ANALISIS PANGSA PASAR UNTUK PEMBUKAAN CABANG BARU DENGAN PENDEKATAN CUSTOMER RELATIONSHIP MANAGEMENT (CRM) DI PT. DEVITRA INDONESIA

Anugrah Prasetya[1], Tati Harihayati[2]

Teknik Informatika – Universitas Komputer Indonesia
Jl. Dipatiukur 112-114 Bandung
E-mail : anugrahprasetya.uga@gmail.com[1], tharihayati@yahoo.com[2]

ABSTRAK

PT. Devitra Indonesian company engaged in vehicle repair services, maintenance of machinery and spare parts of heavy equipment such as Forklift, Truck Catloader and whose customers include major companies in the city of Purwakarta. As a company that walks in the field of heavy equipment PT. Devitra Indonesia to date has already established 15 years dibisnis heavy equipment and would like to expand its business by opening new branches. PT. Indonesia Devitra never expand business by opening new branches in 2008 in the city, however the following year a new branch in the city of Bandung loss this was due to several factors that are not taken into account and ultimately the company decided to close the branch Bandung.

Based on the above issues to overcome these problems is to build Information Systems Market Share Analysis for Branch Opening New Approach Customer Relationship Management (CRM) by the method of Weighted Product (WP) who is able to help companies get recommendations for opening new branches. The concept of CRM is widely used as a reference in the information industry as a methodology of Internet capabilities that help companies manage customer relationships. The purpose of CRM systems is to improve customer service, increase customer satisfaction, and ensure customer retention by aligning the way of doing business with the integration of technology. In addition, the primary goal of CRM is to maintain existing customers and attract new customers.

Keywords: Customer Relationship Management (CRM), Market Share, Determining the location of the new branch,Weighted Product (*WP*), PT. Devitra Indonesia

1. INTRODUCTION

PT. Devitra Indonesia is a company engaged in the repair of vehicles, machine maintenance and spare parts of heavy equipment such as Forklift, Catloader and Truck. PT. Devitra Indonesia established since 2001 in Purwakarta, until now the company has been established 15 years dibisnis heavy equipment. PT. Devitra Indonesia currently has 99 customers in the form of large enterprises and 55% of its customers are outside the area Purwakarta. PT. Devitra Indonesia currently holds a market share of Purwakarta region and the company must always be ready to face the dynamic market changes..

Based on the interview to Mr. Dwi Satria Ramadhan as a Marketing Manager, stated that PT. Indonesia Devitra never expand business by opening new branches in 2008 in the city of Bandung based wants to expand their business. But the following year a new branch in the city of Bandung loss this was due to several factors that are not taken into account such as the distance of a new branch destination customer, the price of the rent is too expensive as well as places that are not strategic to open a branch of the company finally decided to close Bandung branch. The increasing demand of customers who are outside the city, Marketing Manager plans to reopen a new branch but the difficulty in determining the areas that have a high market share and the potential for opening new branches. With the opening of new branches not only bring customers outside Purwakarta also resulted in a decrease in operating costs such as transport costs and reduce the length of time in traveling send mechanics to the customer. In addition to the new branch of PT. Devitra Indonesia can be better known outside of Purwakarta in order to achieve a larger market share.

The opening of new branches should be analysis of the criteria that will be considered in choosing the location of new branches in order to facilitate the Marketing Manager determines the selected location can increase profits for the company. PT. Devitra Indonesia have criteria that can be used as recommendations regarding the location of which will be used as the area of land to be occupied more than 1500m2 and is not adjacent to other businesses in order to avoid competition.

Pursuant to the problems that exist today in the PT. Devitra Indonesia, hence the need for a system that can analyze the market share for the new

branches with the approach of Customer Relationship Management (CRM).

2. CONTENTS OF RESEARCH

2.1 Theoretical basis

The theoretical basis of this thesis will explain the theories relating to Market Share Analysis For New Branch Opening With Approach Customer Relationship Management (CRM) in PT. Devitra Indonesia.

