.

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.656
Bartlett's Test of Sphericity	Approx. Chi-Square	78.373
	df	6
	Sig.	.000

Table 3. 9. Pre-Test KMO and Bartlett's Test of Subjective Norm
Source: Author, SPSS Output, 2021

As shown in Table 3.9 above, regarding the pre-test of KMO and Bartlett's Test of Subjective Norm, the score KMO test is resulted 0.656, which is considered valid since it is above 0.50 or above acceptance parameter. Moreover, since the significance value of Bartlett's Test is below 0.05, it means that the 4 given indicators of Subjective Norm are valid.

Anti-image Matrices

		SN1	SN2	SN3	SN4
Anti-image Covariance	SN1	.449	-.035	-.109	.078
	SN2	-.035	.366	-.127	.106
	SN3	-.109	-.127	.123	-.144
	SN4	.078	.106	-.144	.267
Anti-image Correlation	SN1	.806[a]	-.087	-.462	.224
	SN2	-.087	.714[a]	-.596	.340
	SN3	-.462	-.596	.595[a]	-.791
	SN4	.224	.340	-.791	.590[a]

a. Measures of Sampling Adequacy(MSA)

Table 3. 10. Pre-Test Anti-image Matrices of Subjective Norm
Source: Author, SPSS Output, 2021

For the pre-test Anti-image Matrices of Subjective Norm, all the indicators have anti-image correlation value above 0.50, which are 0.806; 0.714; 0.595; 0.590. This means that the four indicators of Subjective Norm are valid and can be used to analysed further in this research.

Communalities

	Initial	Extraction
SN1	1.000	.669
SN2	1.000	.697
SN3	1.000	.929
SN4	1.000	.659

Extraction Method: Principal Component Analysis.

Table 3. 11. Pre-Test Communalities of Subjective Norm
Source: Author, SPSS Output, 2021

Furthermore, the communalities pre-test score of Subjective Norm are all above 0.50. This means that the 4 indicators of Subjective Norm are all valid and can be used further in this research to be analysed.

Component Matrix[a]

	Component 1
SN1	.818
SN2	.835
SN3	.964
SN4	.812

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Table 3. 12. Pre-Test Component Matrix of Subjective Norm
Source: Author, SPSS Output, 2021

As for the pre-test Component Matrix of Subjective Norm, all the components are shown to be above 0.50. This means that the indicators for Subjective Norm are all valid, since they scored above the acceptance parameter in Component Matrix. Thus, the variable of Subjective Norm can be used to be analysed further in this research.

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.687
Bartlett's Test of Sphericity	Approx. Chi-Square	63.347
	df	10
	Sig.	.000

Table 3. 13. Pre-Test KMO and Bartlett's Test of Perceived Behavioural Control
Source: Author, SPSS Output, 2021

In the case of the pre-test KMO and Bartlett's Test of Perceived Behavioural Control, the KMO score is resulted 0.687, which the result is above 0.50, meaning that it is valid. Moreover, the significance value of Bartlett's Test for Perceived Behavioural Control is below 0.05, this means that the 5 measurement items of Perceived Behavioural Control is considered valid and can be used to be analysed further in this research.

Anti-image Matrices

		PBC1	PBC2	PBC3	PBC4	PBC5
Anti-image Covariance	PBC1	.330	-.245	-.161	-.108	.132
	PBC2	-.245	.416	.095	.017	-.171
	PBC3	-.161	.095	.494	-.129	-.133
	PBC4	-.108	.017	-.129	.433	-.205
	PBC5	.132	-.171	-.133	-.205	.529
Anti-image Correlation	PBC1	.621[a]	-.661	-.398	-.286	.315
	PBC2	-.661	.632[a]	.209	.040	-.364
	PBC3	-.398	.209	.759[a]	-.279	-.261
	PBC4	-.286	.040	-.279	.790[a]	-.429
	PBC5	.315	-.364	-.261	-.429	.651[a]

a. Measures of Sampling Adequacy(MSA)

Table 3. 14. Pre-Test Anti-image Matrices of Perceived Behavioural Control
Source: Author, SPSS Output, 2021

As it is shown in table 3.14 above, the indicators' pre-test Anti-image Matrices of Perceived Behavioural Control have values bigger than 0.50. The score such as 0.621; 0.632; 0.759; 0.790; 0.651 are all valid since it is above the acceptance parameter in Anti-image Matrices. This means that the variable of Perceived Behavioural Control can be used further in this research.

