COMPLAINTS MANAGEMENT AND PRODUCT RECOMMENDATIONS WITH THE APPROACH OF CUSTOMER RELATIONSHIP MANAGEMENT (CRM) IN PT PRUDENTIAL LIFE ASSURANCE PRU FORTUNE BD3 BANDUNG

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ABSTRACT

PT Prudential Life Assurance Pru Fortune BD3 Bandung is a branch office of Prudential Life Assurance PT. (Prudential Indonesia) which provides insurance services. Problems occurred at PT Prudential Life Assurance. Pru Fortune BD3 Bandung was trouble when clients need insurance problems related info that followed, the customer must contact an agent or go to the Office of prudential. However, due to limitations of the agent who handles many clients leader, sometimes making the customer the other neglected and do not get information against their complaints. PT Prudential Life Assurance Pru Fortune BD3 Bandung also still difficult to give product recommendations that will be offered to the customer. Based on the problems that exist at the moment, then needed a complaints management information system development and product recommendations with the approach of Customer Relationship Management. The purpose of the construction of management information system of complaints and recommendations this product to make it easier to determine the priority of handling complaints, as well as help in providing product recommendations to suit the customer's profile.

The methods used for the management of complaints is Sequential Elimination by elimination will do Lexicography in which priority complaints and for clients. While the method for product recommendations to clients is the Weighted Product method (WP) where the weighting criteria shall be made based on the customer profile data so that alternative in determining which products are in accordance with the criteria of the action is going to be easy.

Based on the test results it can be concluded that this system can help the Deputy PT Prudential Life Assurance Pru Fortune BD3 Bandung in the management of customer complaints and also granting product recommendations to the customer based on the customer profile data.

Keyword: customer relationship management, complaints management, product recommendations, Sequential Elimination by Lexicography, the Weighted Product.

1. INTRODUCTION

PT Prudential Life Assurance Pru Fortune BD3 Bandung is a part of the Prudential pic, a leading financial services company from the UK. PT Prudential Life Assurance Pru Fortune BD3 Bandung is one of the Office assistants who serve a wide range of insurance products to meet customer needs in the Bandung and its surroundings. PT Prudential Life Assurance Pru Fortune BD3 Bandung already serve many clients with different needs of each customer.

Based on the results of interviews with representatives of PT Prudential Life Assurance. Pru Fortune Bandung Mr. Fiether BD3 Alfyan stated that the parties prudential wants to improve service to clients, especially against the submission of customer complaints. When the customer requires insurance problems related info that followed, they should contact the Agency leader or go to the Office of prudential. However, due to limitations of the agent who handles many clients, sometimes makes the customer to another overlooked and don't get the information against their complaints. It shows that there is a problem in maintaining the customer to keep transaction. These problems caused the prudential has not taken the complaints management in particular priorities customer complaints customer complaints data so easily dealt with.

Based on transaction data of January to July 2016, clients of PT Prudential Life Assurance Pru Fortune BD3 Bandung just do deals once in that period (Appendix F. 4). The parties prudential haven't learned any list of products most widely used customer, and what products are suitable for the customer based on the customer profile, so the recommendation listing for any customer has not been established. This results in potential borrowers are less interested and don't get the product information that is in the prudential the most

impacting against the maximum not the process of adding new clients, also led to the establishment of a strong relationship is not after the customer performs a transaction for the first time.

Based on the explanation that has been presented, then a design of information systems, Customer Relationship Management (CRM) will make it easier for service at the Prudential Life Assurance PT. Pru Fortune BD3 Bandung against its clients.

The purpose of this research was to build information systems Customer Relationship Management (CRM) PT Prudential Life Assurance. Pru Fortune BD3 Bandung. While the goals to be achieved from this research is to help PT Prudential Life Assurance Pru Fortune BD3 Bandung in determining priorities customer complaints against insurance services and helpful in providing recommendations of products that will be offered to the customer.