2.1.1 Definition System

A system is needed in a company or government agency, because the system is to support the performance of the companies or government agencies, both small and large scale. In order to work well it needs cooperation between the element - related elements in the system. There is some argument that the purpose of defining the system, as shown below:

"The system is a network of procedures that are interconnected, gathered together to perform an activity or to accomplish a certain goal". [1]

The term system in general can be defined as a collection of elements - elements that are interrelated and work together or are connected with certain ways so as to form a single unit to perform a function in order to achieve a goal. The system has the characteristics or properties - specific properties, namely: System Components, Limitation Systems, Environmental Systems Affairs, Liaison System, System Input, Output System, Processing Systems and Target Systems.[1]

2.1.2 Definition of Information

Information is a collection of data that is processed into a form more useful and more meaningful for those who receive. Without information, the system will not run smoothly and can eventually die. An organization without any information then the organization can not operate. In other words, the source of information is the data. Data describe an event that is happening, where the data will be processed and applied in the system becomes a useful input in a system.[1]

The information is the result of processing data from one or multiple sources, which are then processed, thus giving the value, meaning and benefits. The usefulness of information is to reduce uncertainty in the decision making process about a situation. An information said to be worth more effective if its benefits compared to the cost to obtain such information.[2]

2.1.3 Definition of Information Systems

According Jogiyanto, the information system is a system within an organization reconcile the needs of daily transaction processing, support the operation, managerial and strategic activities of a organisasasi, and provide certain outside parties with the reports - reports required. [3]

2.1.4 SWOT Analysis

SWOT analysis (strengths, weaknesses, opportunities, threats) analysis covers the external environment and internal environment. External analysis will provide an overview of the opportunities and threats (OT) while the internal environmental analysis will provide information on the strengths and weaknesses (SW) of the company.

Selection of strategy assessed through the selection matrix determining the strengths, weaknesses, opportunities, threats (strengths, weaknesses, opportunities, threats). Project - the project should be conducted after the specified objectives and strategic goals. A strategy is a plan that is engineered to accomplish a mission. That mission must be planned within the parameters of strength (S, strength) and weakness (W, weakness) of the organization, opportunities (O, opportunities) and threats (T, threats) in the environment.

This analysis is based on the logic that maximizes strength (stengths) and opportunities (opportunities), but simultaneously can minimize your weaknesses (weaknesses) and threats (threats). SWOT matrix is a machine tool that helps managers develop four types of strategies, the matrix is considered able to clearly describe how external opportunities and threats faced by the organization must be adapted to its strengths and weaknesses. This matrix can produce four possible alternative strategies that can be seen in Figure 1

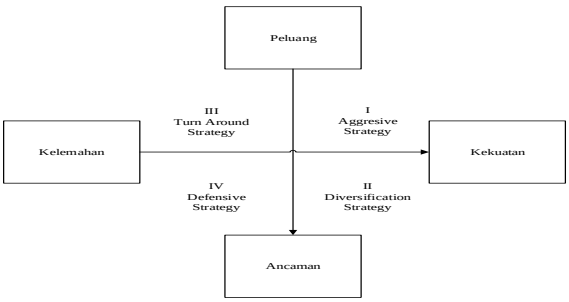


Figure 1 Diagram SWOT Analysis

2.1.5 Customer Relationship Management

If explored perkatanya are as follows; Customer or customer is someone who repeatedly or regularly make a purchase to a dealer, Relationships are a two-way form of communication between buyers and sellers. Management is widely managing to something. If it can be defined to be a two-way relationship between the management of a company with people who become customers of the company.

CRM in its development also can be defined as follows:

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 intensively.
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.
3. The definition of CRM if viewed in terms of business can be defined as a business strategy to understand, anticipate and manage the needs of potential customers in an organization at the present time and the future.

