DESIGN DASHBOARD MODEL FOR FISH PROCESSING SYSTEM (CASE STUDY PT BLUE OCEAN GRACE INTERNATIONAL)

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Abstract. The dashboard system is a graphical analytical model provided for management to present the information summary and quality of fish processing data in each stage processing in specific periods of time, from a company or an organization, the dashboard has been widely adopted by companies or businesses. The background of this research is a huge of complex processing data which is difficult and require sometimes to process and to present data analytical to management to monitor and review processing result and making decision based on data analytical. In this research, we design graphical analytical dashboard which make easy to present the quantity fish processed and seafood product summary analysis in each processing stage start from receiving, cutting, retouching, packing and shipment. By using this dashboard, management enable make quick decision based on analytical information related to how many fish processed, quantity of seafood product resulted per processing periods to decide and determining future plan strategy related to fish supply, market demand. The scope of this research is to present summary analytical data from the periods July until December of 2019. The dashboard model help management decision by presenting data analytical of fish processing.

Keywords : dashboard, data analytical, fish processing, review, management

1. INTRODUCTION

Dashboard as an information system application model provided for management in presenting data analysis information such as quantity of fish received from suppliers to total amount of seafood product produced for each stage of fish processing in specific periods. In this study, the dashboard is used as a monitoring system for fish reception data from suppliers, presenting the number of seafood products and grades at each stage of fish processing from receiving, cutting, retouching, and packing to shipping at PT Blue Ocean Grace International. as a means of measuring the quality of fish received, yield analysis and providing data to make decisions in determining suppliers rating based on quantity of fish delivered and measuring the quality of fish products in each stage of processing. The dashboard system limits in this study are in the form of bar charts and pie charts, and developed based on web application system. Input from the system is in the form of data on fish reception and processing from July to December 2019 at PT Blue Ocean Grace International. The results of data processing and analysis in the form of a dashboard analysis of total fish receipts from suppliers and total seafood products at each stage of processing are presented in graphical chart form. The results of the dashboard analysis that the model can be used as a reference in knowing rating suppliers based on total fish delivered to processing plant, total amount seafood product produced in each period.

2. METHODS

In designing the dashboard model of a fish processing information system, there are several stages that must be carried out. The stages of the research procedure start from identifying the system requirements, collecting data at each stage of processing starting from receiving, cutting, retouching, packing and shipping. Furthermore receiving data is grouped per supplier to determine the amount of fish shipped. Meanwhile cutting, retouching and packing data are grouped per grade of fish to present the quality of seafood products for each stage of fish processing. The next stage of planning, in the form of meta-analysis of the total quantity of fish received, the total quantity of seafood products in the process of cutting, retouching, packing and shipping. The next stage are planning dashboard functionality or the type of dashboard type to be used, in this research we use the dashboard type bar chart and pie chart, for easy to read and understand. The next stage is designing prototype dashboard for fish processing information systems, designing designs and layouts, and designing navigation menus. The last step is to review the dashboard system that was designed and make improvements to the revision of the results of the review.
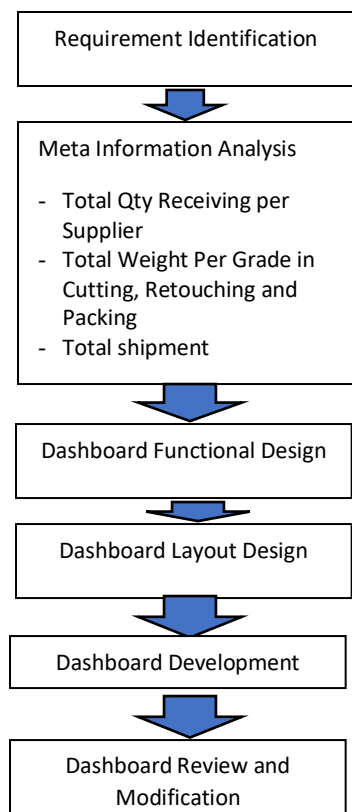

Figure 1. Flowchart Design Dashboard System

From design dashboard system, then continue to design user interface of dashboard system as below

Figure 2. Login User Interface

The function of user interface login, is to make security system enable login only from registered user. To register new user account, it manage by company user administrator, which the user interface design to create new user could be seen as Figure 3.