Communalities

	Initial	Extraction
PBC1	1.000	.673
PBC2	1.000	.578
PBC3	1.000	.612
PBC4	1.000	.703
PBC5	1.000	.512

Extraction Method: Principal Component Analysis.

Table 3. 15. Pre-Test Communalities of Perceived Behavioural Control
Source: Author, SPSS Output, 2021

Furthermore, in table 3.15 above, regarding the pre-test Communalities of Perceived Behavioural Control, all the indicators are shown to be above 0.50, meaning that the indicators are considered valid. As for PBC5, the score seems too weak since it is close to the value of 0.50. Therefore, the author decided not to use PBC5 as the measurement items of Perceived Behavioural Control.

Component Matrix[a]

	Component 1
PBC1	.820
PBC2	.760
PBC3	.783
PBC4	.839
PBC5	.716

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Table 3. 16. Pre-Test Component Matrix of Perceived Behavioural Control
Source: Author, SPSS Output, 2021

Moreover, in the pre-test Component Matrix of Perceived Behavioural Control, the score of each indicator are all considered valid since they are above 0.50 or above the acceptance parameter of Component Matrix. Thus, the variable of Perceived Behavioural Control can be used to be analysed further in this research.

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.777
Bartlett's Test of Sphericity	Approx. Chi-Square	55.978
	df	6
	Sig.	.000

Table 3. 17. Pre-Test KMO and Bartlett's Test of Environmental Concern
Source: Author, SPSS Output, 2021

As for the pre-test KMO and Bartlett's Test of Environmental Concern, the result of the score of KMO is 0.777, which is above 0.50. This makes all the indicators of Environmental Concern valid. Furthermore, the significance value of the Bartlett's Test is below 0.05, this means that the 4 indicators of Environmental Concern valid and can be used to analysed further in this research.

Anti-image Matrices

		EC1	EC2	EC3	EC4
Anti-image Covariance	EC1	.329	-.202	-.103	-.004
	EC2	-.202	.313	-.099	-.071
	EC3	-.103	-.099	.455	-.163
	EC4	-.004	-.071	-.163	.700
Anti-image Correlation	EC1	.732[a]	-.629	-.267	-.008
	EC2	-.629	.733[a]	-.261	-.151
	EC3	-.267	-.261	.841[a]	-.288
	EC4	-.008	-.151	-.288	.866[a]

a. Measures of Sampling Adequacy(MSA)

Table 3. 18. Pre-Test Anti-image Matrices of Environmental Concern
Source: Author, SPSS Output, 2021

In the table 3.18 above, it is shown that the anti-image value of Environmental Concern such as 0.732; 0.733; 0.841; 0.866, are all above 0.50 or above the acceptance parameter of Anti-image Matrices. This stated that the indicators used for Environmental Concern are all valid and can be used for this research to be analysed further.

Communalities

	Initial	Extraction
EC1	1.000	.778
EC2	1.000	.806
EC3	1.000	.742
EC4	1.000	.484

Extraction Method: Principal Component Analysis.

Table 3. 19. Pre-Test Communalities of Environmental Concern
Source: Author, SPSS Output, 2021

Furthermore, in the table 3.19, regarding the pre-test Communalities of Environmental Concern, it can be seen that there is one indicator that do not meet the requirement of acceptance parameter, which is EC4 with the score 0.484. This means that indicator EC4 is invalid and cannot be inspected further for this research paper. However, the rest of the indicators such as EC1, EC2, and EC3 have scores above 0.50, this means that the indicators or the measurement items for Environmental Concern is valid and can be used to be analysed further in this research.

Component Matrix[a]

	Component 1
EC1	.882
EC2	.898
EC3	.862
EC4	.696

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Table 3. 20. Pre-Test Component Matrix of Environmental Concern
Source: Author, SPSS Output, 2021

In table 3.20 above, regarding the pre-test Component Matrix of Environmental Concern, it is shown that all the indicators or the measurement items for Environmental Concern are above 0.50. This means that the indicators are all valid and can be used further in this research.

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.754
Bartlett's Test of Sphericity	Approx. Chi-Square	51.398
	df	6
	Sig.	.000

Table 3. 21. Pre-Test KMO and Bartlett's Test of Personal Moral Obligation
Source: Author, SPSS Output, 2021

In the case of the pre-test KMO and Bartlett's Test of Personal Moral Obligation, the KMO score is 0.754, meaning that the indicators or measurement items for Personal Moral Obligation are all valid. Furthermore, for Bartlett's Test, it is shown that the significance value is below 0.05, meaning that the 4 indicators or measurement item of Personal Moral Obligation are all valid and can be used further in this research.