2. CONTENTS RESEARCH

2.1 Theoretical Basis

Landasan teori merupakan penjelasan berbagai konsep dasar dari teori-teori yang berkaitan dengan perancangan sistem informasi *customer relationship management* di PT. Prudential Life Assurance Pru Fortune BD3 Bandung. Beberapa teori yang berkaitan dengan perancangan sistem informasi *customer relationship management* adalah teori sistem informasi, manajemen keluhan, rekomendasi produk, *customer relationship management*, *framework of dynamic* crm, s*equential elimination by lexicography* dan *weighted product.*

2.1.1 Information Systems

System is a job network of procedures that are interconnected, gathered together to perform the activity or to do a certain target. A systems approach is the work of the procedure emphasizes the operating sequences in the system [1]. While the information is data that is processed into a form that is more useful and more meaningful to the recipient. The source of information is the data. The data is the fact that depicts a tapestry and a real unity. Events (event) is an event which is happening at any given moment [1]. So the conclusion information system is a set of components that have the function of interdependence in a unified whole in the form of a data that has been processed into a form that can be used to achieve the goals of a particular human.

2.1.2 Complaints Management

Complaints management are planning, organizing, implementing and controlling towards feelings of dissatisfaction over the Ministry that can have an effect on customers so that with limited resources in the business goals and objectives can be accomplished effectively and efficiently.

2.1.3 Customer Relationship Management

Customer Relationship Management (CRM) is a strategy the binis using information technology to yield competent company, terpecaya and integrated with the customer based on the customer's side so that all processes and interactions with customers helps the rights and improve the favorable relation relationship. CRM is a dynamic process in regulating the relationship between the customer with the company so that the customer can choose to continue mutually beneficial commercial relationships and to anticipate the relationship in order to not become unprofitable companies [2].

CRM has three stages, namely [3]:

1. Acquire new customers (Acquire), by promoting the excellence of a product or service in terms of innovation and ease because the value of a product or service to the customer is a better product and supported by outstanding service.
2. Increase the profits obtained from existing customers (Retain) by encouraging the creation of komplaimen products or services and the sale of a product or service that is better than the product or service that is owned by the customer.
3. Retain customers (Enchange) which gives an advantage, offering what is needed by specific customers is not required by the market, because customers value the product or service to the customer is the value of proactive that best suits their needs, the company's focus at the moment is how to maintain existing customers definitely benefit the company rather than how to get new customers who are not necessarily

2.1.4 *Framework of Dynamic* CRM

On CRM feature set appropriately, as the Foundation for putting together the Software Requirement Specification (SRS), the necessary framework as a reference. CH. Park & YG Kim proposed a CRM Framework called "A framework of dynamic CRM". This framework describes a series of stages of development or implementation of CRM. His most important substantive information is retrieved from the customer so that the output is obtained in the form of Relationship Commitment, the model can be seen in Figure 2.3. Information that becomes the focus of attention is as follows [6]:

1. Information about customers
2. Information for customers
3. Customer Information

Based on of the three above are obviously very important information for the realization of Customer Relationship Management (CRM) Organization to conduct the competition, by performing processing such information will be obtained from customer

behavior, because customer behavior at this time are more likely to want how they feel are present already, served as well as ketanggapan of the organisation as a provider of services to them and usually the tendency not to view the total price that they spend more. With the ever increasing customer service of an organisation should should already be able to separate out which facilities and where a service [5].

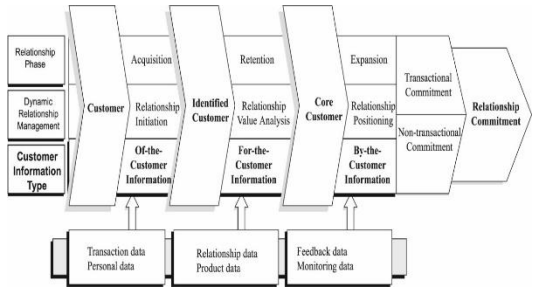


Figure 1. Framework of Dynamic CRM

2.1.5 Sequential Elimination by Lexicography

Upon Elimination by Lexicography is a method that uses the primacy of individual attributes. This method asks the user to sort the variable or attribute according to importance (scale of priorities). This method is not demanding than weighting because the attribute-the attribute is created which are rated more important than emphasizing does it weigh. [5].