Figure 3. User Interface New User Account

Once user has been registered, system provide user interface list of user account as seen in Figure 4

Figure 4. User Interface List of User Account

User interface of dashboard each stage of fish processing, presenting total weight and total pieces of fish and total box of seafood product on each stage of fish processing, which enable to generate per periods of date. User interface design could be seen in Figure 5.
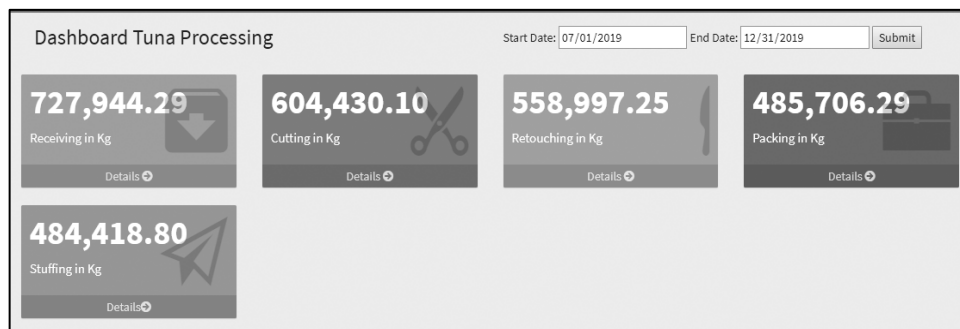

Figure 5. User Interface Design of Dashboard Each Stage of Tuna Processing

For receiving stage, we design dashboard system in the form of bar chart presenting total weight of fish delivered by each fish supplier in specific periods. From this chart, we could analyze the total of fish weight delivered by supplier to know which supplier has deliver the most fish and which deliver the least fish on specific periods. User interface design could be seen in Figure 6.
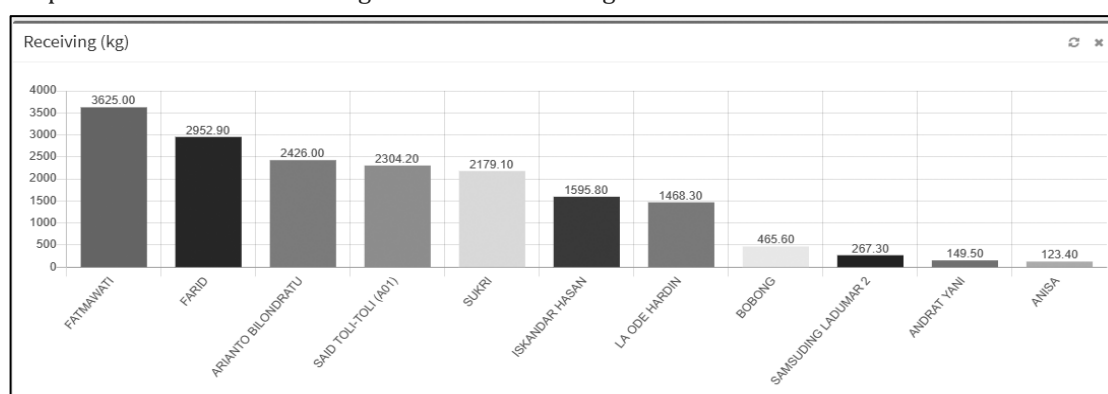
Figure 6. User Interface Design for Receiving Fish Delivered from Each Supplier

