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SUPPLY CHAIN MANAGEMENT AT PT.SHERISH CIPTA INTERINDO

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ABSTRACT

PT. Sherih Cipta Interindo is a company engaged in the field of furniture. PT. Sherish Cipta Interindo procure raw materials to suppliers to meet the needs of products ordered by customers. Determination of the amount of raw materials, often have difficulty because of uncertainties bookings made consumers. The time required for the supply of raw materials to the supplier until the raw material is received requiring waiting time of about seven to ten days, consequently unable to fulfill product orders.

Based on the current problems we need an information system of the Development of Supply Chain Management at PT. Sherish Cipta Interindo. The aim is to simplify the warehouse in determining the amount of raw materials ordered from suppliers to meet the needs of the products ordered by costumer and facilitate the scheduling of product distribution to each costumer. Forecasting method used is Single Exponential Smoothing. The calculations in determining the amount of supply of products using safety stock.

Based on test results blackbox or beta that has been performed on hold the implementation and testing can be concluded that the information system of supply chain management can help cellarer in determining the amount of raw materials to be ordered to the supplier, to meet the needs of the products ordered by costumer and facilitate the marketing in the scheduling of product distribution to customers who have placed orders for products.

Keyword : Supply Chain Management, Single Exponential Smoothing, Safety Stock

1. INTRODUCTION

PT Sherish PT Cipta Interindo Sherish kitchen and wardrobe is a company engaged in the furniture, which belokasi industrial area of Bandung regency. Sheris costume interior furniture has been serving both individual and corporate customers, the industry has various working system from starting raw material expenditure of supllier, accept orders in the form of costume furniture then distribute the products to consumers. Supply chain management activities which are upstream conducted by PT. Sherish Cipta Interindo with suppliers that do the procurement of raw materials to suppliers, for the acceptance of raw materials from suppliers, to process raw materials into products. Sedangka the activities contained in the downstream by PT. Sherish Cipta Interindo with consumers that receive product orders from consumers, and do the distribution to consumers whohave.

Based on observations and interviews conducted in PT. Sherish Cipta Interindo with Ms. Ela Herath as the head of the warehouse, stating that the current supply chain management activities which are upstream conducted by PT. Sherish Cipta Interindo namely the procurement of raw materials to suppliers to meet the needs of the consumer products ordered. The process of procurement of raw materials that do still use intuition or not predicted that companies experiencing difficulties due to the uncertainty of bookings made consumers. PT. Sheris Cipta Interindo sometimes provide more stock to cope with the uncertainty of orders from consumers, but keep the product in large quantities cause the product to stay in limbo for too long, the possibility of damage will be even greater and the costs incurred would be more frequency. The time required for the supply of raw materials to the supplier until the raw material is received by PT. Sherish Cipta Interindo require waiting time of about seven to ten days, so the warehouse is often a vacancy occurs raw materials for production. this results in delays in the production process. Delays in the production process will result in a buildup of semi-finished materials. Of course it will cause losses and wastage of time, labor, and the increase in production costs due to delays in production.

While supply chain management activities that are downstream in PT. Sherish Cipta Interindo ie receive product orders from consumers. Consumer acceptance of the product orders adjusted to office hours PT. Sheris Cipta Inteindo ie from Monday to Saturday in the hours of 08:30 to 16:00. The process of product distribution to consumers will be carried out after the agreement between the consumer and the company that is part Marketting. PT. Sherish Cipta Interindo has six units of vehicles consisting of three units of convertible tebuka. two units of the truck and a truck for distribution of the product, where the distribution of products to consumers is done in time and the amount that is

different in every period, so that the Marketting have difficulty in determining when a product should be sent and specify the types of vehicles that will be used for each vehicle has the load capacity is different, the result penditribusian hampered products and consumer products ordered requirements can not be met. Based on the problems studied, the purpose of this thesis was to build a Supply Chain Management Information System in PT. Sherish CopyrightInterindoObjectives to be achieved in this studyare: Cipta Interindo kitchen and wadrobe is a company engaged in the furniture, which belokasi industrial area of Bandung regency. Sheris costume interior furniture has been serving both individual and corporate customers, the industry has various working system from starting raw material expenditure of supllier, accept orders in the form of costume furniture then distribute the products to consumers. Supply chain management activities which are upstream conducted by PT. Sherish Cipta Interindo with suppliers that do the procurement of raw materials to suppliers, for the acceptance of raw materials from suppliers, to process raw materials into products. Sedangka the activities contained in the downstream by PT. Sherish Cipta Interindo with consumers that receive product orders from consumers, and do the distribution to consumers whohaveorderedproducts.