Stages that are used in the calculation of this method are:

1. prepare the complaint data.
2. Calculate the number of complaints per category
3. Specify a priority value.
4. Calculate the value of alternatives using the formula, where from priority value will be created lines of matrices.

The formula to calculate the value of alternatives can be seen in the following equation:

$$V_{ij} = \frac{X_{i,j}}{Max\ (X_{i,j})}$$

Description:
X = Data calculated criteria
i = Position criteria (Matrix Line)
j = Alternative Position (column Matrices)
Vij = Value alternative to-j based on criteria to-i

Do the Elimination of alternative values by specifying the value of the selected alternative and the conclusion of the calculation.

2.1.6 Weighted Product

Weighted Product is a method of decision making by means of multiplication to connect the rating attribute, where rating every attribute must be dipangkatkan first with the corresponding attribute weights [1].

WP is one of multiple-criteria decision analysis (multiple-criteria decision analysis/MCDA) which are well known. The method of multiple-criteria decision making multiple-criteria decision making (MCDM). MCDA method, given the limited is a set of alternative decisions is described in terms of a number of criteria for decision. Each decision alternative compared to the other by multiplying a number of ratios, one for each decision criteria. Each ratio raised to the power equivalent to the relative weight of criteria accordingly.

The concept of the calculation of the weighted product method:

1. Determine the value of the vector S. Preference for The alternative in which to calculate the value of the vector S given the formula as shown in the following equation:

$$s_i = \prod_{j=1}^{n} X_{ij}{}^{w_j}$$

with i = 1,2,…,m and j = 1, 2, …n.
where :
S : Alternative preferences dianologikan as a vector S
X : Value criterion
W : The weighting criteria/sub criteria
i : Alternative
j : Criteria
n : The number of criteria

2. Do a repair of lighter weight first. the initial weights are fixed in advance using the following equation.

$$W_j = \frac{w_j}{\sum w_j}$$

So

$$\sum W_j = 1$$

3. Then proceed with determining the value of a vector that will be used to calculate the referrers (Vi) perangkingan or search for the best alternative by using the formula in the following equation:

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

Description :
V_i = the greatest value of the selected alternative.
Π = product
X_{ij} = an alternative to the value-i against attributes to a-j
w_j = the weighting of each attribute

To put it simply for the calculation of the value of the vector V as shown in the following equation.

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

4. After doing the calculations preferences (Vi) above will then get the option of alternative the most best and worthy of being the best choice in decision-making.

2.2. Analysis of the Problem

Analysis of the problem is an assumption of the problem which will be outlined in the procedures. From the results obtained do a problem which consists of:

1. the company's difficulty in determining Party priorities customer complaints against insurance services and to maintain the client in order to continue using the services of the company.
2. the corporate Party's difficulty in delivering product recommendations that will be offered to the customer.

2.3. The Analysis Framework CRM PT. Prudential Life Assurance Pru Fortune BD3 Bandung

CRM framework that will be used in the construction of information systems Customer Relationship Management in PT Prudential Life Assurance Pru Fortune BD3 Bandung is Dynamic CRM. Described that phase of CRM in a framework in the form of a series of process that consists of the Acquisition-Retention-Expansion. As an integrated CRM framework and based on the types of information about customers who are clustered in Decker, then the process or activity which is in the stages of the Framework of Dymanic CRM is as follows:

1. Acquisition

In this phase of the process will be done to attract new customers or at the stage of development of the CRM called Acquire. This step is a step that will be used to attract the interest of potential customers of PT Prudential Life Assurance Pru Fortune BD3 Bandung in order to be interested in buying the products offered by the company. The following is a facility that will be built in phases of acquisition:

a. Company Information

At this facility will be explained about the whole information about PT Prudential Life Assurance. Pru Fortune BD3 Bandung to facilitate customers to know and get product information and company.

b. Information Customer Complaints

Customer complaint information accessible by prudential and agent/leader. This information aims to help ease the company's parties in the management of customer complaints.

c. Product Information

At this facility will be explained about the entire information about the insurance products offered PT. Prudential Life Assurance Pru Fortune BD3 Bandung.