The purpose of CRM systems is to improve customer service, increase customer satisfaction, and ensure customer retention by aligning the way of doing business with the integration of technology. In addition, the primary goal of CRM is to identify, anticipate, retain, understand the needs of customers both current customers and the potential to become customers by collecting information about customers, sales and the effectiveness of marketing and market trends, so that CRM can be managed well is organizations need to know exactly what information they want and obtain customers, and what will be done with the information known.

The principle of customer relationship management (CRM) including empowering relationships that have been formed to maximize revenue, empowering knowledge about the customer to provide the best service, formed a sales process that can be done repeatedly, and build customer loyalty. When companies implement CRM strategy means improved service to customers and create interactions that are consistent, reliable and easily accessible in every interaction between the customer and the company. Targets to be achieved from the CRM system is the optimization of profits, and this can be achieved by understanding that not all customers are created equal each other. Only companies that understand this and understand how each customer's desire to interact with the company, will be able to achieve customer loyalty and progress of a profitable business.

RFM (Recency, Frequency dan Monetary)

RFM is the process of analyzing customer behavior. RFM is an abbreviation of Recency, Frequency, and Monetary. This calculation method serves to perform customer segmentation or grouping customers, It is commonly used in database marketing and direct marketing. RFM consists of three dimensions: the Recency, Frequency and Monetary.

1. Recency

   Recency is a measure of customer value by looking at consumer behavior with regard to the purchase of the latest accomplishments. The most important information that should not be missed with respect to recency is the last purchase date is the barometer measuring recency.

2. Frequency

   Frequency is a measure of customer value by looking at consumer behavior with regard to the activities of transactions made by consumers during the period. A period that is the span of time specified, for example in 2 years what is rata2 transactions made by consumers.

3. Monetary

   Monetary is a measure of customer value by looking at consumer behavior with regard to average transactions made by consumers in one transaction.[4]

2.1.6 *Dynamic*-CRM

Research on CRM framework conducted by Chung-Hoon Park and Young-Gul Kim, review the connection information and marketing strategies, and create a model described Dalan "Framework of Dynamic- CRM". 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 the customer relationship, the framework of Dynamic CRM can be seen in figure 2.

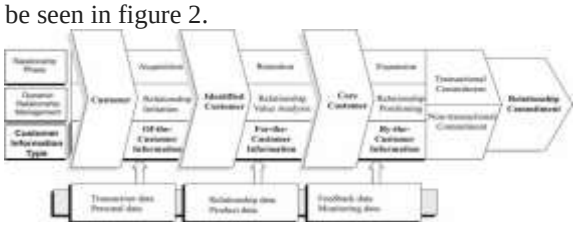


Figure 2 Framework Dynamic CRM

In the framework of the above described that there are three types of customer information (Customer Information). Among others :

1. 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 targeted marketing.
2. 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.

3. 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. In this phase occurs psychological relationship between the customer and the organization. This usually happens by giving discounts to customers when making large purchases, indirectly increasing customer loyalty. Customer value is a collection of favorable relationship benefit economically and psychologically.

   .

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.[5]

2.1.7 Market Share

The market share (Market Share) can be interpreted as part of the market is controlled by a company, or a sale of a company presentation to the total sales of its biggest competitor on the specific time and place [6]. If a company with a particular product has a market share of 35%, it means that if the total sales of such products in the given period amounted to 1000 units, the company through its products will obtain sales of 350 units. The amount of market share at any time be changed according to changes in consumer tastes, or the migration of consumer interest from a product to another [7].

There are four characteristics that affect the user in making a purchase that cultural factors (culture, subculture, and social class), social factors (family groups, roles, and status), personal factors (age, occupation, economic situation, lifestyle, and personality) and psychological factors (knowledge, motivation, beliefs, and attitudes). The process of buying decisions a user passes through five stages, namely the introduction of needs, information search, evaluation of alternatives, purchase decision and post-purchase behavior [8].