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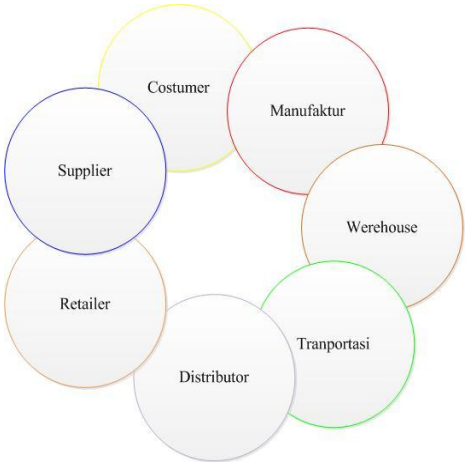
1. Facilitate cellarer in terms of determining the amount of raw materials to be ordered to the supplier.
2. Simplify Marketting part in determining the types of vehicles that will be used and the schedule of product distribution to every customer that has placed orders for products to be timely.

2. CONTENT OF RESEARCH

2.1 information systems

Been a set of procedures information system on when implemented organization that will provide information for the decision makers and to control organization. Information systems is a system in that unite in an organization needs transaction processing , support the operation , and activities are managerial the strategies from an organization of and provide certain foreign parties with reports that are needed [2]. Information system consisting of 5 components , fifth of the components were can be classified as follows [2].

a. Hadware and software that serves as a machine.
b. people and procedures that is man and the procedures for the use of a machine.
c. data is bridges between human and machine to make the process of occurring a data processing.



activities in the main activities in the classification of information systems is [2]:

a. Input
   Describing an activity to provide data to be processed.
b. process
   Describes how a data processed to produce a information worth added.
c. Output
   An activity to produce the report from the process of the above.
d. Storage
   An activity to maintain and store data.
e. Control
   A activity to ensure that the information system was done as expected.

The the information system can make the competitive advantage in the company. Increase profits today, however, is difficult to being estimated. The increase in profit are often happens suddenly, but there have been some years after the implementation of the new system. When two alternative system approaching in common comparison , the door open to consider factors stratei company. Terdapat faktor-faktor strategi perusahaan tersebut adalah sebagai berikut.

a. Consumer satisfaction (customer satisfaction).
b. Increase sales (increase of sales).
c. Commitment consumer and the vendor (customer and vendor commitments).
d. Concentration of product information (information product marketing).

Management Information Systems (MIS) is a collection of system management or systems which provide information aimed at supporting the Management of operations and decision-making in an organization that tend to be associated with information processing based on a component by considering what information, to whom and when to be served.

2.2 Supply Chain Management

Supply chain management is method or integrative approach to manage the flow of product the information and money in an integrated involving parties ranging from upstream to downstream.The essential principle in scm is transparency of information and collaboration between the internal function of the company and with parties diperusahaan along supply chain.Supply chain is the network of physical, namely companies involved in supplying raw materials, producing goods, and send it to the end users. The companies are usually including supplier , factory , distributor , retail companies supporters as well as logistics services company [7].

At a supply chain usually there are three kinds of a stream that must be managed. The first was the flow of goods that flows from upstream to downstream. As example is the raw material that dikirm to a factory. After a finished product manufactured, they are sent to the distributor, then to the retailer or retail, then to the end user. The second is the flow of money and the like which flows from upstream to downstream. The third was in the streams of information that could have occurred from upstream to downstream or the opposite. Information about the supply of products that still exist in each of the supermarket often required by the distributor and factories .Information about the availability of production capacity that is owned by the supplier also often required by the factory .Information about the status of shipping raw materials often required by a company that sent and will receive. The shipment to share information, so that it can monitor the interested parties for the plan to be completed.