Anti-image Matrices

		PMO1	PMO2	PMO3	PMO4
Anti-image Covariance	PMO1	.407	-.245	-.125	-.032
	PMO2	-.245	.462	-.039	-.058
	PMO3	-.125	-.039	.434	-.246
	PMO4	-.032	-.058	-.246	.510
Anti-image Correlation	PMO1	.739[a]	-.566	-.298	-.071
	PMO2	-.566	.754[a]	-.086	-.120
	PMO3	-.298	-.086	.756[a]	-.522
	PMO4	-.071	-.120	-.522	.770[a]

a. Measures of Sampling Adequacy(MSA)

Table 3. 22. Pre-Test Anti-image Matrices of Personal Moral Obligation
Source: Author, SPSS Output, 2021

In the table 3.22 above, it is shown the result of the pre-test Anti-image Matrices of Personal Moral Obligation. It can be shown based from the value of each indicators are all higher than 0.50, meaning that the indicators or the measurement items for Personal Moral Obligation are all valid and can be used further in this research.

Communalities

	Initial	Extraction
PMO1	1.000	.739
PMO2	1.000	.678
PMO3	1.000	.728
PMO4	1.000	.643

Extraction Method: Principal Component Analysis.

Table 3. 23. Pre-Test Communalities of Personal Moral Obligation
Source: Author, SPSS Output, 2021

Moreover, as it shown in the table 3.23 above, the score of indicators for the pre-test Communalities of Personal Moral Obligation are all above 0.50. which means that all the 4 indicators are valid and can be used further in this research.

Component Matrix[a]

	Component 1
PMO1	.860
PMO2	.823
PMO3	.853
PMO4	.802

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Table 3. 24. Pre-Test Component Matrix of Personal Moral Obligation
Source: Author, SPSS Output, 2021

As for the pre-test Component Matrix of Personal Moral Obligation, it seems that there are 4 components that are above 0.50, meaning the indicators are all valid and can be used further to be analysed in this research.

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.700
Bartlett's Test of Sphericity	Approx. Chi-Square	50.177
	df	10
	Sig.	.000

Table 3. 25. Pre-Test KMO and Bartlett's Test of Behavioural Intention
Source: Author, SPSS Output, 2021

In the table 3.25 above, regarding the pre-test KMO and Bartlett's Test of Behavioural Intention, shows that the KMO score is above 0.50, which is above the acceptance parameter for KMO Test, thus, making the indicators valid. As for the significance value of Bartlett's Test of Sphericity is below 0.05, that means the 5 indicators of Behavioural Intention are all valid.

Anti-image Matrices

		BI1	BI2	BI3	BI4	BI5
Anti-image Covariance	BI1	.327	-.167	-.230	-.122	.040
	BI2	-.167	.438	-.043	-.064	-.204
	BI3	-.230	-.043	.445	.129	-.021
	BI4	-.122	-.064	.129	.793	-.154
	BI5	.040	-.204	-.021	-.154	.743
Anti-image Correlation	BI1	.658[a]	-.441	-.604	-.241	.081
	BI2	-.441	.764[a]	-.098	-.109	-.357
	BI3	-.604	-.098	.678[a]	.217	-.037
	BI4	-.241	-.109	.217	.685[a]	-.200
	BI5	.081	-.357	-.037	-.200	.727[a]

a. Measures of Sampling Adequacy(MSA)

Table 3. 26. Pre-Test Anti-image Matrices of Behavioural Intention
Source: Author, SPSS Output, 2021

As shown in table 3.26 above, the anti-image correlation value for the indicators of Behavioural Intention are 0.658; 0.764; 0.678; 0.685; 0.727. These values are above 0.50, meaning they are above the acceptance parameter for Anti-image Matrices, making them valid and can be used further in this research.

Communalities

	Initial	Extraction
BI1	1.000	.844
BI2	1.000	.747
BI3	1.000	.841
BI4	1.000	.688
BI5	1.000	.604

Extraction Method: Principal Component Analysis.

Table 3. 27. Pre-Test Communalities of Behavioural Intention
Source: Author, SPSS Output, 2021

In the pre-test Communalities of Behavioural Intention above, the score for each indicator are all above 0.50, this means that they are above the acceptance parameter for Communalities, making them valid and can be used to be analysed further in this research.