2. Expansion

In this phase will be done the process of maintaining a regular customer or at the stage of development of the CRM called Enhance. This step is a step that will be used to maintain the regulars against the use of existing products in PT Prudential Life Assurance Pru Fortune BD3 Bandung. These are facilities that will dibangung on this phase of the expansion:

a. Complaints

On complaints that facilities built in this system, for every customer can convey customer complaints online based on the category of complaints, so that the incoming complaints can be directly processed. For each incoming customer complaint is going through the process priority of handling complaints, where each complaint will count does it weigh so much that can be sorted based on the criteria you've specified, in this case sorting complaints and complaints will give priority using method of Sequential Elimination by Lexicography.

3. Retention

This phase will be conducted in the process of improving the relationship between the customer with the company or at the stage of development of the CRM called Retain. This step is a step that will be used to improve relationships between companies with customers. The following is a facility that will be built on the retention phase :

a. Product Recommendations

On the facilities these recommendations systems will provide product recommendations available in accordance with the profile and needs of customers. The resulting recommendations of products will be on show at the existing recommendation feature in the system are made. Analysis of product recommendations on Prudential Life Assurance PT. Pru Fortune BD3 Bandung using the decision support system of Weighted Product (WP). Weighted Product (WP) is a multi criteria decision making methods. Weighted Product methods (WP) use multiplication to connect rating attributes, where each attribute must advance with dipangkatkan attribute weighting is concerned, the process is similar to the process of normalization. Following is the result of product recommendations using a Weighted Product (WP).

2.4. Analysis Database

Data base analysis on customer relationship management information system in PT Prudential

Life Assurance Pru Fortune BD3 Bandung will be built using Entity Relationship Diagram (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. As for the chart depicted in Figure 2.

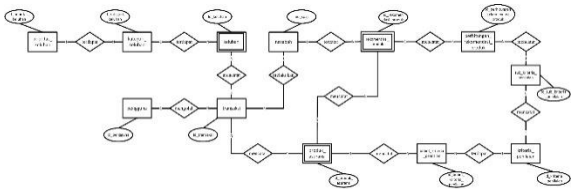


Figure 2. Entity relationship diagram information systems CRM PT Prudential Life Assurance Pru Fortune BD3 Bandung

2.5. A Context Diagram

Context modeling is a model to explain how data is used globally and is transformed to the process or describe the flow of data into and out of the system. Context diagram on the system can be seen in Figure 3.

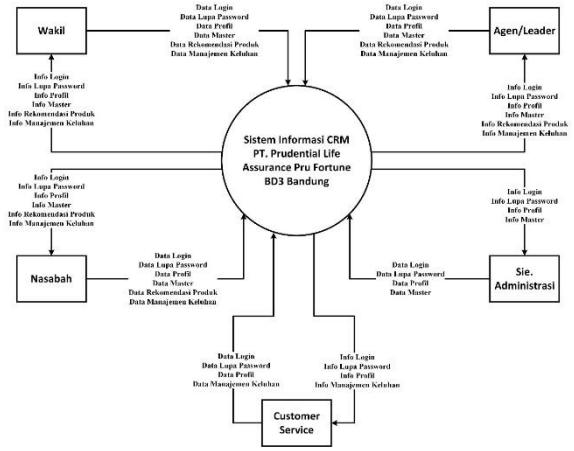


Figure 3. The Context diagram PT Prudential Life Assurance. Pru Fortune BD3 Bandung

2.6. Data Flow Diagram

Data flow diagram shows how data flow outlines the processes that occur in the system until the process in more detail. In the diagram context like Figure 4. can be decomposed into a number of DFD.