The term supply chain management first advanced by oliver & amp; weber in the 1982.jadi scm not only oriented in the internal affairs of a company , but also external affairs related to a relationship with partner companies .Because of the firms are at a supply chain in essence want to satisfy consumers the same end , you have to work together to make products that are cheap , send it on time , and with the quality of being good .Idelnya , the relationship between party to a term supply chain held long-term panjang.hubungan allow all parties to create a trust and creating better efficiency .It creates efficiency because of long-term relationships means less ongkos-ongkos to get the company new partner[7].

2.2.1 Components Supply Chain Management

Supply chain management has three main components that supports the life of a of business process as follows:

1. Upstream Supply Chain
   The companies manufacturing activity or relationship with the distribution channels may be expanded to several levels.The principal activity in upstream supply chain of the goods it is.

2. Internal Supply Chain
   This is the process of internal supply chain to the warehouse delivery of goods .The main activity is in internal supply chain management of production , pabrikasi , and control of supplies.
3. Downstream Supply Chain
   Downstream activities involved in these supply chain of the process to the consumers.Downstream on the supply chain of the goods it is, the barn, transportation.[7]

2.2.2 The scope of the area Supply Chain Management

Scm is important in principle and collaboration between the process of internal function well or with the company or out of corporate supply chain. Activities the main activity of who enters in the classification of scm is [7]:

1. Product development
2. Procurement , Purchasing , atau Supply
3. Planning & Control
4. Production
5. Distribution
6. Return

2.2.3 Management distribution and transportation

The function of distribution and transport is basically take the product of a location where the products produced up to where they will be used. The management of transportation and distribution includes both physical activity in plain view we can see , as store and send the product , and the function of non-fisik of the activity of the processing of information and services to customers. In principle, this function berrtujuan to create high services to customers can be seen from the service levels achieved, a delivery full of goods to the customer, sell and service purna satisfactory [7].

Activities distribution and transportation could be undertaken by manufacturing companies with forming part the distribution of its own transportation or handed over to a third party. In their effort to to meet goals above , anyone who executes (internal company or partner a third party) , management distribution and transportation in general given a number of basic function of consisting of:

1. Perform segmentation and determine the target service level.
2. Determine the mode of transport to be used.
3. consolidation and delivery information.
4. Perform scheduling and delivery route determination
5. Provide value-added services.
6. Storingsupplies
7. Handle return.[7]

In general there are three strategies distribution of a product from the factory to the customer. Each of these strategies had the advantages and disadvantages.The third strategy is as follows:

1. Direct Shipment
   n this model, straight from the factory shipments to the customer, with or without a supporting facilities.These strategies typically suitable used to stuff that ' s short and stuff that easily damaged in the process of unloading and loading.
2. through the warehouse delivery
   On this model , goods not be sent directly to customers but passes through one or more facilities warehouse or a buffer .Totally backward with direct shipment model above , warehousing model fit for products that uncertainty / supply-nya demand high as well as products that has endurance relative long .
3. Cross-Docking
   In this model , the product will flow through cross-dock facilities which is located between a factory and customers .In this place , vehicles and the sender will meet and occurring transfer the burden of (of course also possible the occurrence of consolidation involving many factories and customers).[7]

2.3 Forecasting

solve the problems to come can not be ascertained , people always trying to get it done with a model those that in accordance with actual behavior data , so does in forecasting do. forecasting Demand for products and services the next time and its parts is of major importance in planning and monitoring production. A forecasting many have the meaning , then forecasting the need to be planned and is scheduled that would be needed a time period of at least in the period of time needed to make a kebijaksanan and set some things that affect the wisdom. Forecasting needed besides to predict what will happen dimasa to come also the decision makers need to make planning. Peramalan sangat beragam dalam horizon waktu peramalan, faktor yang menentukan hasil sebenarnya, tipe pola dan berbagai aspek lainnya. Untuk menghadapi penggunaan yang luas seperti itu, beberapa teknik telah dikembangkan. Salah satu teknik dalam peramalan yaitu Metode Smoothing[4].