Component Matrix[a]

	Component	
	1	2
BI1	.876	-.277
BI2	.865	.001
BI3	.763	-.509
BI4	.505	.658
BI5	.592	.504

Extraction Method: Principal Component Analysis.

a. 2 components extracted.

Table 3. 28. Pre-Test Component Matrix of Behavioural Intention Attempt 1
Source: Author, SPSS Output, 2021

In the pre-test Components Matrix od Behavioural Intention, however, it seems that there are 2 section of components column, while the acceptance parameter for Components Matrix in this study should only shows 1 column. This means that the variable of Behavioural Intention is not valid and need to find out the indicators that caused the column to do so. Therefore, another attempt was made to make the Component Matrix to have 1 column.

Component Matrix[a]

	Component 1
BI1	.918
BI2	.851
BI3	.814
BI4	.472

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Table 3. 29. Pre-Test Component Matrix of Behavioural Intention Attempt 2
Source: Author, SPSS Output, 2021

In the second attempt of making the Component Matrix of Behavioural Intention to have 1 column, the indicator of BI5 was removed from the equation. As it shown above, the results were BI1, BI2 and BI3 are valid since they are above the acceptance parameter or above 0.50. However, BI4 did not passed the acceptance parameter since it is below 0.50. The author can remove BI4 as the measurement items of Behavioural Intention, however, another attempt was made to make sure there are other indicators that can passed the acceptance parameter.

Component Matrix[a]

	Component 1
BI1	.889
BI2	.866
BI3	.817
BI5	.565

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Table 3. 30. Pre-Test Component Matrix of Behavioural Intention Attempt 3
Source: Author, SPSS Output, 2021

As a result, BI5 was added again to the equation and score for all the indicators were above the acceptance parameter or above 0.50. Moreover, there are only 1 column made, making it valid for the indicators to used further in this research. Therefore, the author decided to use the indicators of BI1, BI2, BI3 and BI5 as the measurement items of Behavioural Intention.

3.6.3. Reliability Test

A reliability test, according to Cooper and Schindler (2014), is the degree to which a test consistently measures whatever it measures. Therefore, to reduce measurement errors, the data collection instrument must be consistent, accurate, and precise.

In this research, the Cronbach's Alpha module in SPSS Software will ensure the reliability test. If the esteem is less than 0.6, it indicates that the variable has a poor relationship, thus, the result estimation must be greater than 0.7 in order to proceed to the next stage. Below is the table measurement of Cronbach's Alpha in Table 3.31.

Cronbach's Alpha	Internal Consistency
$\alpha > 0.90$	Excellent
$0.70 < \alpha < 0.90$	Good
$0.60 < \alpha < 0.70$	Acceptable
$0.50 < \alpha < 0.60$	Poor
$\alpha < 0.50$	Unacceptable

Table 3. 31. Cronbach's Alpha Measurement Table
Source: Tavakol and Dennick (2011)

Latent Variables	Cronbach's Alpha Acceptance Parameter	Estimated Cronbach's Alpha	Reliability Conclusion
Attitude	Cronbach's Alpha > 0.70	0.833	Reliable
Subjective Norm		0.878	Reliable
Perceived Behaviour Control		0.820	Reliable
Environmental Concern		0.878	Reliable

Personal Moral Obligation		0.846	Reliable
Behavioural Intention		0.798	Reliable

Table 3. 32. Overview Pre-Test Result of Reliability Test
Source: Author, SPSS Output, 2021

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.833	.846	4

Table 3. 33. Pre-Test Reliability Test of Attitude
Source: Author, SPSS Output, 2021

As it shown from the table 3.32 above, the result of Cronbach's Alpha value for Attitude is 0.833. This means that the measurement items of Attitude are reliable, since it is greater than 0.70 or above the acceptance parameter.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.878	.880	4

Table 3. 34. Pre-Test Reliability Test of Subjective Norm
Source: Author, SPSS Output, 2021

As it shown from the table above, the result of Cronbach's Alpha value for Subjective Norm is 0.878. This means that the measurement items of Attitude are reliable, since it is greater than 0.70 or above the acceptance parameter.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.820	.832	4

Table 3. 35. Pre-Test Reliability Test of Perceived Behavioural Control
Source: Author, SPSS Output, 2021

The result of the reliability test of Perceived Behavioural Control, it is shown that the is 0.820, which is above 0.70. This means that the measurement items of Perceived Behavioural Control are reliable.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.878	.883	3

Table 3. 36. Pre-Test Reliability Test of Environmental Concern
Source: Author, SPSS Output, 2021

