THE REPAIR SERVICES AND PROMOTION APPROACH CUSTOMER RELATIONSHIP MANAGEMENT (CRM) AT BERKAH GEMILANG STORE

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ABSTRACT

Customer Relationship Management (CRM) is a type of management that addresses the handling of the relationship between the company and the customers that can help companies in the process of customer management, so the company has good value in the view of the customers. A company must have an ingenious strategy to maintain its position. One Point that affect the sustainability of a company is how to keep its market share in demand by customers. Hence the need for management coaching and controlling the relationship between customer and company, one of which is a Customer Relationship Management.

Berkah Gemilang Store is a business engaged in Game Store. Berkah Gemilang Store. Until 2015 Berkah Gemilang Store already has 2 branches in Bandung and Cianjur. Berkah Gemilang store gets a lot of complaints against products and services every month. The current state, Berkah Gemilang Store not contact customers back after a consumer to purchase products or use the services of repair. This resulted in a Bright Blessings Store lose the opportunity to benefit from the same customer.

Based on the problems described above are needed Customer Relationship Management Information System in Berkah Gemilang Store web-based in order to enable customers to access the system. The type is Analytical CRM, with expected to help shopkeeper and branch head promotion. Help shopkeeper and branch head in the improvement of services to measure customer satisfaction..

***Keyword**: The Repair Services, Customer Relationship Management, Information System, CLV.*

1. INTRODUCTION

Berkah Gemilang store is a store that is engaged in the Game Store. Berkah Gemilang store engaged in selling goods Playstation 1, Playstation 2 and Playstation 3 as a game console, game CDs, sticks, hard drives, and softcopy game. Berkah Gemilang store also serves improvement items such as game consoles playstation and sticks. store Berkah gemilang until now own there are two branches of the store, which is in Cianjur and Bandung. Berkah Gemilang store in the service their customers classify consumers into two types, are ordinary consumers and consumer Playstation Service.

Based on interviews with Sulistioanto as the owner of the Berkah Gemilang store on January 26, 2016, quite a number of complaints obtained Berkah Gemilang store for products or services each month one of the issues that need to be addressed. Complaints obtained by Berkah Gemilang store for repair service is 73 out of 240 transactions, while for the product are 57 out of 670 transactions. The highest percentage was in for repair services by 30%. Consumers often complain repair services provided by store Berkah Gemilang, this is caused by several factors. These factors include the components on an electronic device in the PlayStation when it was damaged sometimes affect other components.

Another factor is the number of components in the electronics playstation prone to damage if not treated properly. But there is also an error factor of poor technicians in performing repairs. As for complaints against the goods sold by Berkah Gemilang store not so much in comparison with the complaint against the service improvement. However, complaints against goods sold by Berkah Gemilang store could be a reference to the quality of goods is good and needs to be increased again.

Berkah Gemilang store do not yet have the means used to accommodate complaints from consumers. The current procedure is that consumers submit complaints directly to the employees of the store, so Berkah Gemilang store Difficulties in measuring and determine the level of customer satisfaction with the product and service improvements. Hence the need for management of customer satisfaction in the Berkah Gemilang store.

Berkah Gemilang store not contact the consumer after a consumer to purchase products or use the services of repair. This causes Berkah Gemilang store lose the opportunity to benefit from the same customer. With the large number of consumers Berkah Gemilang store based Data Transaction Services and Repair in 2015 amounted to 3472 people. It can be used by the Berkah Gemilang store to be a media campaign through word of mouth.

The marketing campaign implemented by Berkah Gemilang store today is through the deployment of poster, banner and provide catalogs porduk. By implementing marketing promotions based consumer group will facilitate the Berkah Gemilang store to determine the marketing strategy to customers. Thus, the next issue is how to define groups of consumers based on transactions that have been carried out to determine the right marketing strategy for each customer based consumer group. **1.**

By applying the concept of CRM (Customer Relationship Management), companies can identify potential customers by segmenting consumers. The goal of customer segmentation process is to determine consumer behavior and implement appropriate marketing strategies so as to bring benefits to the company. Model CLV (Customer Lifetime Value) is a model for determining consumer segmentation based on the value of the customer life cycle. CLV is usually defined and estimated customer segments or individual level. It allows us to distinguish between customers who are more favorable to the customer with an average profitability (Gupta, Lehmann, dan Stuart 2004; Reinartz dan Kumar 2003).

Based on the problems faced by Berkah Gemilang store, we need a system that can assist in the use of consumer data to the maximum so as to enable appropriate decision making for management. Decision-making implemented after going through the process of analysis, modeling, and evaluation of the data stored in the database to generate a mutually beneficial relationship between the store and its customers. The authors are keen to discuss the thesis with the title "Service Improvement and Promotion With Customer Relationship Management Approach in Berkah Gemilang store ".

The purpose of this study was memanagement tingakt customer satisfaction and implement marketing strategies with the approach of Customer Relationship Management in Berkah Gemilang Stores. While the purpose of this study was as follows:

a. Helping owners and Branch Head Berkah Gemilang promotion store.

b. Helping owners and Branch Berkah Gemilang Store in determining the services that need to be corrected by measuring customer satisfaction.

2. CONTENTS RESEARCH

2.1 Theoretical basis

The theoretical basis is a collection of theories that became the basis of the development of Customer Relationship Management Information Systems in Berkah Gemilang Stores.

2.1.1. Definition of Information Systems

The information system includes a number of components consisting of human, computer, information technology, and working procedures, something which is processed are data into information, and is intended to achieve a certain goal. The information system is a system within an organization reconcile the needs of daily transaction processing that supports managerial functions of the organization in strategic activities of an organization to be able to provide certain outside parties with the reports - reports required (Sutabri, 2005).