Having a peramalan peramalan steps in the process.There were six steps in the process, peramalan and that is [8]:

1. Determine the purpose of divination .How divination will be used and when will that be needed divination ?This stage will give an indication of the level of the details of what is needed in divination , the number of resources (employees , time , computer , and the cost of) that can be justified , as well as level of accuracy required.

2. Determining the time.Divination have to indicate of time, given that the accuracy of dip when a span of increasing.
3. choose forecasting technique.
4. Obtain , clean , and analyze the proper data .Obtained data covering the business can be significant .After obtaining data it may be cleared in order to remove foreign object obviously not true and data analysis before.
5. make divination.
   Monitor divination.Divination should be tracked to determine whether divination done by means of who satisfies.If it is not satisfactory check back a method of divination, assuming, the validity of the data, and others.Later change it in accordance with the need and prepare the revision of divination.

JForecasting enis can be divided based on a period of time , scope and methods in use [3].

a. based on the time frame , Forecasting distinguished into the short term and longer term.
b. according to the lingkupnya forecasting differentiated into forecasting micro and macro economic indicators.
c. forecasting based on the method used , forecasting distinguished become a method of qualitative and quantitative.

A qualitative is based on our intuition and the one who conducts forecasting than pemanipulasian (penganalisisan) processing and historical data available.Techniques in a qualitative made up of delphi, a curve, this scenario, of writing market research was, a focus group, and many others [3].

A method of quantitative pemanipulasian based on historical data that is available in an adequate manner and tapa intuition and this subjective assessment of people doing forecasting , this method was commonly based on close analysis of statistic . Forecasting quantitative be able to apply if the condition of the following three have been met , namely [3]:

a. information about the state of in the past are available
b. Information that can be dikuantitatifkan in the form of numeric data (numbers), and
c. can be assumed that some aspect of a pattern in the past will continue to the time would be dating (called the assumption of continuity).

2.3.1 Single Exponential Smoothing

This historical values in smoothing in a random rata-ratakan forecast seems to make smooth functioning properly of tertentu.kasus yanng simplest of single exponential smoothing be developed from the equation (2.7) or in a special than a variation on similarities tersebutyaitu as follows [4] :

$$F_{t+1}=F_t+\left(\frac{X_t}{N}\ \frac{X_{t-N}}{N}\right) \qquad (2.7)$$

Suppose a long observation X _ (t-N) is not available so it should be replaced with a value approach (approximations). One possible replacement is the value of the previous period forecast F_t. by performing this substitution the equation (2.7) into equation (2.8) so that it can be written as (2.9) [4].

$$F_{t+1}=F_t+\left(\frac{X_t}{N}\ \frac{F_t}{N}\right) \qquad (2.8)$$

$$F_{t+1}=\left(\frac{1}{N}\right)X_t+\left(1\,\frac{1}{N}\right)F_t \qquad (2.9)$$

From equation (2.3) can be seen that the forecasted value at time t + 1 depending on the observation time t value weighting, i.e. 1/0\nand on a weighting value of forecast time t is 1-1/N value between 0 and 1. By replacing the 1/N = a. Equation (2.9) into equation (2.10) [4].

$$F_{t+1}=aX_t+(1-a)F_t \qquad (2.10)$$

Specification:
F (t + 1) = Results forecast for period t + 1
α = smoothing constant
X_t = actual demand data for the period t
F_t = Forecast in period t

In the method of exponential smoothing value% u03B1 be determined freely, meaning that there is not a way that's sure to get the optimal value for% u03B1. The selection of the value of% u03B1 done by trial and error. Size% u03B1 is between 0 to 9 [4].

