

DEVELOPMENT OF ELECTRIC CUSTOMER RELATIONSHIP MANAGEMENT FOR ACCELERATION OF CLAIM SERVICES AND COMPLETION FOR CUSTOMER COMPLAINTS IN LIFE INSURANCE COMPANY

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Abstract

Implementation of e-Customer Relationship Management (e-CRM) in financial services industry will give influence to increase customer loyalty. One indicator of this is the development of features in the e-CRM application that make access easy for customers. However, the development of the e-CRM model is generally applied to the banking sector, while customer service needs in other financial services sectors such as insurance company are equally important. One of the main problems in life insurance companies is the measurement of claims service level agreement. In this research we intend to design an e-CRM application that can facilitate the management of complaints and claims reports in a life insurance company more effectively. The e-CRM application can also facilitate measurement of customer service staff performance in serving customers. In this research we applied the Rapid Application Development (RAD) method for development e-CRM application. The results of this research are development of e-CRM application, complaint management and supporting daily operational of customer care staff in a life insurance company

Keywords: e-CRM, RAD, Complaint Management, SLA, Claim

1.0 INTRODUCTION

Technological developments provide the ability for companies to be able to reach new customers, measure activities and habits based online from customers, customize communication processes, product specifications, service, and pricing [1]. The electronic customer relationship management (e-CRM) is a form of technological development that touches the area of customer management [2]. One strategy that needs to be done in serving good customers is how the ability of a company to manage complaints. It needs to be understood that a complaint complained by a customer can be an information resource to improve and improve the quality of service for customers in the future.

The Life insurance company is a company engaged in financial services. Product services offered are insurance that provides a value of protection or risk transfer that may occur to the insured's soul such as risk (death, health, economy, etc.) so that the recipient's economic condition continues to run well even though the risk of the insured is possible [3].

Performing a resolution in complaint management will have a profound impact on customer relationships. There is a positive relationship between the resolution of complaints and customer loyalty [4]. Because the development of e-CRM can provide support capacity for good complaint management, making complaints as an input strategy for companies to fix

the best service for their customers. Especially for the life insurance service companies, business success must be supported by customer loyalty and satisfaction for financial services held.

e-CRM models can be developed with several methods found in SDLC (System Development Life Cycle). One of them is RAD Method. RAD (Rapid Application Development) is an object oriented approach to the development of a system that includes a development and software [5].

The implementation of e-CRM in the life insurance companies is expected to accelerate service level agreement (SLA) claim services. Another benefit of implementing e-CRM is meeting customer needs and increasing the value of company services to customers [6]. Utilization of e-CRM helps companies to collect and manage customer data to follow up the process of better service to customers [7]. e-CRM enables firms to take full benefits of data collected and transform it into useful information and value-added knowledge for themselves and their customers, as data are analyzed to gain an understanding of not only purchasing patterns and trends, but also attitudes and preferences [8].

1.2 Problem Formulation

One indicator of the success of life insurance services is handling claims quickly. In addition, customer service officers must be able to manage complaints well. Based on this, an e-CRM design model needs to be made that can help manage complaints and speed up service claims in the life insurance company. Briefly, The contributions of this paper are follows :

- How to design an e-CRM solution that is implemented as a customer care management system ?
- How to design an e-CRM application using the Rapid Application Development method ?

1.3 Objectives and Benefits of Research

The purpose of conducting this research is to identify business processes related to the complaints management process carried out by the customer care team in life insurance companies. In addition, it helps provide solutions in managing customer complaints with the implementation of e-CRM and provides convenience for life insurance companies in evaluating the performance of the customer care team.

The organization of this paper is as follows. Section 2, "Theoretical", Section 3, "Methodology", Section 4.0, "Result and Discussion" and finally Section 5.0, "Conclusion".

2.0 THEORETICAL

2.1. Customer Relationship Management and e-CRM Concept

One of the benefits of implementing a Customer Relationship Management system is that companies are able to retain customers. e-CRM strategies can be used as a medium for customers to submit criticism and suggestions to companies for improving service performance [9]. As we know the e-CRM is a collection of concepts, tools, and processes that allows an organization to increasing value and benefits from their investment.

The e-CRM is a collection of concepts, tools, and processes that allows an organization to obtain maximum value and benefits from their e-business investment. It helps companies to improve the effectiveness of their interaction with customers with implement some electronic system. All data complaints will manage effectively by using e-CRM [10].