After receiving, then process continue to cutting stage. Dashboard system present total fish weight to process cutting per supplier by bar chart, so we could analyze the most fish from which supplier has been process cut in specific periods.
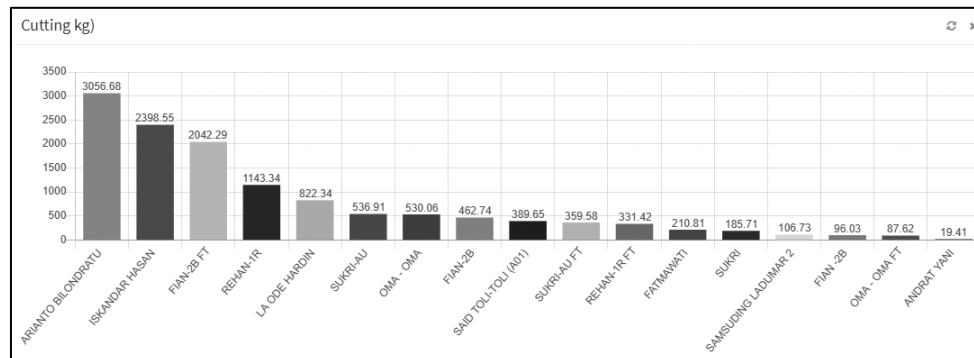

Figure 7. User Interface Design for Cutting

After cutting, then process continue to retouching stage. Dashboard system present total fish weight to process retouching per supplier by bar chart, presenting the most / the least fish processed from which supplier, as seen in Figure 8.
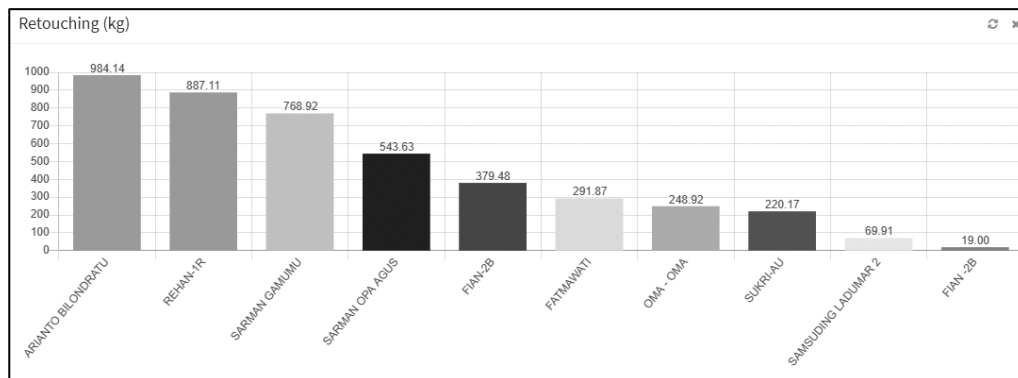

Figure 8. User Interface Design for Retouching

Dashboard system packing present total weight seafood to pack in master carton per month, so graph present pattern level of production, graphical user interface design could be seen in in Figure 9.
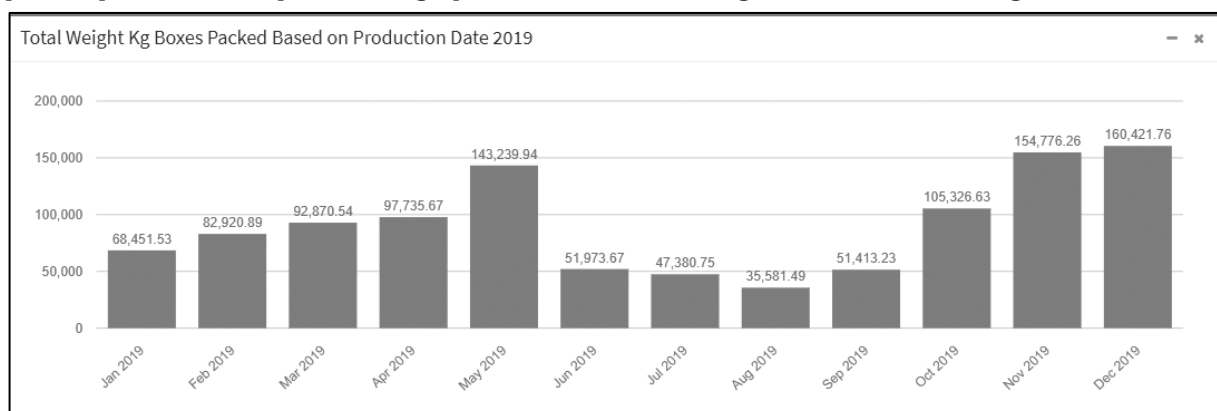