2.1.8 Method of Weighted Product (WP)

WP method is a method of decision-making by way of multiplication to connect rating attributes, where each attribute rating should be raised to a first weight attribute is concerned. [9]

WP is one of the multi-criteria decision analysis (multi-criteria decision analysis / MCDA) is very popular. Methods of multi-criteria decision making multi-criteria decision making (MCDM). MCDA method, which granted is a limited set of decision alternatives described in terms of a number of decision criteria. Any alternative compared with other decisions by multiplying the number of ratios, one for each decision criteria. Each ratio is raised to the power equivalent to the relative weight of the matching criteria.

The concept of product weighted calculation method:

1. Determining the value of the vector S.

The preference for alternative given in Equation 2.1.

$$S_i = \prod_{j=1}^{n} X_{ij}^{\ w_j} \qquad (2.1)$$

Formula 2.1 formula to calculate the value of vector S

with i = 1,2, ..., m and j = 1, 2, ... n.
Where :
S: dianologikan alternative preferences as a vector S
X: Value criteria
W: Weight of criteria / sub-criteria
i: Alternative
j: Criteria
n: number of criteria

2. Make improvements to the weight first. The initial weight repaired first with equations 2.2 and 2.3.

$$W_j = \frac{w_j}{\Sigma w_j} \qquad (2.2)$$

so as to obtain $\sum W_j = 1$ (2.3)

Formula 2.2 formula fix the value of the initial weight

3. Then proceed to determine the value of the vector to be used calculating the referrers (Vi) to perangkingan / search the best alternative to the following formula:

$$V_i = \frac{\prod_{j=1}^{n} X_{ij}^{\ w_j}}{\prod_{j=1}^{n} \left(X_{ij}^{\ *}\right) w_j}$$

Formula 2.3 formula to calculate the value vector V

Information :

V_i = the largest value of the alternative selected.
Π = product
X_{ij} = value alternative to the attributes i to j
W_j = the weight of each attribute

Put simply like this:

$$V_i = \frac{S_i}{S_1 + S_2 + \cdots S_n}$$

2.4 formula simple formula calculating the value of the vector V

After doing the calculations preferences (vi) above will then obtain alternative options most worthy of the best and be the best choice in decision-making.

2.1.9 Definition of PHP

PHP was first created by Rasmus Lerdorf in 1994. At that time PHP named FI (Form Interpreted). At that time PHP is a set of scripts that are used to process the form data from the web. Currently, PHP stands for "PHP: Hypertext Preprocessor" is a cover manifold server side script that integrates with HTML. The syntax and commands entered will be fully executed and carried out by the server and is accompanied in regular HTML pages. PHP aims to create applications that run on Web technology. In this case, the application will generally give the results in a Web browser, but the overall process is run and executed on the Web server. [10]

2.1.10 Definition of MySQL

MySQL is the brainchild of Michael "Monty" Widenius, David Axmark and Allan Larson that began in 1995. The three of them then set up a company called MySQL AB in Sweden.

MySQL is one type of database server that is very well known. Its popularity is due MySQL using SQL as the base language for accessing the database. In addition, it is Open Source on multiple platforms. Understanding MySQL by MySQL manual is an open source database software SQL (Search Query Language), which handles the database management system and relational database management systems. MySQL includes the type of RDBMS (Relational Database Management System) and has features that are very easy to learn for users and developed to handle large databases with a shorter time. Speed, connectivity and better security make MySQL is required to access the database on the Internet. [10]

2.2. Problem analysis

Based on the results of interviews have been conducted with Mr. Dwi Satria Ramadhan as a Marketing Manager at PT. Devitra Indonesia stated that today the company still has obstacles in marketing, which in determining the location of a new branch of the marketing find it difficult to find any location corresponding to the desired criteria.