2.1.2. *Customer Relationship Management*

Consumers are a very important asset for a company. There will be no business without any prospect of the relationship between companies and consumers that are loyal. The coffers of the company will be more obese if they are able to manage the consumer baseline for identifying, satisfying, and managed to retain their most profitable customers (Buttle, 2004: 23). The following will be defined some understanding of CRM are taken from the literature, among others:

1. In terms of relating to information technology, CRM is a strategy to optimize customer lifetime value by knowing more about the consumer information and interact with consumers in intensive (Todman, 2001).
2. In terms of communication and management, CRM is defined as a company's approach to understanding and influencing consumer behavior through intensive communication in order to improve customer acquisition, retain customers, and customer loyalty (Swift, 2000).
3. The definition of CRM if viewed in terms of business can be defined as a core business strategy that combines internal processes and functions, external network to create and deliver value to customers for profit. Didsarkan CRM customer data quality and is made possible by advanced electronic and information (Buttle, 2004: 55).

Of the three definitions above can be deduced about the definition of CRM are a comprehensive approach that integrates every business process that relates directly to consumers, ie sales, marketing and customer service through the integration of philosophy, technology, and processes (Tama, 2009). In other words, CRM is seen not as a product or a service, but a business philosophy which aims to maximize the value of the consumer in the long term (customer lifetime value).

2.1.3. Teknologi CRM

A standard definition of the components of CRM technology provided by META Group in "The Customer Relationship Management Ecosystem." This categorization aims to better understand how a CRM strategy and technology capable of providing the entire architecture thoroughly focused on consumer services. There are three main types of CRM technology, namely:

1. Operational CRM, known as CRM "front office". Operational CRM is an area where there is a direct relationship with consumers. Automation of business processes involving integrated front office customer touch points, such as sales, marketing, and customer service, including integration between front office and back office, such as order management, and marketing automation.

   Person, role or position that is on the Back Office is the scope of data collection, system integrators, and promotion manager. While the coverage is representative of the Front Office, Sales, key account manager, and agent services (Buttle, 2004: 313). With the development of information and communication technology rapid, operational CRM and then also can be divided into two parts, namely e-CRM and m-CRM.
2. Collaborative CRM, is a form of an extension of the traditional CRM. Collaborative CRM deals with the relationship between the management of external stakeholders, such as suppliers, distributors, and resellers. The main applications of collaborative CRM is an enterprise portal based on extranet infrastructure and partner relationship management software (partner relationshiop management software) that provides access to consumers, resellers, and business partners over the Internet.
3. Analytical CRM CRM is known as "back office" or "strategic" CRM. Analytical CRM is usually associated with the use of data effectively, efficiently and strategically so as to enable appropriate decision making for management. Decision-making implemented after going through the process of analysis, modeling, and evaluation of the data stored in the database to generate a mutually beneficial relationship that between companies and consumers. Examples of Analytical CRM is a business intelligence such as data warehousing, OLAP, data mining the data.

   The most important thing in understanding consumer behavior not only understand who they are (in this case customer profiling or segmentation), but also their behavior and patterns of patterns (pattern) that they follow. Understanding customer behavior should be defined as a dynamic and ongoing process.

2.1.4. Dynamic CRM

Research on CRM framework conducted by Chung-Hoon Park and Young-Gul Kim (Park, 2003: 652-671), review the connection information and marketing strategies, and create a model described Dalan "Framework of DynamicCRM". Described that phase of CRM within a framework in the form of a series of processes Acquisition-Retention-Expansion. As an integrated CRM framework based on the types of customer information is arranged in stratified according to the development of customer relations.

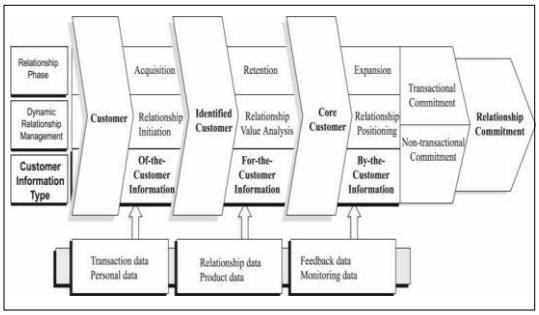


Figure 1. Framework for Dynamic CRM

CRM cycle consists of processes acquire, retain, and expansion (Budiardjo and Irwiensyah, 2008), respectively - each phase in the cycle can be explained as follows:

1. Acquire, the process of acquiring a new relationship is to get new customers that can be realized in a variety of strategies. Keywords associated with this phase is differentiation, innovation, and kenyamananm (convenience).
2. Retain, retaining customer relationship is the phase where the organization is pursuing a strategy to retain customers by improving service. Customer retaintion become an important strategy for the company because of choice for more and more customers are created by many service provider organizations (competitors). Keywords associated with this phase is adaptabiliy, listening, and Responship.
3. Expansion, is the time to establish a good relationship that has existed with the customer, always listen to customers and serve them well, creating a loyal customer to the product / service organization. Some keywords are associated with this phase is loyalty, reduce costs, and customer service.

The framework in Figure 2.5, illustrated that there are three types of customer information (Customer Information). Among others :

a. Of - the - Customer Information (information about customers) Information regarding personal data and customer transaction data. The information in this category is often known as database marketing and marketing targets.
b. For - the - Customer Information (information for customers) Information regarding products, services, and company information deemed important by customers. This information could have been channeled through various communication media in the form of direct mail, auto-attendant system, and Internet sites.

c. By - the - Customer Information (information by customer) nontransaksional feedback information from customers which include complaints, proposals, claims, customer needs and others. This information is usually manifested in the form of an expanded customer data because this information is very membantudalam customer interaction. In addition, because it contains complaints, needs and suggestions, this type of information can be applied to develop the product.

Broadly speaking, Dynamic CRM actually describes a series of phases to be done in achieving an organization's customer management in accordance with the company's main business. The framework can be considered a reference pattern or model of an organization in improving their customer management maturity. Within this framework there are several phases, among others:

1. *Relationship Initiation*

   At the initiation phase relationship with the customer, the organization collected data on customers, usually with a membership registration. Once the customer record, organizations can deduce information about supply what is right for the customer (for-the-customer). After a certain period the customer is satisfied with what the organization has to offer, then the relationship with the customer can increase to core customer. At this stage the organization can continue the next phase which CRM. In this phase occurs two-way interaction between the customer and the organization. Customers will tell what is needed specifically (by-the-customer). Things like this opens an opportunity for organizations to offer new products or services to customers, improve core business processes and satisfy customer.