The result from the Cronbach's Alpha pre-test for Environmental Concern is 0.878 from the table above. The result was shown to be above 0.70, this means that the measurement items of Environmental Concern is reliable.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.846	.855	4

Table 3. 37. Pre-Test Reliability Test of Personal Moral Obligation
Source: Author, SPSS Output, 2021

From the table above, it is shown that the result of the Cronbach's Alpha value for Personal Moral Obligation is 0.846. The value is above 0.70, this means that the measurement items of Personal Moral Obligation is reliable.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.798	.796	4

Table 3. 38. Pre-Test Reliability Test of Behavioural Intention
Source: Author, SPSS Output, 2021

As it shown from the table above, the result of the Cronbach's Alpha of Behavioural Intention is 0.798. The value shown is greater than 0.70, this means that the measurement items of Behavioural Intention is reliable.

3.7. Post-Test

Post-test is a follow-up test to the pre-test (Sekaran & Bougie, 2016). The updated questionnaire is distributed to the selected sample for the data collection at this point. As a result, the feedback from the pre-test must be considered, and updated questions that are widely identified by respondents and represent the study's variables should be created.

3.7.1 Classical Assumption Test

3.7.1.1. Normality Test

The first step in a classical assumption test is the normality test. In this study, the Normality Test through Kolmogorov-Smirnov will be used and Normality Test with Normal Probability Plot (P-Plot Test) and Historic Graphic to determine whether the data is normal. When the assumption data is considered to be normal, the value of the significance (2 tailed) is greater than the value of alpha 0,05.

3.7.1.2. Linearity Test

A linearity test is used to determine whether or not two variables have a significant linear relationship. In other word, the linearity test can be used to determine the significance of the correlation between the independent variables, as well as the value of the dependent variable when the independent variable is set to a certain value (Khushbu & Suniti, 2018). These parameters could indicate a significant linear relationship: data spread along a diagonal line, and the graph travels upwards from the bottom left corner to the upper right corner.

3.7.1.3. Heteroscedasticity Test

Heteroscedasticity is the next step in a standard assumption evaluation. Heteroscedasticity, according Hair et al (2020), refers to the distribution of covariance along the regression in line that is inconsistent, whereas homoscedasticity refers to the range of values along the regression line that is consistent. Therefore, heteroscedasticity must be avoided for a good result, which means that the significance value must be greater than 0.05. To check the heteroscedasticity of a data, the Glejser method will be used.

3.7.1.4. Autocorrelation Test

The autocorrelation test is used to see if there is a related error in the results. A good regression model is one that does not have associated errors (Hair et al., 2007)

In this study, the author used the Durbin Watson equation with the following parameter to see whether there was a correlated error.

1. If the Durbin Watson score is < dL or > 4-dL, it indicates that there are correlated errors.
2. If the Durbin Watson score is between dU and 4-dU, that means that there are no correlated errors have occurred.
3. If the Durbin-Watson score falls between dL and dU, or between 4-dU and 4dL, it means that no conclusion can be drawn.

3.7.1.5. Multicollinearity Test

For multicollinearity test, it is used to decide if the independent variables are related (Sekaran & Bougie, 2016). The following factors can be used to make a decision in a multicollinearity test:

1. Tolerance Value
    - If the Tolerance score > 0.10 means that there is no multicollinearity in the data.
    - If the tolerance score < 0.10 means that the multicollinearity happens in the data.
2. Variance Inflation Factor (VIF)
    - If VIF score is < 10.0 mean that there is no multicollinearity in the data
    - If VIF score > 10.0 means that the multicollinearity happens in the data

3.7.2. Multiple Regression Analysis

Multiple linear regression analysis is used to assess the effect of CBBE and its dimensions on purchasing intention, both separately and together. Therefore, the strength of each hypothesis can be measured and compared using this method of study (Sekaran & Bougie, 2016). The analysis of multiple regression consists of F-Test and T-Test.

- **F-Test**

The F-test, also known as ANOVA, is used to decide whether any of the independent's variables are related to the dependent variable (Saunders et al., 2019). This will assess the strength of the relationship between both the independent and dependent variables. Therefore, if the *f count* of the significance value is greater than the *f table*, then H1 is approved.

- **T-test**

The T-test is used to see whether there is a connection between the independents and dependent variables (Saunders et al., 2019). It assesses the degree to which each independent variable has an effect on the dependent variable. Therefore, if the t count is smaller than t table or the significance value, then H1 is approved.