Figure 9. User Interface Design for Packing

Dashboard system stuffing/shipment present total weight seafood to be shipped per shipping transaction, and graph present pattern level of weight seafood product to ship per shipping transaction, graphical user interface design could be seen in in Figure 10.
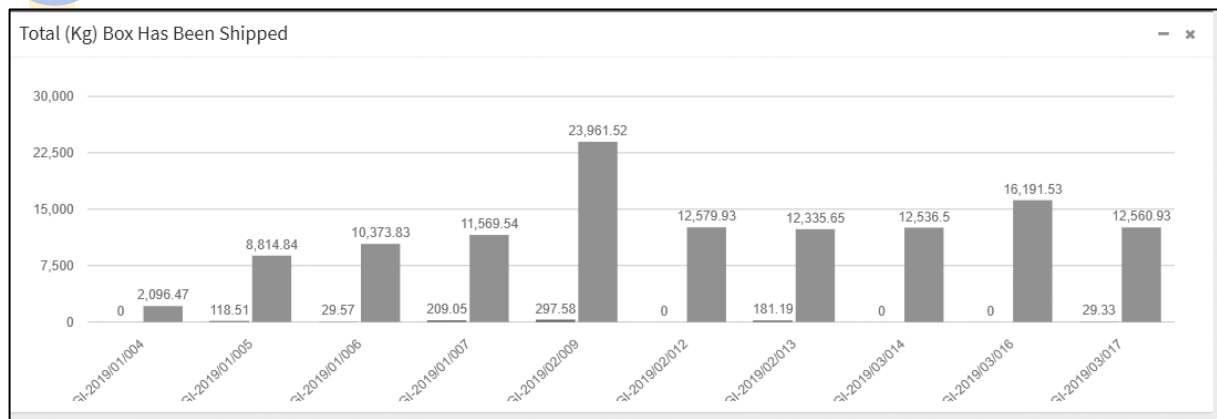
Figure 10. User Interface Design for Shipment

3. RESULTS AND DISCUSSION
3.1 USER INTERFACE SCREEN DISPLAY

User interface login function is to make system secure enable login only from registered user. Login consist of user name by inputting email of users and password to login. User credentials managed by user administrator. User interface login could be seen in Figure 11.

Figure 11. User interface for login system dashboard

User interface create new user function is to register new user, managed by user administrator, could be seen in Figure 12.

Figure 12. User interface Create New User

User has been registered could be present in list of user. Administrator could edit user or remove user from the list. User interface could be seen in Figure 13.

Figure 13. List of User

Once user successfully login into dashboard system, then system present total weight kg per processing stage for receiving stage, cutting stage, retouching stage, packing stage until shipment. Total weight calculated per specific periods present in each stage processing as seen in Figure 14.
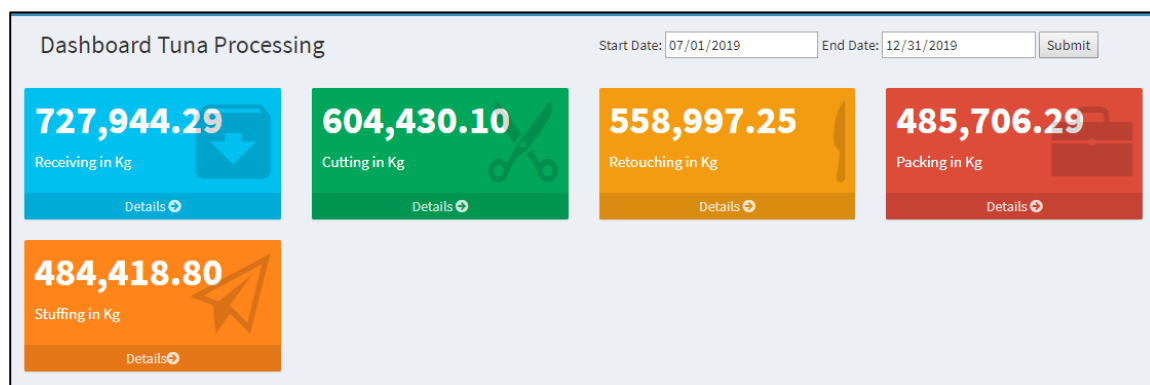