2. *Relationship Value Analysis*

   To be more effective CRM, preferably every customer relationship is analyzed from both the standpoint of either the customer or organization. There are two dimensions in determining the value of each customer relationship value from the standpoint of customer rights and organizational point of view.

   Social company's responsibility towards customers according to Ronald J. Ebert (2000: 88) there are two categories, ie provide quality goods and services; and give the price of the products and services of reasonable fair dam. Corporate social responsibility also includes protecting the rights of customers. According to him, there are four consumer rights, namely the right to get a product that is safe, the right to information of all aspects of the product, the right to be heard and the right to choose what to debeli.

   In this phase occurs psychological relationship between the customer and the organization. This usually occurs with the provision of a free trial of the product to be purchased by the customer. Then, with the provision of discount, rebate (cashback) or coupon to customers when making large purchases, indirectly increasing customer loyalty (Buttle, 2004: 355).

   Customer value is a customer perception of the value at which companies must consider the value in developing products and services that conform to what is expected of customers (Vanessa, 2007: 65). Customers buy something to resolve the problem. Products that offer the best solution for a problem will create more value for customers. Services is a performance or actions performed for customers. Services are part of the company's value proposition. Companies need to understand that the business of the progressive increase in the service should be the main focus. Customer value is created through product innovation, additional benefits, a package of products and services, brand and product synergies (Buttle, 2004: 294-299). Components and relationship value evaluation method using a model of CLV (Customer Relation Value).

3. *Relationship Positioning*

   Build a mutually beneficial relationship is very important to maintain a long-term relationship between the customer and the organization. In the application of the strategy of building mutually beneficial relationships, organizations maximize customer rights will automatically increase the customer value. In addition it is fair organization should also evaluate the customer relationship from the standpoint of benefit gained. If this relationship continues, between the customer and the organization will be formed a strong commitment both transactional and nontransactional and the relationship progressed to the stage of relationship commitment (Kim et al, 2003).

2.1.5 Customer segmentation

Don Pepper and Martha Roger in his book "Managing Customer Relationship: A Strategic Framework". Categorization of customers as follows:

1. Most Valuble Customer (MVC), ie customers with the highest value for the company. A customer who give the greatest advantage for the company.
2. Most growable Customer, ie customers who unwittingly has great potential.
3. Below Zeros, ie the customers who benefit less than the cost to provide services.

4. Migrators, ie customers who are in a position somewhere between below zeros and most growable customer and need to be analyzed in order to know the category of origin (Pepper. D & Roger, M., 2001).

2.1.6. CLV models

LTV (Life Time Value), a subscriber can be defined as the present value of all net margin obtained through relationships with customers. Historical net margins combined into today's value. Discounted future net margins back into today's value. Estimation of the potential LTV only look to the future (Buttle, 2004: 160).

CLV (Customer Lifetime Value) is generally defined as the present value of all future profits derived from the customer on his relationship with the company. CLV similar to the discounted cash flow approach used in finance. However, there are two main differences. First, CLV is usually defined and estimated customer segments or individual level. It allows us to distinguish between customers who are more favorable to the customer with an average profitability. Second, unlike the financial, CLV explicitly incorporates the possibility that customers might defect to competitors in the future (Gupta, Lehmann, and Stuart 2004; Reinartz and Kumar 2003).

The basic formula calculation of CLV by Sunil Gupta in 2006 in the journal entitled Modeling Lifetime Value is as follows:

$$CLV = \sum_{t=0}^{T} \frac{(p_t - c_t) r_t}{(1+i)^t}$$

.

Information:
pt = The amount to be paid by customers at time t.
ct = cost to the company to serve customers at time t
i = discount rate or cost of capital (in the form of capital%)
rt = customers are likely to buy back at time t
T = the time horizon for estimating CLV

According to Kumar (2008), a component of costs and contribution margin future determines the calculation CLV is as follows: Cost of marketing (Marketing Cost) that led to the charges of planning that serves the customer's account, increase the value of the current relationship ie programs relating to loyalty or frequent-flyer, and an attempt to "win back" lost customers. In general, marketing expenses consist of development costs and retention costs. The main component of these costs is the cost of marketing through various communication channels such as direct mail, email and face to face interaction. Discount Rate (Discount Rate) Because of the value of money is not constant over time, and because of the money received today is worth more than the money received in the period of time in the future, it is necessary to discount the contribution of gross and marketing costs to obtain the value money today (the present value of money). This can be done by dividing the cash flow for a time period t (1 + d) t, where d is the discount rate. The discount rate depends on interest rates in general and is usually proportional to the treasury bill or interest paid by banks on savings accounts. The discount rate can also be varied to some companies depend on cost of capital. Period of Time (Time Period). Numbers of the period of time in the future shows the "lifetime" of the customer base. Said lifetime has a different connotation when considering a purchase at one time (eg house purchase) and regular purchases (like groceries). Another important aspect is to estimate the duration when making marketing decisions. For most businesses, it makes sense to expect that the customer will return within a specified period (t); but there are no standard guidelines in determining the value of t.

2.1.7. K-Means

Steps to perform clustering with K -Means method is as follows:

a) Select the number of clusters k.
b) Initialize k cluster centers can be done in various ways. But most often done by random manner. Rated initial cluster center with figures random.
c) Allocate all data / objects to the nearest cluster. The proximity of the two objects is determined by the distance of the object. Similarly, the proximity of a particular cluster of data to be determined by the distance between the data center cluster.
d) Recalculate the center cluster to cluster membership that now. Center of the cluster is the average of all data / objects in a particular cluster. If desired, you can also use the median of the cluster. So the average (mean) is not the only measure that can be used.
e) Assign each object again wear the new center cluster. If the cluster centers do not change anymore then the clustering process is completed. Or, go back to step 3 to the cluster center does not change anymore.