2.3.2 Mean Squared Error (MSE)

Forecast error used in the calculation of to to test the results of forecasting is the mean absolute error (mse). MSE is the average of forecasting dikuadratkan error. The value of mse able to be searched by the use of the equation (2.5).

$$MSE=\frac{\sum(X_t-F_t)^2}{n} \qquad (2.19)$$

Specification:
X_t = actual data in period t
F_t = forecast data calculated from the model used in period t
n = Lots of data from the forecast

2.4 Safety Stock

Due to time tenggang, requires an inventory of goods to suggest to come to call the police. Or serves to protect the security of supply keeping the possibility of a shortage of goods , for example because the use of larger than previously thought ata delays in the reception of goods in a message. Supplies with the term security called also supplies a buffer or iron supply will. Safety stock the goal is to determine how much stock in the need for a grace period to meet the demand[8]. Part supplies security and the level of service can be seen in figure 2.8 in the diagram the normal distribution.

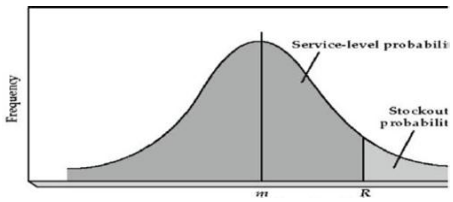


Figure 2 preparation of safeguards

Calculation of safety stock can be seen from the equation (2.6):

Safety Stock = (The amount of spending /31 day x L).....(2.20)

description:

L= Lead Time

2.5 analysis of a problem

Based on research conducted at PT. Sherish Cipta Interindo there are some internal problems that occurred that

1. Reservations made to the raw material supplier has a lag time wait about seven to ten days this causes the raw material warehouse are often terjadji shortage of raw materials, so that production planning and the production process does not go smoothly.
2. Simplify Marketting part in determining the types of vehicles that will be used and the schedule of product distribution to every customer that has placed orders for products to be punctual

2.6 Analysis Single Exponential Smoothing

Value forecasting can be found using equation (2.10) that has been previously described in chapter 2, while for the alpha (α) to be used is the value of the range of zero to one, namely alpha = 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8 and 0.9 as a comparison.

The first thing to do profit calculating Single Exponential Smoothing forecasting method of determining the value of the constant alpha = 0.1 and forecast the demand for the 2nd time. The values of variables are taken from actual data product order in Table 3.2 and then distribute those values into the formula (2.10) it will get calculated as shown below

Examples of the prediction for α = 0.1:

Based on the type of product ordering data Kitchenset in Table 3.2, compute forecasting bookings for the month of August 2015.

Noted that :

Booking product types Kitchenset in January (Xt) = 25 and forecasting results in January (Ft) = 25, for the month of January can not be calculated so the calculation results obtained sample calculated as shown below:

Example Calculations for α = 0.1

Ffebruari = (0.1 * 25) + (1- 0.1) * 25
= (2,5) + (22.5)
= 25 Set

For the calculation of March, it is known that:

Booking Kitchenset products in February (Xt) = 23 and forecasting results in February (Ft) = 25, so we get an example of the calculation as follows:

FMaret = (0.1 * 23) + (1- 0.1) * 25
= (2,3) + (22.5)
= 24.8 Set

Calculations for April and then performed in the same manner in accordance with the calculation of bookings in February-March.

Example Calculations for α = 0.2.

Based on data from the product pemesnan kitchenset in table 3.2, compute forecasting bookings for the month Agusrus, 2015.

Noted that :

Booking product types Kitchenset in January (Xt) = 25 and forecasting results in January (Ft) = 25, because in January not be calculated so the calculation results obtained sample calculated as shown below:

FFebruari = (0.2 * 25) + (1- 0.2) * 25
= (5) + (20)
= 25 Set

For the calculation in March, deketahui that:

Booking Kitchenset products in February (Xt) = 23 and forecasting results in February (Ft) = 25, so we get an example of the calculation as follows:

FMaret = (0.2 * 23) + (1- 0.2) * 25
= (4.6) + (20)
= 24.6 Set.