Figure 14. Dashboard each stage processing per specific periods

Dashboard system also presenting trend level total weight fish or seafood product processed on each stage processing per month, from receiving stage, cutting stage, retouching stage, until packing stage as seen in Figure 15.

Figure 15. Trend Level Total Weight Fish or
Seafood Product in Each Stage Processing per Month

Dashboard system presenting in pie chart, comparison total receiving, cutting and retouching per periods, and comparison total packing and shipping per periods. This chart shows up percentage of weight fish to process in receiving, cutting and retouching. Also shows up percentage total packing and shipping in specific periods as seen in Figure 16.
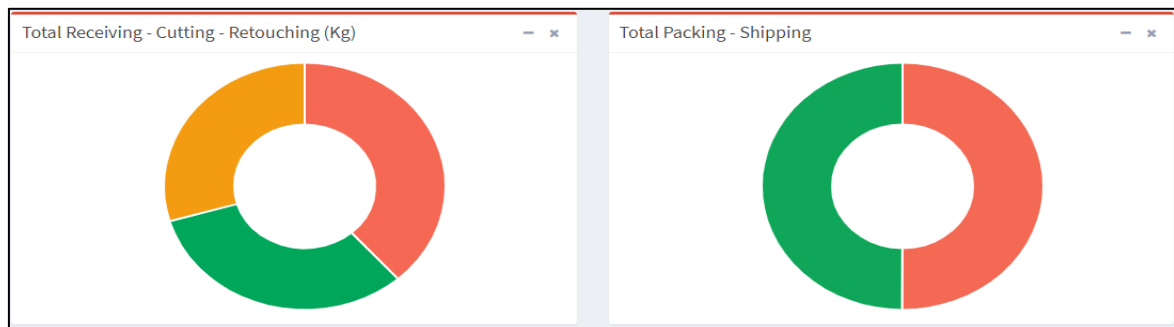

Figure 16. Percentage Total Weight Fish in Receiving, Cutting and
Retouching and Percentage Total Packing and Shipping Per Specific Periods

Dashboard system for receiving present in bar chart present total weight of fish delivered per supplier. This chart provide information the most or least fish delivered by supplier on specific periods of date as seen in Figure 17.
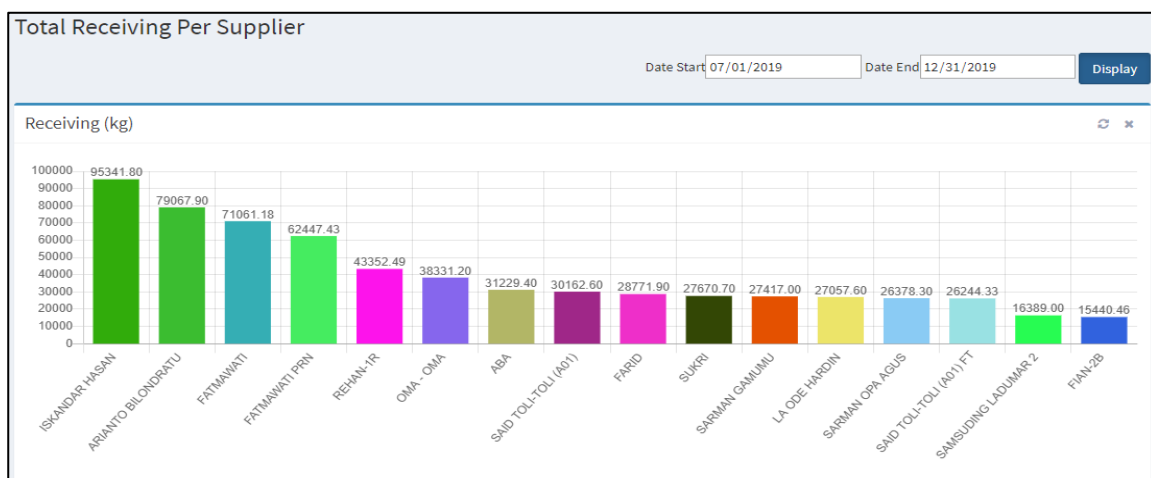