2.3. Analisis Framework Dynamic CRM*)*

Framework used in the CRM Customer Relationship Management Information System in PT. Devitra Indonesia using Dynamic CRM. 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 are arranged in a graduated according to

the development stage in the customer relationship dynamic CRM can be seen in Figure 3

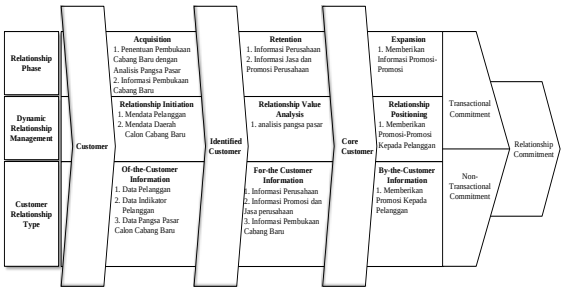


Figure 3 Dynamic Analysis Framework in PT. Devitra Indonesia

Within this framework there are several phases, among others:

1 Acquisition, 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 Retention, retaining customer relationship is the phase where the organization is pursuing a strategy to retain customers by improving service. Customer retention becomes 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.

Within the framework of Dynamic CRM, there are several phases include Intasntionship Relation, Relationship Value Analysis and Relationship Positioning.

2.4. Phase Acquisition

Acquisition, 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 of PT. Devitra Indonesia to conduct a transaction with PT. Devitra Indonesia.

As for the facilities built by PT Devitra Indonesia are as follows:

1. Innovation by opening new branches so that PT. Devitra Indonesia gaining new customers.
2. Displays opening a new branch in the system.

At this stage there is Initiation Relations / Relationship Initiation, which is the first stage for the analysis of Dynamic CRM Framework. Based on interviews with the Marketing Manager, the opening of new branches is restricted to cities / regencies in West Java Province. At this stage, further analysis is required to determine potential areas of new branch opening accurate.

2.5. Geographic Market Segmentation Analysis

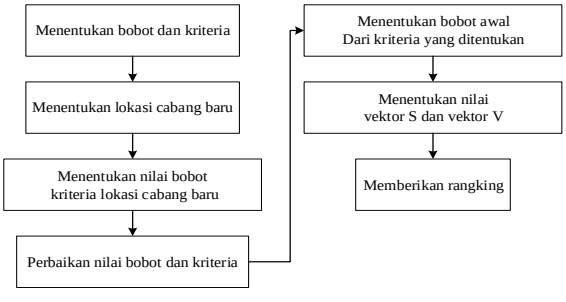
Geographic market segmentation that divides the market into different geographical units, such as country, state, region, county, city, or neighborhood. At this stage of the process geographical segmentation is done to determine areas that more users PT services. Devitra Indonesia so that will be made as an indicator to see which geographic market segmentation potential for opening a new branch of PT. Devitra Indonesia.

2.6. Analysis Siting New Branch

In promoting and developing the business, we need more intensive marketing. One of them is in the business with the opening of new branches. Analysis of determining the location of the new branch is done to determine which location will be used as the basis of determining the location of the branch. Determining the location of this new branch using methods Weighted Product, which can provide an alternative choice in determining the best location decision which locations and most appropriate potential to be the location of a new branch of the company.

The stages in the determination of a new branch location using the Weighted Product is as follows:

.



1. Determining the weights and criteria

The first stage of determining the location of the new branch is to first determine the weight and

criteria, the following criteria are weighted and refer to the Likert Scale in Table 1, Table 2 and Table 3.

Table 1. Weight Likert Scale

Likert Scale	Weight Value
Very Less	1
Less Than	2
Enough	3
Good	4
Very Good	5

Weights for determination of the location of the branch consists of a Likert Scale is very less, less, sufficient, good and excellent, each value is 1, 2, 3, 4, and 5.

Table 2. Weight Scale Ratings

Likert Scale	Appraisal
Very Less	≥ 0 s/d <20
Less Than	≥ 20 s/d < 40
Enough	≥ 40 s/d < 60
Good	≥ 60 s/d < 80
Very Good	≥ 80 s/d < 100

Table weight grading scale consisting of Likert Scale whose value is directly determined by the company without any prior repairs.