Calculation of alpha = 0.2 of April and then performed in the same manner with the prediction bookings in February and March. Make a prediction in the same manner as above up to alpha = 0.9 After all calculations kitchenset product bookings from February to July, forecasting results obtained for alpha = alpha = 0.1 up to 0.9 and can be seen in Table 3.3. January can not be calculated because actual data calculation requires reservations in the previous period. So in January, the value of ordering empty

2.7 Analysis Safety Stock

After forecasting, PT. Sherish Cipta Interindo through monitoring of inventory that aims to monitor and control the existing inventory in warehouse PT. Sherish Cipta Interindo. Inventory control monitoring process is to look at the inventory history data every month. Monitoring functions in order to avoid the occurrence of a vacancy and there is a shortage of raw materials warehouse PT. Sherish Cipta Interindo Monitoring inventory control requires an indicator to determine how safe limits product that should be available in the warehouse PT. Sherish Cipta Interindousingsafetystock.

Application of the method Safety stock is in the process of calculating the safe limit supplies to be available in warehouse PT. Sherish Cipta Interindo for the next period and reorder point. Examples of calculation will use the product types kitchenset February to July 2015

Here's an example of the calculation methods Safety

Stock:
Notedthat :
Total bookings in June = 20
Number of days in June = 31
Lead time on procurement to suppliers = 10 days

completion:
Safety Stock = (20/31) x (10) = 6, 451
Based on the safety stock calculations 7, PT. Sherish Cipta Interindo should provide as much safety stock of 6.451 set, so that when the stock product types kitchenset less than the amount of safety stock that is 6,451set, then the system will provide notification that there kitchenset types of products that have stock unsafe. Monitoring inventory kitchenset type products will be presented in tabular form. For example the presentation of monitoring will use the product types where the kitchenset Safety stock value for the product types set kitchenset is 6.451 whereas for example the remaining stock of product types kitchenset 4 sets.

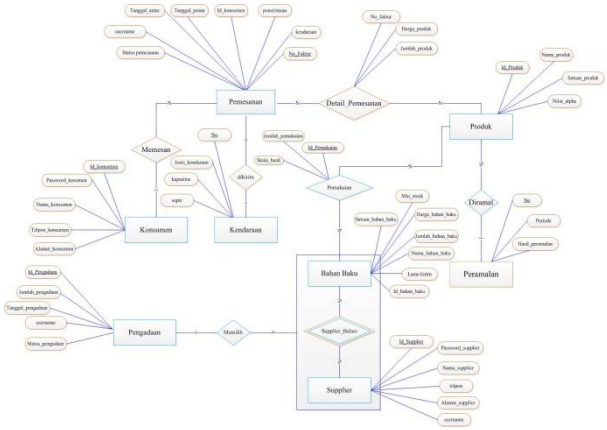
2.8 Analysis distribution

In the supply chain are the distribution activities / delivery. The scope of activities include monitoring the status of delivery, delivery scheduling and capacity of vehicles that will be used in pendistribuisan. Monitoring is done so that the distribution of these products to the end user at the right time and place and know the delivery status. Schedule of product distribution to the buyer is done on a schedule that have been agreed between PT. Riade Sumber Energiwith buyers. Vehicles used in the distribution of 003 types of products, namely sweaters truck and container, product type 003 sweaters to be distributed packaged in a bag and box. The capacity of the truck for the distribution of 003 types of products sweater up to 8 sacks, 1 sack inside can accommodate a maximum of 350 pieces of sweater product type 003. As for the container in the distribution of 003 types of products sweater maximum of 90 boxes, in one box can accommodate a maximum of 56 pieces of sweater product type 003

Action or evaluation of monitoring the status of the distribution is by using a system that will be built. In any system there is a menu that includes the delivery of information delivery date, delivery destination, the number and types of products are sent, who sent it and transport or vehicle that is in use. Monitoring the status of the delivery is done in order to PT. Riade Sumber Energi across Bieber knows the buyer make status changes acceptance of the products distributed by PT. Riade Sumber Energi, there are two product delivery status is still in transit or have been accepted. After the buyer change the shipping status of PT. Riade Sumber Energican know the product has been received.