Distance space is used to calculate the distance between the data and the centroid. The equation that can be used one of which is Euclidean Distance Space. Euclidean distance space is often used in the calculation of the distance, this is because the results obtained is the shortest distance between two points is calculated. The equation is as follows:

$$d_{ij} = \sqrt{\sum_{k=1}^{p} \left\{ x_{ik} - x_{jk} \right\}^2}$$

Where :
dij = distance between the object subject i and j
P = Dimension Data
Xik = coordinates of the object i in dimension k
Xjk = coordinates of the object in the dimension j k

2.1.8. Promotion

Sales promotion is any incentive that triggers the behavior temporarily shown on the customer prospects, sales channel members or a tradesman (Buttle, 2004: 355). According Fancis Buttle on his book Comnsept And Customer Relationship Management Tools to mention that there are various forms of sales promotion for customers, namely:

1. Sampling
   This form has the provision of free samples of a product. These samples can be supplied with a number of ways, ie sent by mail or delivered from house to house, or used as sati and packed with the related items.
2. Free Trial
   Several companies offer products to customers based on the approval tenterntu. If they like the product then they can bring it and pay for it. Motor vehicle dealers offer a test-drive (test-driving) to the prospective providers.
3. Discounts
   Discounts are pegurangan prices temporarily. Discounts reduce the risk and increase the value for the first pemneli kali.diskon can be promoted in the packaging or do media.
4. Coupons
   Coupons berfungis like money. They can be redeemed at points of sale when purchasing.
5. Rebates or cashback (refund)
   Baranng consumption in the market, rebates and cashback are often offered in packages and requiring proof of oembelian.
6. Bonus pack
   Proomosi where customers memdapatkan larger volumes at fixed prices.
7. Banded pack
   Banded pack promotion offering two or three (but rarely sekalli) products are tied together with a package price.
8. Free Premium
   Form of prizes for customers. Prizes offered at points of sale or in the packaging, or menggharuskan customers to send a letter or call to request a gift.
9. Lottery
   The lottery is a game of chance, not skill individuals. Customers are invited to buy the product and brought to umdian prizes. The prizes are very diverse. Starting from UTEM-cost item until the items are very expensive.
10. Competition
    Unlike lotteries, competitions requiring skill or knowledge. Persamaanya lies in the prize are very diverse (Buttle, 2004: 355-356).

2.1.9. Customer Satisfaction

Customer satisfaction is feeling happy or disappointed that someone obtained from comparing the performance (or outcome) products that are perceived and expectations (Tjiptono and diana, 2015: 23).

Some of the measurement methods used in measuring customer satisfaction antaralain:

1. The system of complaints and suggestions
   Each customer oriented marketers are required to provide greater opportunities for customers to submit suggestions, criticisms, opinions, ideas, feedback, and their complaints. The media used can beupa suggestion boxes placed in strategic places (accessible or frequently traveled customers), a comment card (which can be filled directly or sent via mail to the company), a dedicated phone line is free, website, blog, facsimile, phone number, and others. The information obtained through this method can provide new ideas and valuable input for the company, allowing it to react with quick responses and to overcome the problems that arise. When run well, this way has the potential to make a complaint as a gift, which the marketers given the opportunity to provide services to satisfy customer complaints.
2. Ghost / Mystery shoping
   One method to get a sense of gratification of the customer was to hire ghost beberpa shoppers to act as the company's potential customers and competitors, hell asked to report important findings based on his experience of the strengths and weaknesses of the product or service the company compared to its competitors.

   Besides the ghost shoppers can also observe (can also be recorded with a hidden camera) and rivals the way the company serves the customer's specific requests, answering customer questions and deal with any problems / complaints. Another aspect that could also be explored is whether the employees run the SOP (Standard Operating Procedure) customer service consistently.
3. Lost Customer Analisys
   Companies wherever possible to contact customers who have stopped buying or who have switched suppliers, in order to understand why it happened and in order to take policy improvements / enhancements further. Not only exit interviews are necessary, but monitoring is also important customer loss rate, where an increase in customer loss rate shows the failure of the company in satisfying customers. However, the difficulty of implementing this metide is on identifying and contacting former customers who are willing to provide feedback and evaluation of the performance of the company.
4. Customer Satisfaction Survey
   Generally, most of the research on customer satisfaction using a survey method, either via POSM telephone, e-mail, website, or direct

interviews. Through the survey, company akanmemperoleh tanggpan and direct feedback from customers and also give a positive signal that oerusahaan pay attention to them (Tjiptono and Diana, 2015: 55-58).

2.2. Problem analysis

Analysis of the problem of the system that is currently running on the store Blessings Gemilang is:

a. Owners and Branch Head Berkah Gemilang store have difficulty in doing promotion.
b. Owners and Branch Head Berkah Gemilang store in determining service improvements.

2.2.1. CRM Framework Analysis

CRM Framework used in customer relationship management information system in the store is a glorious blessing Dynamic CRM. Described that phase of CRM within a framework in the form of a series of processes AcquisitionRetention-Expansion.

2.2.1.1. Phase Acquire (Acquisition*)*

Acquire, the process of acquiring a new relationship is to get new customers that can be realized in a variety of strategies. Keywords associated with this phase is differentiation, innovation, and kenyamananm (convenience). Acquire is a stage that is at the stage of acquisition on the part of the relationship that is used to attract potential customers Blessing Shop Gemilang to conduct transactions with Bright Blessings shop.
The facilities provided by Bright Blessings Store is as follows:

1. promotion of the products sold by the shop Blessing Gemilang and services provided by Bright Blessings shop through the installation of banners, posters deployment and provide a catalog of products.
2. Provide convenience to customers in mebeli products they need, namely to respond quickly to customer wishes also provide goods with good quality.