Table 3. Criteria and Sub Criteria Siting New Branch

Criteria	Sub Criteria	Initial
Location	Surface area	K1
	The location is not located at an intersection	K2
	The location is in a crowded place	K3
	The location is not adjacent to the company's competitors	K4
	The location is adjacent to the old customers	K5
	Have a ready-made building	K6
Building	Has a parking lot	K7
	Have a garage	K8
	The original state of the building	K9
	The rental price of the building	K10

In determining the location of new branches, there are two criteria, namely, locations and buildings that have each sub-criterion. For sub-criteria land area, has a garage and rental prices of building a predetermined weight as in Table 4, Table 5, Table 6.

Table 4. Weight value of sub-criteria land area

Surface Area	Weight Value
< 1000 m^2	1
$\geq$ 1000 m^2 s/d < 1500 m^2	2
$\geq$ 1500 m^2 s/d < 1800 m^2	3
$\geq$ 1800 m^2 s/d < 2000 m^2	4
$\geq$ 2000 m^2	5

Table 5. Weight value sub-criteria have garage

Capacity The Garage	Weight Value
1 Vehicle	1
2 Vehicle	2
3 Vehicle	3
4 Vehicle	4
More than 5 Vehicle	5

Tabel 6. The weight of the value of sub-criteria building rental rates

Rental price	Weight Value
> 250 million per year	1
$\geq$ 200 s/d < 250 million per year	2
$\geq$ 150 s/d < 200 million per year	3
$\geq$ 100 s/d < 150 million per year	4
$\leq$ 100 million per year	5

2. Determining the location of the new branch

The next stage of the process of determining the location of the branch is to determine the value of each of the weights of the criteria for determining the location of the new branch. In this case the company has surveyed four candidate sites to be used as a candidate for determining the location of the new branch.

3. Determining the value of a new branch location criteria weights

This stage is the candidate with the data requirements and criteria for each predetermined weighting value of its new branch location criteria, assessment.

4. Repair the weight values and criteria

Data values are obtained and then further improved weighting of the criteria of land area, capacity building garage and rental prices.

5. Determining the initial weight of the criteria specified

After obtaining the data prospective new branch locations, a step - step of the process of determining the location of a new branch using the Weighted Product is as follows:

Determine the initial weight of each criteria have been determined, the weight of this initial value

can change - change in accordance with the conditions set by the company to determine the location of the new branch. Marketing managers determine the initial weight for each - each sub-criteria are as follows:

a. Total land area weight is 5
b. The location is not located at an intersection weight is 3
c. The location is in a crowded place its weight is 4
d. The location not adjacent to the company's competitors are weighed 4
e. The location is adjacent to the old customers weight is 3
f. Have a ready-made building its weight is 4
g. Having a parking lot weight is 5
h. Having a garage weight is 4
i. The original state of the building is its weight 3
j. Building rental price per weight is 5

2.7. Analysis Database

From the analysis, there is data to be used in the development process of this application. Then from the data obtained, built a database design and design of other features. To design a database used Entity Relational Diagram (ERD) as shown in Figure 4

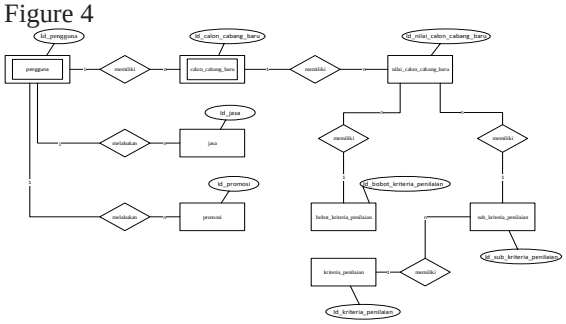


Figure 4. Entity relationship diagrams market share analysis for the opening of a new branch with customer relationship management approach in PT.Devitra Indonesia.