2.9 Entity Relationship Diagram (ERD)

Database analysis is an analysis of related data collection and stored in a particular storage media without repetition (redundancy). There are data that will be used in the manufacturing process information system software approach to supply chain management. The data obtained will be used to design the database along with the attributes of each entity and the relationships between these entities. In designing a database, data model that will be used is the Entity Relationship Diagram (ERD). Analysis of the data on the basis infornasi system will be built using the ERD. ERD is a data model that uses some notation to describe the data in the context of the entities and relationships described by the data. The diagram is illustrated in Figure 3.10



Gambar 3.10 Diagram Konteks PT. Sherish Cipta Interindo

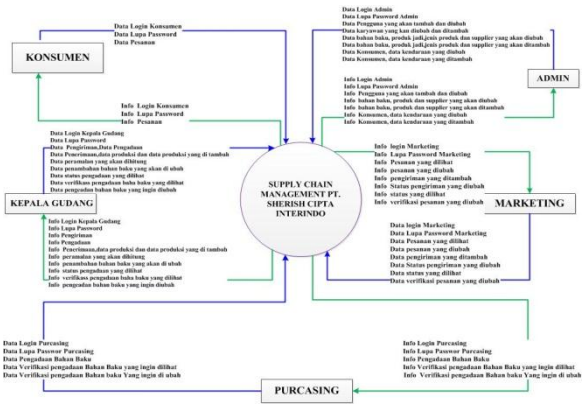


Figure 4 Diagram Context

2.10 DFD Level 1

DFD Level 1 The following explains that the system users can access the information by selecting

a menu system that is available to the system as HR GA, buyers, suppliers, follow-up, Materials & invetory and managing director. At each user has a menu system which varies according to each user's access rights.

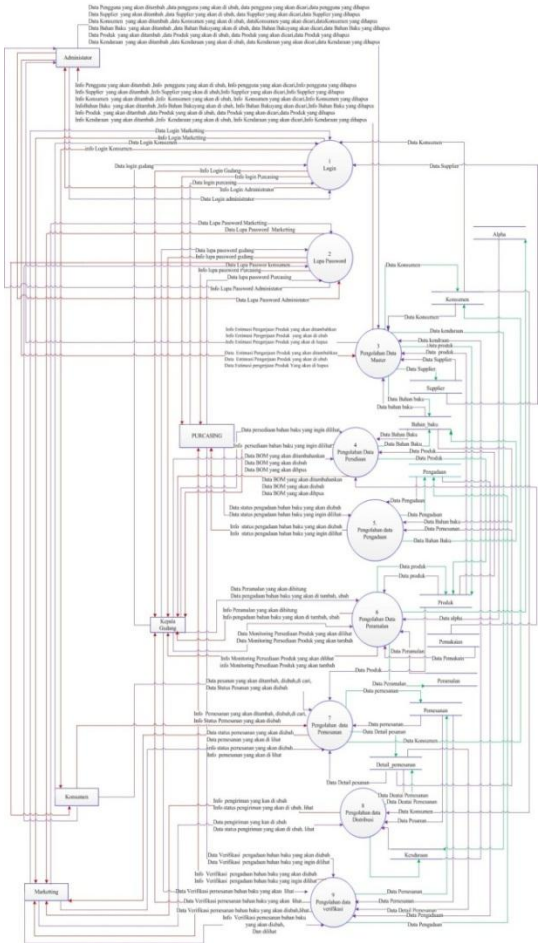


Figure 5 DFD Level 1

2.11 Table Relationships

Describing the connectedness table in the system in detail and clearly, then use the relation table. Table relationships are described in Figure 3.6.