Figure 17. Dashboard Total Weight of Fish Delivered
Per Supplier In Receiving per Specific Periods

Dashboard system for cutting present in bar chart present total weight of loin as result of process per supplier in cutting stage. This chart provide information the most or least loin processed in cutting from supplier on specific periods of date as seen in Figure 18.
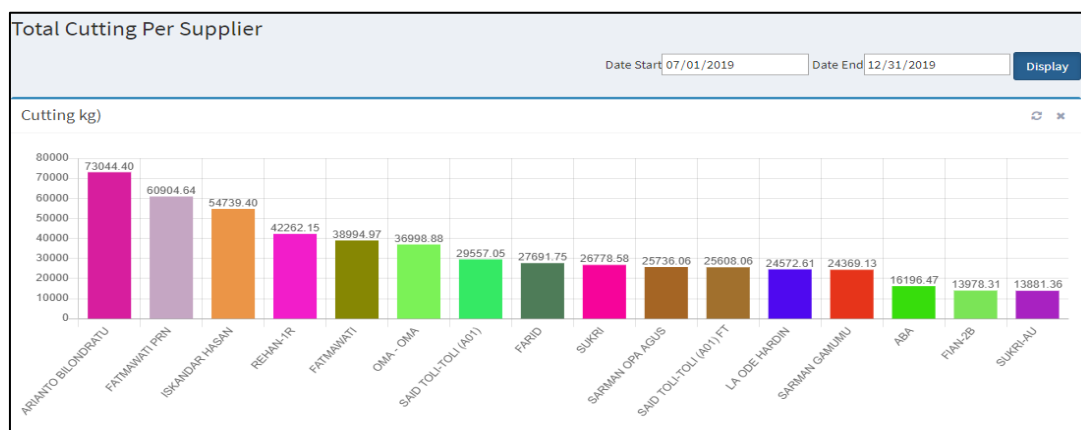

Figure 18. Dashboard Total Weight of Loin Processed in

Cutting Stage per Supplier per Specific Periods

Dashboard system for retouching present in bar chart present total weight of loin as result of process per supplier in retouching stage. This chart provide information the most or least loin processed in retouching from supplier on specific periods of date as seen in Figure 19.
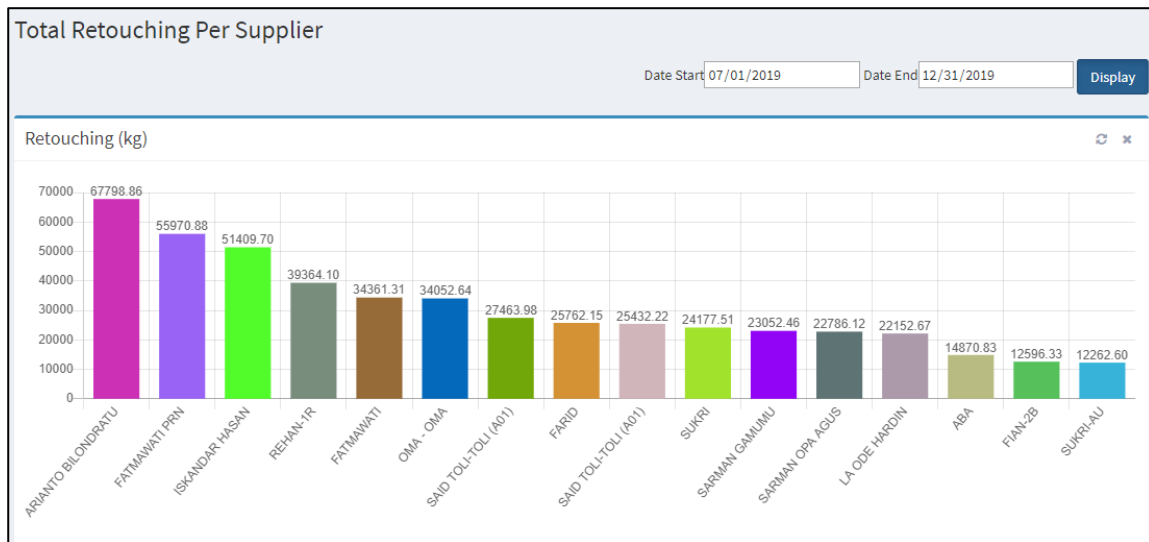