2.8. Diagram Context

Diagram context is a tool for structural analysts, this approach tries to describe the system in general or overall. Diagram context of market share analysis for the opening of a new branch approach to customer relationship management at PT. Devitra Indonesia can be seen in Figure 5.

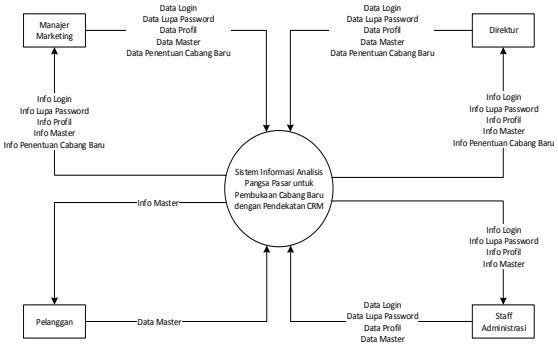


Figure 5. Diagram context of market share analysis for the opening of a new branch approach to customer relationship management at PT. Devitra Indonesia

2.9. *Data Flow Diagram (DFD)*

DFD is often used to describe an existing system or the new system will be developed logically without considering the physical environment where the data flow or the physical environment in which the data will be stored. DFD can describe the flow of data within the system with structured and clearly. DFD is a representation of a system that describes parts - parts that exist. From this DFD can be known sources of the information contained on the system. Data flow diagrams show how to decipher the data flow processes that occur in the system to process more detail. In such a context diagram Figure 5. can be broken down into several DFD.

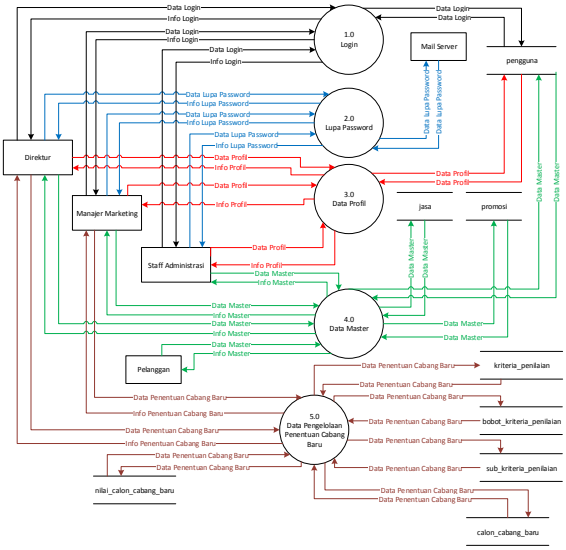


Figure 6. DFD Level 1 market share analysis for the opening of a new branch approach to customer relationship management at PT. Devitra Indonesia

2.8 Designing Interfaces

Interface design created to describe the look of the program that will be used by the user to interact with the system to be built. The design is based on the interface display both input and output that will be generated when the application is implemented.

Here is a sample login interface design that can be seen in Figure 7.

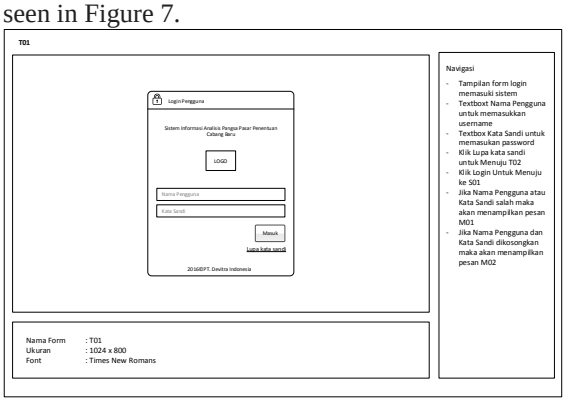


Figure 7. Interface Design T01 Login

2.9 Testing Systems

Testing of the system is the cornerstone that aims to find errors or deficiencies in supply chain system under test. Testing intended to determine the supply chain system is prepared to comply with the performance in accordance with the design objectives.