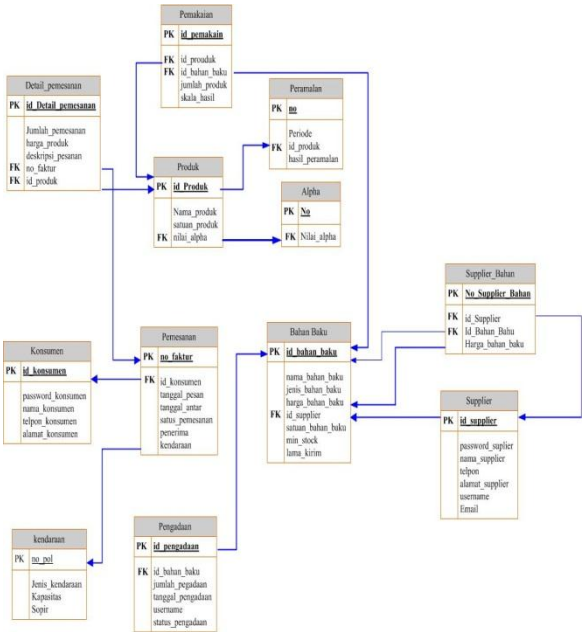


Figure 6 Table Relationships

2.14 Testing Systems

ims to find mistakes or shortcomings in the information system under test. The test intends to determine the information system are made in compliance with the performance in accordance with the design objectives. Tests are used to test the new system is a black box testing methods. Black boxtesting focused on testing the functional requirements of information systems. Test plan will do is to test the system built by Black Box and beta. Testing construction porduk information distribution system in PT. Sherish Cipta Interindo using test data based on data provided from some of the data that has been given.

2.14.1 Black Box Testing

that the process is correct. Filtering error process in the form of landing page views is sufficient maximum message. Functionally, the system is able to produce the expected output.

2.14.2 Beta Testing

Beta testing is testing conducted objectively where tested directly into the field, a company that circumstances regarding user satisfaction with kanndungan points that meet the needs of the initial objectives and the interface of the information system of the Supply Chain Management. Beta testing is done through a technique of data collection, namely throughinterviews.

Interviews were conducted with a beta test for the page of each user consists of the purcasing, warehouse, and parts Marketting. Tests conducted on beta testing is testing the software directly within the company or where the research is PT. Sherish Cipta Interindo. This is done in order to know whether the software that was built to provide a solution of some problems faced by the company.

3 CLOSING

3.1 Conclusion

1. Based on the research that has been conducted on the Supply Chain Management information system at PT. Sherish Cipta Interindo can be concluded as follows: Supply Chain Management Information System is built this can help the company that cellarer in determining the amount of raw materials to be ordered to the supplier to meet the needs of production, so expect the production process is not terhampat again.
2. This information system facilitates Marketting part in the scheduling of product distribution to every customer that has placed orders for products, and makes it easy to determine the type of vehicle that will be used in the process of product distribution to eachconsumer.

3.2advice

Based on the positive results achieved so far, Supply Chain Management Information System in PT. Sherish Cipta Interindo has several shortcomings. It is advisable to add things to complete the system. The suggestion for the development of information systems Suppl; y Chain Management are as follows:
1. It is necessary to the development and maintenance of better the system that has been built, so that the system can be used according to the needs in the future.
2. Need for financial processing to assist the processing of financial data which there is a determination of payments to suppliers

BIBLIOGRAPHY

[1] Ladjamudin, Al-Bahra, 2005, *Analisis dan Desai Sistem Informasi*. Yogyakarta: Penerbit Graha Ilmu.
[2] Siahaya, Willem. 2013. *Sukses Supply Chain Management Akses Demand Chain Management*. Jakarta: In Media.
[3] Anatan, Lina, Elitan, Lena .(2008) . *Supply Chain Management* Teori dan Aplikasi. Bandung : Alfabeta.
[4] Markidakis, S, Wheelright, S.C,Mcgee,V.E, 1999, *Metoda dan Aplikasi Peramalan*. Jakarta: Erlangga.
[5] Rangkuti, Freddy, 1998, *Manajemen Persediaan*. Surabaya: Guna Widya.
[6] Lerbin R.Aritonga R. 2009, *Peramalan Bisnis Edisi Kedua*. Jakarta: Ghalia Indonesia.
[7] Nur Bahagia, senator. 2006, *Sistem Inventori*. Bandung: Penerbit ITB.
[8] William j. Stevson, 2014, *Manajemen Operasi Edisi 9*. Jakarta: Salemba Empat.
[9] Alma, Buchari .2005, *Manajemen pemasaran dan pemasaran jasa* . Bandung CV. Alfabete.
[10] Nugroho, Bunafit.2005. *Database Relasional dengan MySQL. Yogyakarta : Andi*.
[11] Wahono, Romi, Brainmatics 2005, *Business Process Model and Notation (BPMN)*, *Cipta Informatika*, Yogyakarta