DESIGN AND DEVELOPMENT OF DECISION SUPPORT SYSTEM MODULE FOR ENTERPRISE
RESOURCE PLANNING SOFTWARE IN CHECKING STOCK AVAILABILITY AND ORDER STATUS ACTIVITIES

Page 132 of 142

CHAPTER 5 – CONCLUSIONS AND DISCUSSIONS

5.1 Conclusions

The development of prototype web system module in checking stock availability and order status has been completed based on the user requirements. Some tests on the system has been done to fulfilled all the research objectives.

Question 1: Is this web application system able to provide customers with accurate and detail information of their inquiries regarding the stock availability and order status?

The development has been completed and there are some tests that has been done such as Unit Testing, Functionality Testing, Accuracy Data Test, and User Acceptance Test.

- Unit Testing and Functionality Testing are tested by the programmer. The result shows all the functions runs well.

- Accuracy Data Test is tested by comparing the result of check stock and order in the new system with the result from the excel file. The accuracy of the system is 100% as it can produce the same output result with excel file.

- User Acceptance Test is conducted with the manager of Planning & Operation division. All the system requirements have been approved by the manager.

Question 2: Is this web application system able to reduce the staff workload time in serving customer inquiries regarding the stock availability and order status?

Based on the result of the workload time simulation, there is actually 0.97% additional time for updating the data. This updating data activity is only conducted once a day with only one staff. However, by investing only 0.97% additional time of updating the data in the new system, all the checking stock & order activity can be reduced by 100%. Which mean, the process of checking stock & order by the three members of staff to customers can be removed and eliminate 138.75 minutes of all the staff time in a day.

Ignatius Jordi Bernandi Harsawiguna

DESIGN AND DEVELOPMENT OF DECISION SUPPORT SYSTEM MODULE FOR ENTERPRISE
RESOURCE PLANNING SOFTWARE IN CHECKING STOCK AVAILABILITY AND ORDER STATUS ACTIVITIES

Page 133 of 142

Question 3: Is this web application system able to reduce the response time of customer in receiving stock availability and order status?

Based on the observation of simulating 100 check stock inquiries in 7 days, the new system can reduce the average response time by 99.905% from the average of 3413.40 seconds (56.89 minutes) to 3.4 seconds. The new system is 1053.4 times faster. Meanwhile, based on the simulation of 8 check order inquiries in 7 days, the new system can reduce the average response time by 99.948% from the average of 8640 seconds (144 minutes) to 4.5 seconds. The new system is1920 times faster.

Question 4: Is this web application system able to fulfil the user expectation?

The focus group discussion with the staff and management of the system were held to find out whether the web system can already fulfill all the users' expectation with the new system. Based on the questionnaire gap analysis results, there are no negative gap score on all website quality dimension. These results prove that the website developed can fulfilled all user expectation.

Question 5: Is this web application system able to provide sales division with a list of potential buyers?

The developed system provides a report that compares customer check stock inquiry data with the sales data to show which inquiry data that has not been booked or purchased by the customer. This information is beneficial to show list of potential customers which have done the check stock activities but have not ordered yet. Moreover, the report has already been introduced to the management during the focus group discussion. A high positive gap value on the questionnaire C6 (Subject Specialization – Sales Division) shows that, the reporting information in the web system can provide information that is able to support the decision-making activity of the management in following up with the prospective customers.

Question 6: Is this web application system able to provide Planning & Operation division with reports for future planning?

The developed system provides some statistical report data that is beneficial for the management to support the stock planning activity. All the statistical report data are developed based on the requirements and have been introduced to the management

during the focus group discussion. A high positive gap value on the question C5 (Subject Specialization – Planning & Operation Division) show that, the reporting information in the web system can provide information that is able to support the decision-making activity of the management in stock planning activity.

5.2 Recommendations

The measurement of user expectation should be done as well with the customers, as there are some features that are built specifically for them. However, due to the limitation of this research, the measurement of user expectation only can be done with the staff and managements of Factory Automation Division. Because of that, the perspective of the measurements is only coming from the internal side. Even though the staff and customers are assumed to know the customers' needs, it would be better if the system also being tested with the customers as it can provide more accurate results.

5.3 Future Works

As a positive feedback from the focus group discussion with the staff and management, there is a high possibility that the system will be deploy to the real server in the future. Because of that, there are some security tests that must be done on the system such as penetration testing, reliability testing, and stress testing. The tests should be done to make sure the system is really secure before being deployed into live.

Moreover, based on the feedback from the management, the system should be added extra information if the stock availability of materials is low or limited. This feature is required to prevent the customer getting a ready stock material status in Indonesia from the system, but the material is out of stock by the time customer want to order it. This can be happened because the quantity of the material is limited and the material is already sold to other customer.

Currently, the developed system is not integrated yet with the SAP system due to the limitation of this research from the company. Therefore, the data in the system is not completely up to date with the data in the SAP system. This system will be integrated

with the SAP system after the system already deployed into the actual server and has been used in some time period. By the time the company already has confidence with the system and feels the need to integrate with the SAP system, the integration will be done to provide real time up to date information for the customers and eliminates the use of excel file to update the data.