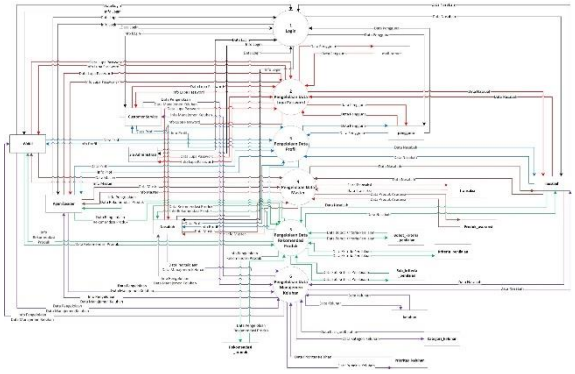


Figure 4. DFD Level 1 CRM information system in PT Prudential Life Assurance Pru Fortune BD3 Bandung

2.7 Table Relation

Table relation describing relationships between data, meaning data and their boundaries. The process of relationship between attributes is a combination between an attribute that has the same primary key, so that these attributes into a single entity linked by the key field. Table relationships are described in Figure 5.

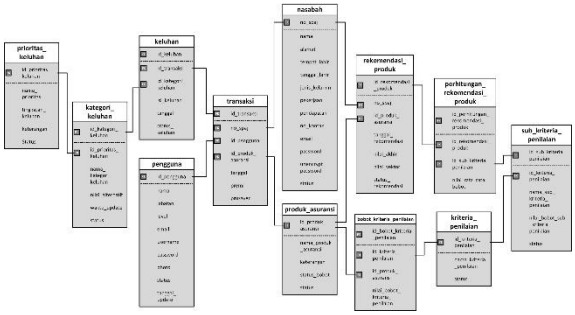


Figure 5. Scheme Relation information systems CRM PT Prudential Life Assurance. Pru Fortune BD3 Bandung

2.8. The Design Of The Interface

The design of the interface is created to describe the display control rogram which will be used by the user to interact with the system to be built. The design is based on the display of the input as well as output either interface to be generated when the application is implemented. Here is a sample login interface design which can be seen in Figure 6.

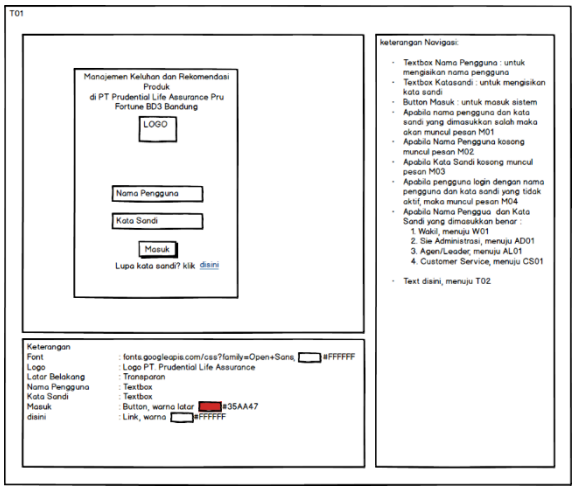


Figure 6. Design Of Login Interface T01

2.9 The Design Of The Semantic Network

The design of the semantic network is a representation of the design interface that shows where each interface is connected. The following is an example of the design of the semantic network user representatives in the information system in PT Prudential Life Assurance Pru Fortune BD3 Bandung with customer relationship management approach can be seen in Figure 7.

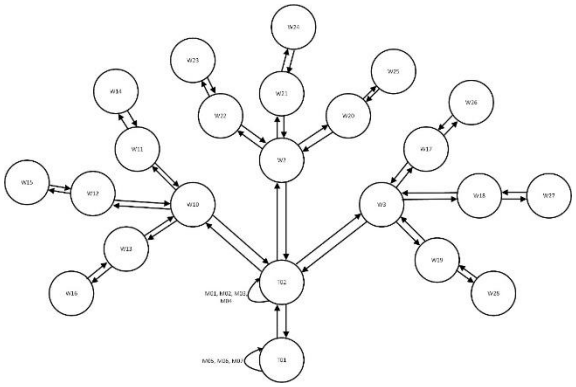


Figure 7. Semantic Network Representative

2.10 The Design Of The Menu Structure

The design of the structure of the Menu is designed to provide the functions that will be used in information systems will be built. A large number of the menu structure will be designed in accordance with the corresponding number of users or users who have access privileges. In this information system users who have access privileges there are five Representatives, agents/Leader, Customer Service, Customer Administration and Sie. Here is a sample menu structure representatives.