Figure 19. Dashboard Total Weight of Loin Processed in
Retouching Stage per Supplier per Specific Periods

Dashboard system for packing present in bar chart present total weight of master carton processed per month. This chart provide information total weight of master carton and trend of level weight loin product to pack per month, as seen in Figure 20.
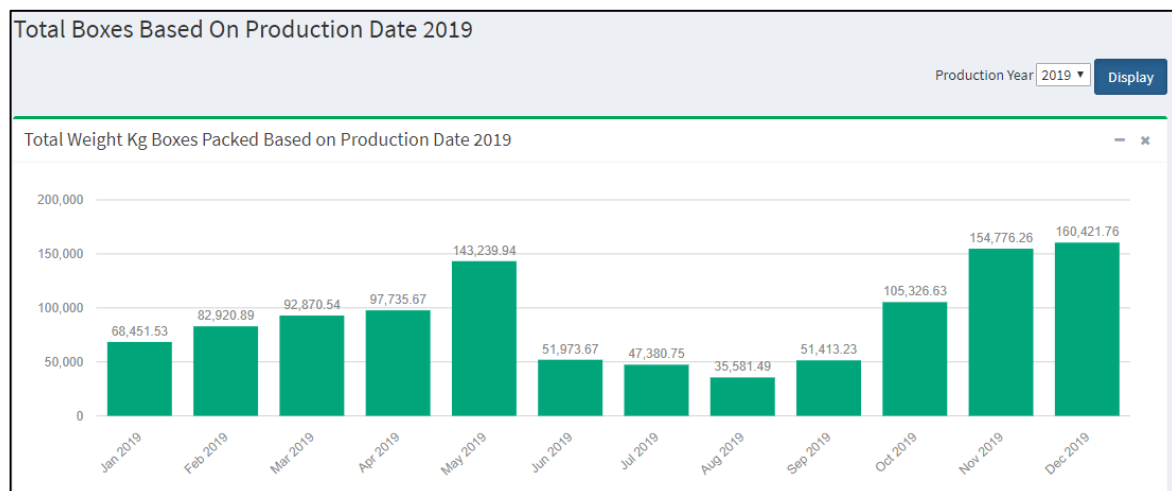

Figure 20. Dashboard Total Weight of Master Carton Processed
And Trend of Weight Master Carton for Packing Activity Per Month