At this stage there is Initiation Relations / Relationship Initiation, which is the first stage of the analysis Framework Dynamic CRM, at this stage Stores Blessing Gemilang obtain the required data from customer transactions (of) to start the analysis of CRM do segmentation of customers in the form of transaction data customer purchase has been obtained.

2.2.1.2. Phase Retain (Retention*)*

Retaining customer relationship is the phase where a Bright Blessings Store pursuing a strategy to retain customers by improving service. Customer retaintion become an important strategy for the company because of choice for more and more customers are created by many service provider organizations (competitors). Keywords associated with this phase is adaptabiliy, listening, and Responship.

At this stage there is a Value Analysis Relationship / Relationship Value Analysis, which is the second stage of analysis Framework Dynamic CRM, in this phase is done the customer segmentation of the data that has been provided in accordance with the concept of information intended for customers (for) the concept of Customer Relationship Value (CLV) Customer Segmentation used in this study to pengkategorikan customers into several parts (cluster) with the aim to measure the level of customer loyalty, so do the follow-on service to customers according to their levels. Customer segmentation process will be carried out using CLV Analysis Model.

To be more effective CRM, preferably every customer relationship is analyzed from both the standpoint of either the customer or organization. There are two dimensions in determining the value of each customer relationship value from the standpoint of customer rights and organizational point of view. In this phase occurs psychological relationship between the customer and Bright Blessings shop. Namely by giving discounts to customers if the customer has made a certain amount of the transaction, indirectly increasing customer loyalty.
Customer value is a customer perception of the value at which companies must consider the value in developing products and services that conform to what is expected of customers (Vanessa, 2007: 65). The consumer value is used as a material for segmenting consumers.

Consumer Segmentation is the practice of dividing a customer base into groups of consumers who are similar to certain criteria which are relevant to the marketing program. Customer segmentation will help Shop Blessing Gemilang to determine the appropriate marketing program in order to satisfy customers. Bright Blessings do not need to provide the same service to every customer. Blessing store Gemilang must prioritize and select the most potential customers based opportunities for the company's financial income.

The method used in this customer segment is the CLV method. CLV describes methods to calculate the value of customer value customers using the basic formula of calculation of CLV by Sunil Gupta in 2006. The context of each attribute is defined as follows:

1. The number of transactions (purchases) 2 customer per month.
2. Costs incurred Blessing Shop Gemilang is 80% of the item price (the price of a bag) assumed benefit is 20% of the price of the goods.
3. Discount rate or cost of capital is 80%.
4. The time horizon for estimating CLV 1 year (adjusted to the existing data that is 1 year).

Table 1. Data Transaction Product 1 Year

Name	Date	Itemn	Number	Price Of Goods	The overall price
Rima Playstation	07/01/2015	Console PS 2	1	Rp 9.500.000	Rp 950.000
Rima Playstation	21/01/2015	Dual Stik	3	Rp 45.000	Rp 135.000
Rima Playstation	15/02/2015	HDD	1	Rp 280.000	Rp 280.000
Rima Playstation	18/02/2015	DVD x2	7	Rp 5.000	Rp 35.000
Rima Playstation	11/03/2015	Power Supply	1	Rp 100.000	Rp 100.000
Rima Playstation	03/04/2015	HDD	1	Rp 280.000	Rp 280.000
Rima Playstation	14/04/2015	DVD x2	9	Rp 5.000	Rp 45.000
Rima Playstation	08/05/2015	Dual Stik	2	Rp 45.000	Rp 90.000
Rima Playstation	29/05/2015	Dual Stik	5	Rp 45.000	Rp 225.000
Rima Playstation	02/06/2015	DVD x2	4	Rp 5.000	Rp 20.000
Rima Playstation	14/06/2015	Memory Card	6	Rp 30.000	Rp 180.000
Rima Playstation	15/07/2015	DVD x2	6	Rp 5.000	Rp 30.000
Rima Playstation	25/07/2015	Dual Stik	4	Rp 45.000	Rp 180.000
Rima Playstation	30/07/2015	HDD	1	Rp 280.000	Rp 280.000
Rima Playstation	29/08/2015	DVD x2	12	Rp 5.000	Rp 60.000
Rima Playstation	18/09/2015	Memory Card	7	Rp 30.000	Rp 210.000
Rima Playstation	14/10/2015	DVD x2	4	Rp 5.000	Rp 20.000
Rima Playstation	11/12/2015	Dual Stik	5	Rp 45.000	Rp 225.000
Deni indra	22/03/2015	Dual Stik	2	Rp 45.000	Rp 90.000
Deni indra	13/04/2015	HDD	1	Rp 280.000	Rp 280.000
Deni indra	14/04/2015	Instal Game	1	Rp 30.000	Rp 30.000
Arif Rahman	22/08/2015	Console PS 2	1	Rp 950.000	Rp 950.000
Arif Rahman	22/08/2015	HDD	1	Rp 280.000	Rp 280.000
Arif Rahman	22/09/2015	Dual Stik	2	Rp 45.000	Rp 90.000

Table 2. Data Transaction Services Repair 3 Months

Nama	No Tlp	Jenis Service	Harga	Tanggal
Agus somantri	089627207793	Analog x2 dan Kabel	80000	07/11/2015
zam games	089501210690	Analog x3	30000	10/11/2015
zam games	089501210690	svc	25000	02/11/2015
zam games	089501210690	Analog	10000	30/11/2015
Sandi	08981375593	Kabel RGB	40000	23/11/2015
sandi	08981375593	Kabel + Service	15000	25/11/2015

Examples of manual calculation to the subscriber with the name Rina Playstation

$$CLV = \frac{(1400000-1120000)1}{(1+0,8)^1} + \frac{(425000-340000)1}{(1+0,8)^2} + \frac{(515000-412000)1}{(1+0,8)^3} + \frac{(550000-440000)1}{(1+0,8)^4} + \frac{(230000-184000)1}{(1+0,8)^5} + \frac{(225000-180000)1}{(1+0,8)^6}$$

Based on calculations using formulas CLV, the CLV scores obtained for each consumer can be seen in Table 3 and Table 4.