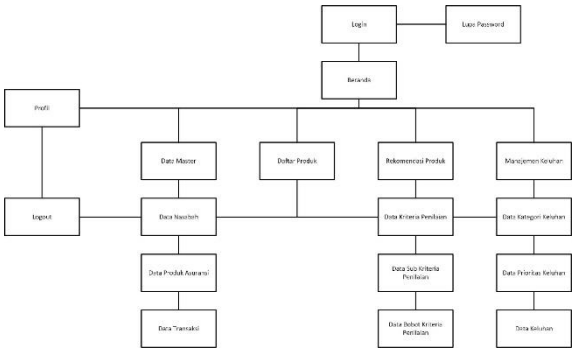


Figure 8 Menu structure Representative

2.11 Testing The System

System testing is the most important thing that aims to find the mistakes or shortcomings in the supply chain system that was tested. The test aims to find out the supply chain system created has met the performance according to the purpose of design.

Testing is used to test the new system is a black box testing methods. Black box testing is focused on testing the functional requirements for information systems.

The testing plan will do is to test the system in a way that was built in Black Box and beta. Testing crm information systems development at PT Prudential Life Assurance. Pru Fortune BD3 Bandung using test data based on data that has been provided.

1. Black Box Testing

Black box testing is focused on the functional requirements of the software being built. Testing conducted by testing each process for possible errors that occur. Based on the test results to the case sample test has been done gives the conclusion that the process is correct. Error filtering process in the form of landing page views message is sufficient. Functionally the system can already produce the expected output.

2. Beta Testing

Beta testing is testing the direct surroundings. The user to make assessment of the software using the method of interview. From the results of the interview then the conclusion can be drawn if the software has been built according to the purpose or not.

Interview conducted for the users of the system which consists of a representative, an agent/sie leader, administration, customer service and the customer. This research was conducted at the Prudential Life Assurance PT. Pru Fortune BD3 Bandung in order to find out the extent to which the system is built can be a solution and the resolution of problems that have been described previously.

On the basis of beta testing, it can be concluded that:

1. Information systems CRM help representative, agent/leader, sie administration and customer service in the exercise of their respective work.

2. Information systems CRM makes it easy to deliver customer complaints to the company and the time of the determination of the insurance product recommendations will be followed.
3. Information systems CRM built is pretty easy to use.
4. Information systems CRM has a menu and display interface which is quite easy to understand.

3. CLOSING

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

3.1 Conclusion

From the results of the analysis, design and testing on customer relationship management information system in PT Prudential Life Assurance Pru Fortune BD3 Bandung conclusion to be drawn as follows:

1. Based on the results of beta testing that has been done, it is achieved that the complaints management approach to customer relationship management in PT Prudential Life Assurance Pru Fortune BD3 Bandung had enough help in conducting the management company representative complaints from clients.

2. Based on the results of beta testing that has been done, obtained that information systems customer relationship management can help companies in providing insurance to the customer product recommendations based on the customer's profile, so that recommendations can be given more in line with customers needs.

3.2 Advice

Based on the conclusion that has been described, the customer relationship management system has achieved goals and purpose. Of all the results that have been achieved at this time, still have a few things that should be added and come again in information systems customer relationship management is in the future include the following:

1. Management of complaints on this CRM information systems can be expanded by adding features to chat online, so complaints customer complaints will be dealt with right away.

2. An insurance company product information can be developed again, as added positive comments or testimonials customers against product insurance provided, so that the attractiveness of the company for the better in the eyes of the customer.

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