Dashboard system for shipment present in bar chart present total weight of master carton shipped to buyer per shipping transaction. This chart provide information total weight of master carton and trend of shipping transaction, as seen in Figure 21.
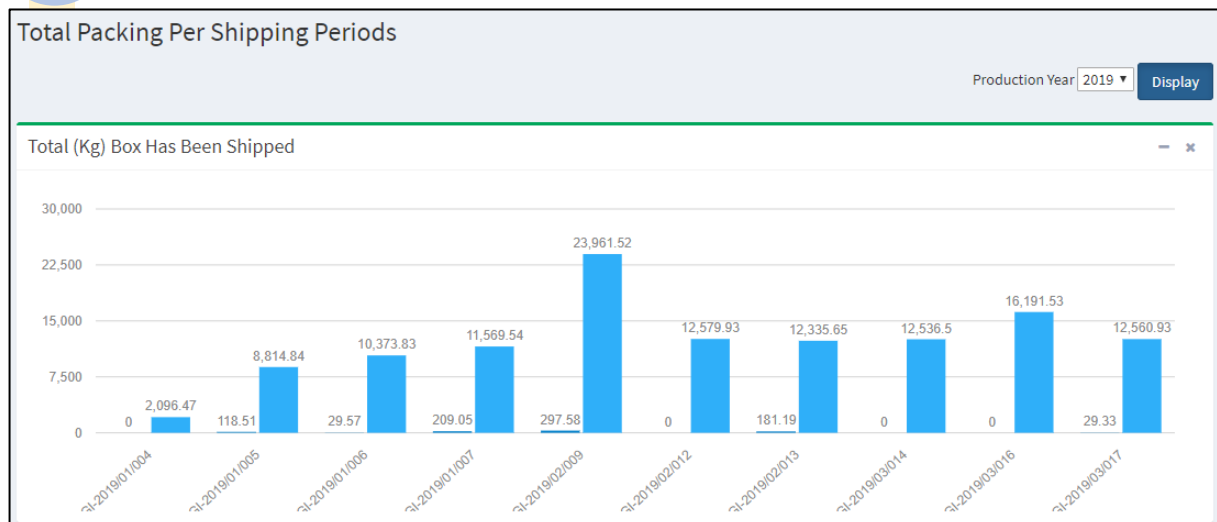
Figure 21. Dashboard Total Weight of Master Carton
Shipped and Trend Weight Master Carton Shipped per Shipping Transaction

3.2 Citation and References

Some related research are Design of Interactive Sales Dashboard (Case Study: PT Jaya Bakery) 2018 by Sulistiawati [1] which is motivated by sales monitoring at PT Jaya Bakery is still done from looking at sales reports in tabular form presented in a spreadsheet application by the sales department. This interactive dashboard system can simplify the sales department in presenting sales reports in real time and make it easier for leaders to see sales developments and perform sales data processing. Other research is Monitoring Accountant User Performance Using Dashboard on Online Web Based Accounting in University by Untung Raharja [2].The other research is Dashboard Optimization in the Assessment System as Information Media in University by Untung Raharja [3]. The other research is Design of Dashboard Model for Monitoring Student Evaluation, 2017 by Ilhamsyah [4]. In this study, the dashboard is used as a monitoring system for student evaluation in education in the Department of Information Systems FMIPA Pontianak Tanjungpura University as a means for measuring the quality of students and make decisions in determining the future strategy of student coaching environment in the Department of Information Systems FMIPA Untan Pontianak. The results of the analysis using the tectical dashboard model show that the model can be used as a reference as a parameter in establishing KPI monitoring for Information Systems Department students. Other research is Design Dashboard of New Student Performance by I Gusti Ngurah Nyoman Bagiarta [5]. Next other research is design a Performance Monitoring Dashboard System with the Balanced Scorecard Model (Case Study: BMT Beringharjo Yogyakarta) by Milasari [6]. And another research is Design of Dashboard System for Monitoring University Performance Indicators by Eva Hariyanti [7]. The purpose of this study is to design a dashboard system for monitoring and evaluating performance based on the university's key performance indicators (KPI). The research took a case study at the Faculty of Science and Technology, Airlangga University. The prototype test results show that the dashboard created has produced information that suits the needs of users at each level. Other research is Information System Dashboard Based on Key Performance Indicator by Henderi [8].

4. CONCLUSION

The conclusion of this study is that fish processing system design stage consist of requirement identification, meta-information analysis, dashboard functional design, dashboard layout design, dashboard developmemt and dashboard review and modification. Based on dashboard developed, it could be used for management to analyze production result of each stage production from stage receiving, cutting, retouching, packing and shipping and to get information of trend total weight of seafood product processed and shipped per month or per shipment transaction, to have initial information for better planning strategy to make better production planning.

5. REFERENCES

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