Table 3. Examples CLV score of three consumers purchasing products

Name : Rima Playstation

t	pt	ct	i		CLV
1	Rp1.400.000	Rp1.120.000	0,8	Rp155.556	Rp155.556
2	Rp425.000	Rp340.000	0,8	Rp26.235	Rp181.790
3	Rp515.000	Rp412.000	0,8	Rp17.661	Rp199.451
4	Rp550.000	Rp440.000	0,8	Rp10.479	Rp209.930
5	Rp230.000	Rp184.000	0,8	Rp2.434	Rp212.364
6	Rp225.000	Rp180.000	0,8	Rp1.323	Rp213.687
					Rp213.687

Name : Deni indra

t	Pt	ct	i		CLV
1	Rp400.000	Rp320.000	0,8	Rp44.444	Rp44.444
					Rp44.444

Name : Arif Rahman

t	Pt	ct	i		CLV
1	Rp1.320.000	Rp1.056.000	0,8	Rp146.667	Rp146.667
					Rp146.667

Table 4. Examples of the three consumer CLV score repair service

Name : Agus somantri

t	pt	ct	i		CLV
1	Rp80.000	Rp64.000	0,8	Rp8.889	Rp8.889

	Rp8.889

Name : zam games

t	**pt**	**ct**	**i**		**CLV**
1	Rp65.000	Rp52.000	0,8	Rp7.222	Rp7.222
					Rp7.222

Name : Sandi

t	**pt**	**ct**	**i**		**CLV**
1	Rp55.000	Rp44.000	0,8	Rp6.111	Rp6.111
					Rp6.111

Consumers are grouped based on Table 5 and Table 6

Table 5 Consumer groups Transaction Products

No	Consumer Groups	Score
1	*Most valuable customer*	Skor >=Rp. 212.399
2	*Most growable customer*	Rp. 118. 361<= Skor <=Rp. 212.340
3	*Migrator*	Rp. 57. 944<= Skor <=Rp. 118.362
4	*Below zeros*	Skor < Rp. 57.944

Table 6 Consumer groups Transaction Services Repair

No	Consumer Groups	Score
1	*Most valuable customer*	Skor >=Rp. 22.503
2	*Most growable customer*	Rp. 14.899<= Skor <=Rp. 22.503
3	*Migrator*	Rp. 7.407<= Skor <=Rp. 14.899
4	*Below zeros*	Skor < Rp. 7.407

Once consumers get a score of CLV, the next stage is the grouping of consumers based on the score CLV.

Table 7 for each consumer group transasksi product

No	Consumer	The final score	Consumer Groups
1	Rima Playstation	Rp213.687	*Most valuable customer*
2	Deni Indra	Rp44.444	*Below Zeros*
3	Arif Rahman	Rp146.667	*Most growable customer*

Table 8 Group for any consumer product transactions

No	Consumer	The final score	Consumer Groups
1	Agus Somantri	Rp8.889	*Migrator*
2	Zam Games	Rp7.222	*Below Zeros*
3	Sandi	Rp6.111	*Below Zeros*

2.2.1.3. Enhance stage / expansion.

Enchance stage is the stage that is used to maintain the loyalty of customers to Berkah Gemilang Store. Facilities to be built in stages Enhance is a complaint system. This facility contains a complaint, the difference at this stage that the complaint will be provided by the customer is online so that complaints can be a direct response by Own Berkah Gemilang Store. At the facility there are complaints that consumers will submit complaints to the employees of the store and will be delivered to the store owner. With online complaint facility will ease the process of complaints from consumers to Berkah Gemilang Store and provide greater opportunities to clients in menyammpaikan complaint ..

Complaints are categorized by the type of service, namely complaints and grievances product repair services. With this categorization is expected that the Berkah Gemilang Store will be easier to determine which services should be improved service.

Placement Relations / Relationship Positioning, is the last stage of the Framework of Dynamic CRM after customer segmentation process is done then the next step is to determine the type of customer to do any follow-up services to each customer according to the type of customer.

Build a mutually beneficial relationship is very important to maintain long-term relationships between customers and shop Blessing Gemilang. In the application of the strategy of building mutually beneficial relationships, Bright Blessings Store maximize customers' rights will automatically increase the customer value. In addition it is fair Blessing Shop Gemilang should also evaluate the customer relationship from the standpoint of benefit gained. If this relationship continues, between the customer and the shop Bright Blessings will be formed a strong commitment both transactional and nontransactional and the relationship progressed to the stage of relationship commitment (Kim et al, 2003).

After segmentation of data on consumers shop Blessing Gemilang using CLV analysis, then the consumer will have teams in accordance with the transaction that has been done.

The strategy applied to the Most Valuable Customer and Customer growable Most are discounted for customer transactions and bonus pack products for customers repair for customers who fall into those categories has become a loyal customer and will continue to grow. As for big rebates to customers who enter the group Most Valuable Customer is 15% of the purchase, while large discounts to customers who enter the group Most growable Customer is 10% of the purchase. Bonus Pack are provided to customers in the group Most Customer Value is the addition of the warranty period for 7 days, while for customers who sign Most growable Customer gets the warranty terms for 3 emotion. Discounted rates above apply only to two-time transactions or for 2 months after the customer into the two groups above. The marketing strategy is notified to customers via SMS Gateway.

As for the customers who are in the group and migrators Below zero, the marketing strategy is to improve the transaction notification via email and SMS Gateway.

Strategies for migratory below zero and will be applied after the strategy for the most valuable customer and most growable customers do. This step is taken to manage customers who actually provide maximum profitability to store Gemilang Blessing.

Based on case examples contained in Table 7 and Table 8, then each consumer will get service as in Table 9 and Table 10.