Tests are used to test the new system is a black box testing methods. Black box testing 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 the market share analysis for the opening of a new branch approach to customer relationship management at PT. Devitra Indonesia using test data based on data provided from some of the data that has been given.

1. Black Box Testing

Black box testing focuses on functional requirements of software built.

Testing is done by testing each process for possible mistakes.

Based on test results with sample test cases that have been done on this CRM information systems to the conclusion that the process has been as expected. Filtering process error message that appears in the form of sufficient maximum. Functional system can already be considered to meet the expected demand.

2. Beta Testing

Beta testing is a test that is directly the actual environment. Users make an assessment of the software using interviews. From the results of these interviews, it can be concluded whether the software has been built in accordance with the purpose or not.

Interviews conducted for the users of the system consisting of the manager fund operations section. This research was conducted at PT. Devitra Indonesia in order to determine the extent to which the system is built to be a solution and settlement of issues that have been described previously.

Based on the beta testing has been done before, it can be concluded that the system in terms of functionality already meets the needs of business managers based on the purpose of research, but there is still need for adaptation in the use sms and responds to complaints. In appearance as a whole has been quite good.

3. CLOSING

In this section, describes the conclusions which contains the results obtained after the analysis, design, and implementation of software design that was built and has been developed as well as suggestions that will provide important records and possible improvements that need to be done for software development previous.

3.1 Conclusion

Based on the description of the discussion of the analysis and testing that has been done, it can be a conclusion to the Information Systems Analysis Market Share Opening of New Branch To Approach Customer Relationship Management (CRM) in PT. Devitra Indonesia may help section Marketing Manager in determining the prospective new branch recommended for opening of new branches.

3.2 Suggestion

In order for a system built to work better, should be done adding new features as follows:

1. The addition of online sales menu features on Information Systems Customer Relationship Management (CRM) in PT. Devitra Indonesia.
2. The addition of features online customer complaints on Information Systems Customer Relationship Management (CRM) in PT. Devitra Indonesia.
3. The existence Increasing market share analysis of the competitors on Information Systems Customer Relationship Management (CRM) in Devitra premises.

BIBLIOGRAPHY

A. Kristanto, Perancangan Sistem Informasi dan Aplikasinya, Yogyakarta: Gava Media, 2008.

I. P. A. Eka Pratama, Sistem Informasi dan Implementasinya, Bandung: Informatika, 2014.

Jogiyanto, Analisis dan Desain Sistem Informasi, Yogyakarta: Andi, 2003.

Lundberg, M.H. Stavenga, M. Krishnamoorthy, Ekonomi Pariwisata, Jakarta: PT. Gramedia Pustaka Utama, 1997.

Sule, Ernie Tisnawati, Kurniawan Saefullah, Pengantar Manajemen, Jakarta: Prenada Media Group, 2005.

F. Buttle, Customer Relationship Management: Concepts and Tools, Elsevier Butterworth-Heinemann, 2004.

B. Eko dan P. A, "Kesamaan antara Front-CRM dengan Dynamic-CRM Sebagai Customer Relationship Management (CRM) Framework," *Seminar Sistem Informasi Indonesia*, 2008.

J. William, Prinsip Pemasaran, Jakarta: Erlangga, 1984.

W. L. Charless, Pemasaran, Jakarta: Salemba Empat.

K. Philip, Manajemen Pemasaran, Perencanaaan, Implementasi dan Kontrol, Jakarta: PT. Rosdakarya.

N. A. Syafitri, S. dan A. P. Dewi, "Penerapan Metode Wighted Product dalam Sistem Pendukung Keputusan Pemilihan Laptop Berbasis Web," *semanTIK*, vol. 2, pp. 169-176, Jan-Jun 2016.

K. A, Dasar Pemrograman Web Dinamis Menggunakan PHP, Yogyakarta: Andi, 2008.