Table 9 Examples of customer care product based consumer group transactions

No	Consumer	Group	Service
1	Rima Playstation	*Most Valuable Customer*	Getting chunks of 15% as much as two times the transaction during the second month.
2	Deni Indra	*Below Zeros*	Notice to improve transaction
3	Arif Rahman	*Most growable customer*	Getting chunks of 10% as much as two times the transaction during the second month.

Table 10 Examples of consumer services based consumer group transactions repair service

No	Consumer	Group	Service
1	Agus Somantri	*Migrator*	Notice to improve transaction
2	Zam Games	*Below Zeros*	Notice to improve transaction
3	Sandi	*Below Zeros*	Notice to improve transaction

Once the customer segmentation process can be implemented, the next problem is how to convey information about marketing strategies in Berkah Gemilang store to the consumer. Because although store Blessing Gemilang already implementing customer segmentation, the marketing strategy will be less than the maximum if it is not delivered to the consumer. Therefore, it needs a medium to disseminate information to consumers effectively. The media ie a medium that can deliver information easily and customers can find the information quickly. Because each customer if you want to trade must come to the Berkah Gemilang store. Then the delivery of information about features on top of the most effective is the use of vouchers.

Giving discounts and bonus pack to consumers is done only when the consumer has increased or that are in the group at any given time and given when consumers conduct transactions.

Here is the content of sms that will be delivered to each customer group.

Table 11 Information consumer groups

No	Condition	content of messages
1	Consumers have carried out transactions and was in a group below zero	[Berkah Gemilang] thank you for your confidence in our products. Increase in Berkah Gemilang continue your transaction and get attractive discounts if you have transacted with a certain amount. If there are less pleased about the product and our service, you can submit your complaint in www.berkahgemilang.pw. ,
2	Consumers have carried out transactions and was in a group migrators	[Berkah Gemilang] Thank you for your confidence in our products. The closer you get to get a rebate. Increase in Berkah Gemilang continue your transaction and get attractive discounts if you have transacted with a certain amount. If there are less pleased about the product and our service, you can submit your complaint in www.berkahgemilang.pw.
3	Consumers have carried out transactions and was in a group most growable customer	[Berkah Gemilang] Thank you for your confidence in our products. Congratulations you get a rebate of 10% for two subsequent transactions during the two months. Increase in Berkah Gemilang continue your transaction and get a rebate of 15% for two subsequent transactions during the two months when you have done a certain amount of the transaction. If there are less pleased about the product and our service, you can submit your complaint in www.berkahgemilang.pw.
4	Consumers have carried out transactions and are in the group most growable customer	[Berkah Gemilang] Thank you for your confidence in our products. Congratulations you get a rebate of 15% for two subsequent transactions during the two months. Keep the number of your transaction so that the promo is what you get for the next two months. If there are less pleased about the product and our service, you can submit your complaint in www.berkahgemilang.pw.

2.3. Analysis Database

In the development of a CRM system requires a database design, modeling which will be used in the design of this database menggunanan Entity Relational Diagram (ERD). Database modeling can be seen in Figure 2.

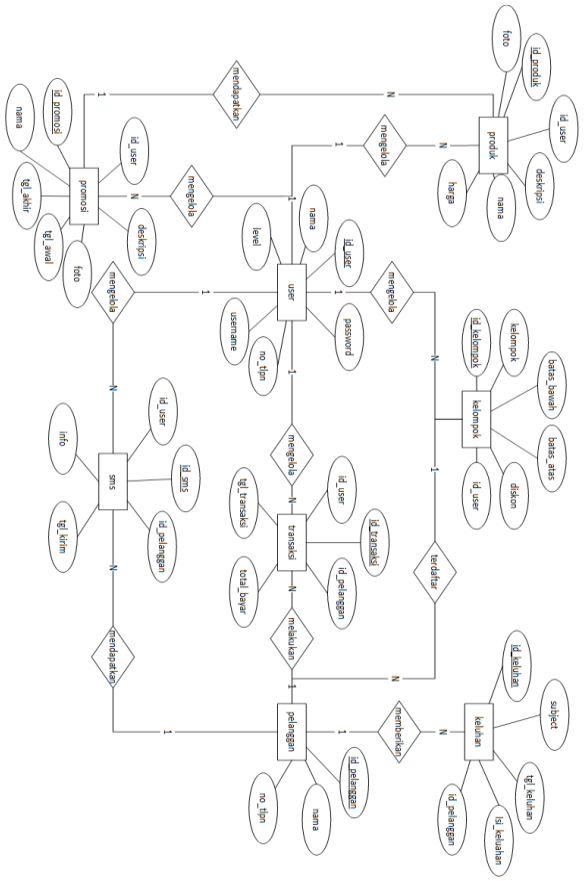


Figure 2. Diagram ERD

2.4. diagram Context

Diagram Context is a simple diagram A diagram that illustrates the relationship between external entities, input and output of the system. Direpsentasikan context diagram with a single circle that represents the whole system. There are 4 users that play a role in this system ie the chairman, administrators, and members in which each actor has the right info and types of data that can be seen in figure 3.

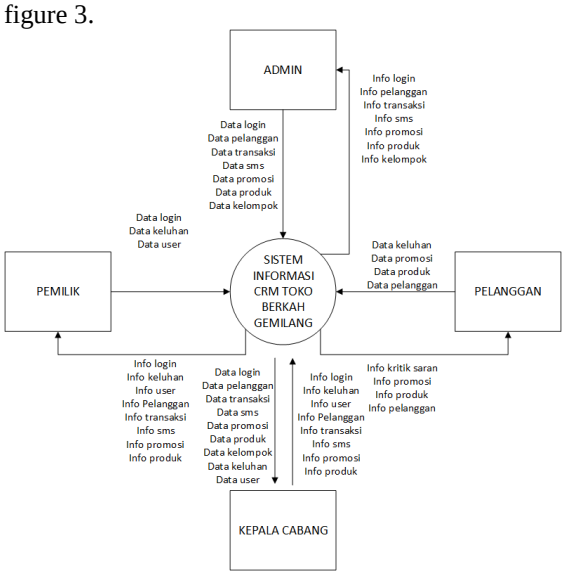


Figure 3. Context

2.5. Data Flow Diagram

DFD is often used to describe an existing system or the new system will be developed logically without considering the physical circle where the data flow or the physical environment in which the data will be stored. Here is a picture data flow diagram for Customer Relationship Management Information Systems in Stores Berkah Gemilang, DFD can be seen in Figure 4.

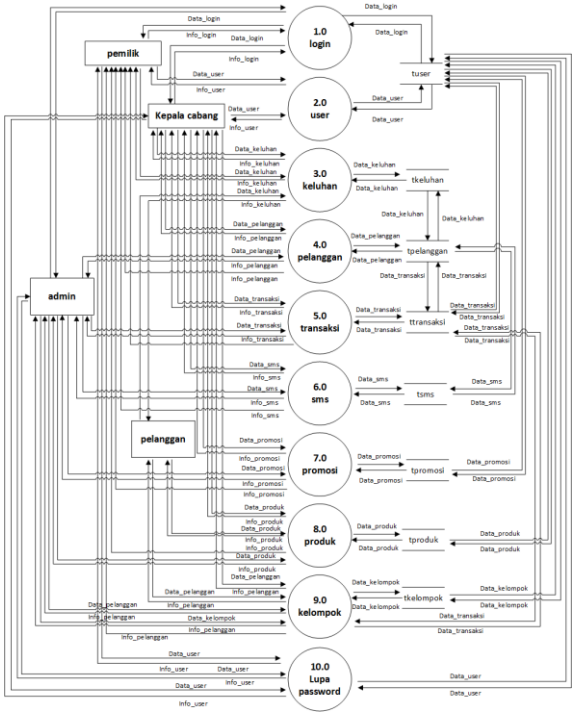


Figure 4 Data Flow Diagrams (DFD) Level 1

2.6. Relation scheme

Relationship scheme is a series of relationships between multiple tables in a database system. Explanation series of databases on this system can be seen in Figure 5.

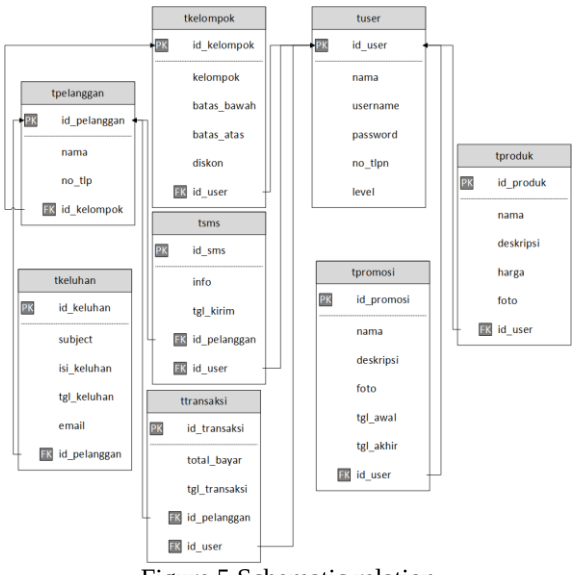


Figure 5 Schematic relation

2.7. designing Interfaces

Interface design is made to give the concept of the implementation of making an interface later on the system. Here is an overview of interface design in this system.

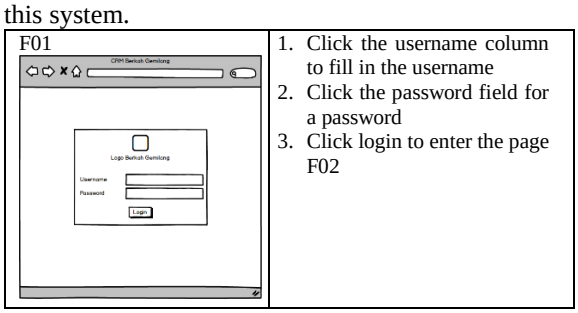


Figure 6 Views Login

2.8. Semantic network

Semantic networks describe the connectedness between menu pages. On the customer relationship management information systems at Berkah Gemilang Store.

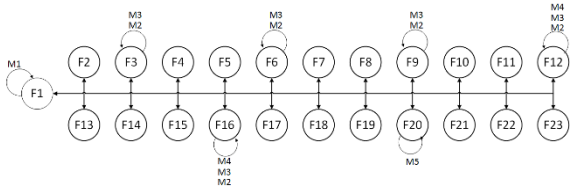


Figure 7 semantic network admin

2.9. Systems Testing

Testing of the system is the cornerstone that aims to find errors or omissions in the information system under test. System testing is to determine the performance of information systems that have been made in accordance with the purpose of information system design. Testing the system uses black box testing. Black box testing focuses on functional requirements of the software.

Test plan will do is to test the system built by Black Box and Beta.

2.9.1. Black Box Testing

Based on test results that have been made to the CRM information system, it can be concluded that Functionally the system is able to produce the system requirements as expected.

2.9.2. Beta testing

Based on the answers from Metro Manager laundry on testing of the system, it can be concluded that the Customer Relationship Management Information System that has been built:

1. Can help the owner and the head of the branch in the promotion by specifying the service based on customer type.
2. It can help the owner and the head of the branch in determining service improvements.
3. It can help the manager in retaining repeat customers through a system that allows customers submit complaints advice online.

3. CLOSING

In this chapter will put forward the conclusions that can be obtained from the discussion of previous chapters as well as suggestions for improvement and further development of the system.

1.1. Conclusion

After doing the analysis, design, and testing. It can be concluded as follows:

1. This CRM information systems can help owners and Branch Head Berkah Gemilang Store promotion.
2. This CRM information systems can help owners and Branch Berkah Gemilang Store in determining service improvements by measuring customer satisfaction.

1.2. Suggestion

In order for a system built to work better, should do the following things:

1. In granting discounts not only on the category of consumers, but also of the promotion.
2. In directing consumers to not only an increase in transactions, but also encourage customers to be able to wear other types of products from the company.

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