The application of electronic Customer Relationship Management (e-CRM) has an effect on cost efficiency for companies in customer management so that e-CRM can run optimally so a company must be supported by technical staff, good infrastructure and hardware so that customers can benefit from the presence of e-CRM [11].

Complaint resolution, customer knowledge, customer empowerment and focus on customer service are aspects that become dimensions of the implementation of a CRM system, where those things have been identified as a competitive advantage for a company to excel in business competition [12].

Employee performance in the process of serving customers can be measured by the application of a Customer Relationship Management system, where the system acts as a knowledge base for employees in improving service to customers [13]. The purpose of implementing the Customer Relationship Management system in companies is to become one of the company's business philosophies to be able to share and establish good cooperation with employees which will eventually become a corporate culture and become a cross-department of communication media in serving customers [14].

Based on the presentation of the functions and benefits of the implementation of the Customer Relationship Management system in the latest research conditions, it can be described a research perspective map with the topic of customer management from several fields as illustrated in the following block diagram :

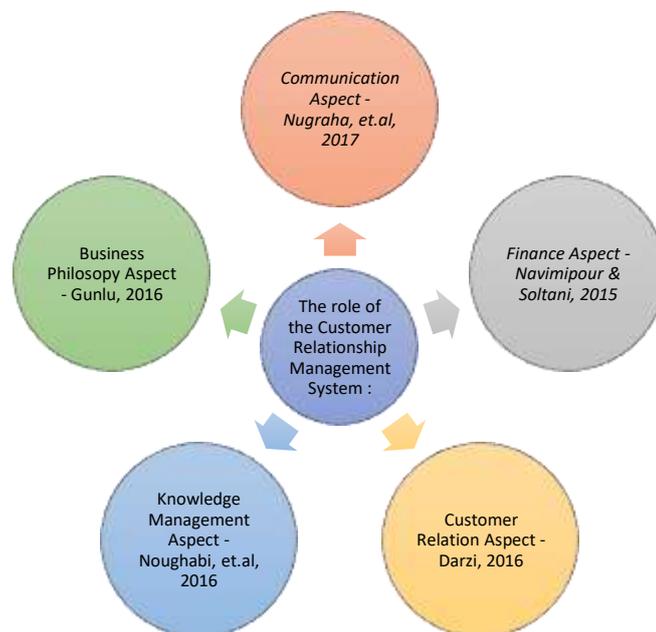


Figure 1. State of the Art from Research Regarding Implementation of Customer Relationship Management in Business

From the results of the research team's review based on the results of research conducted on the topic of CRM, it can be understood that the application of CRM has a large influence not only on the context that companies can conduct good customer relationship management, but CRM based on electronics will make it easier for companies to do employee performance evaluation in serving customers. This consideration is also the rationale for the research team in the research that will be carried out, namely how the implementation of e-CRM can help companies measure service level agreements (SLA) of employee performance in Customer Care Units in following up complaints and other complaints from customers up to achieving problems the right solving. The design of the e-CRM application that will be developed is based on a claim settlement approach with a target time of 27 minutes, so that it is known as the claim 27 minutes. The aim is to improve service to life insurance customers to get a better and satisfactory response time for claim settlement.

2.2. Development e-CRM

Information systems are a regular combination of the people, hardware, software, communication networks, and data resources that collect, change, information within an

organization. Otherwise we can gain conclusion that are several parts to conduct some information system [15].

In this study the development of information systems will use the RAD method. Rapid Application Development (RAD) Method is an object oriented approach to the development of a system that includes a development and software [16]. This method consists of three stages, namely the Designing of Terms and Conditions, RAD Design Workshop, Implementation [17]. In the design workshop stage, RAD modeling information system design uses UML (Unified Modelling Language) techniques. UML is a collection of modeling conventions that are used to determine or describe a software system in relation to objects [18]. UML is a collaborative methodology between the Booch method, OMT (Object Modeling Technique), and OOSE (Object Oriented Software Engineering) and several other methods, which are the most frequently used methods for analyzing and designing systems with object-oriented methods [19]. The system testing method uses Black Box Testing, which is testing software in terms of functional specifications without testing the design and program code. Testing is intended to find out whether the function functions, input, and output of the software in accordance with the required specifications.

3.0 METHODOLOGY

The following is a research framework that will be carried out as a guide in conducting research as follows :

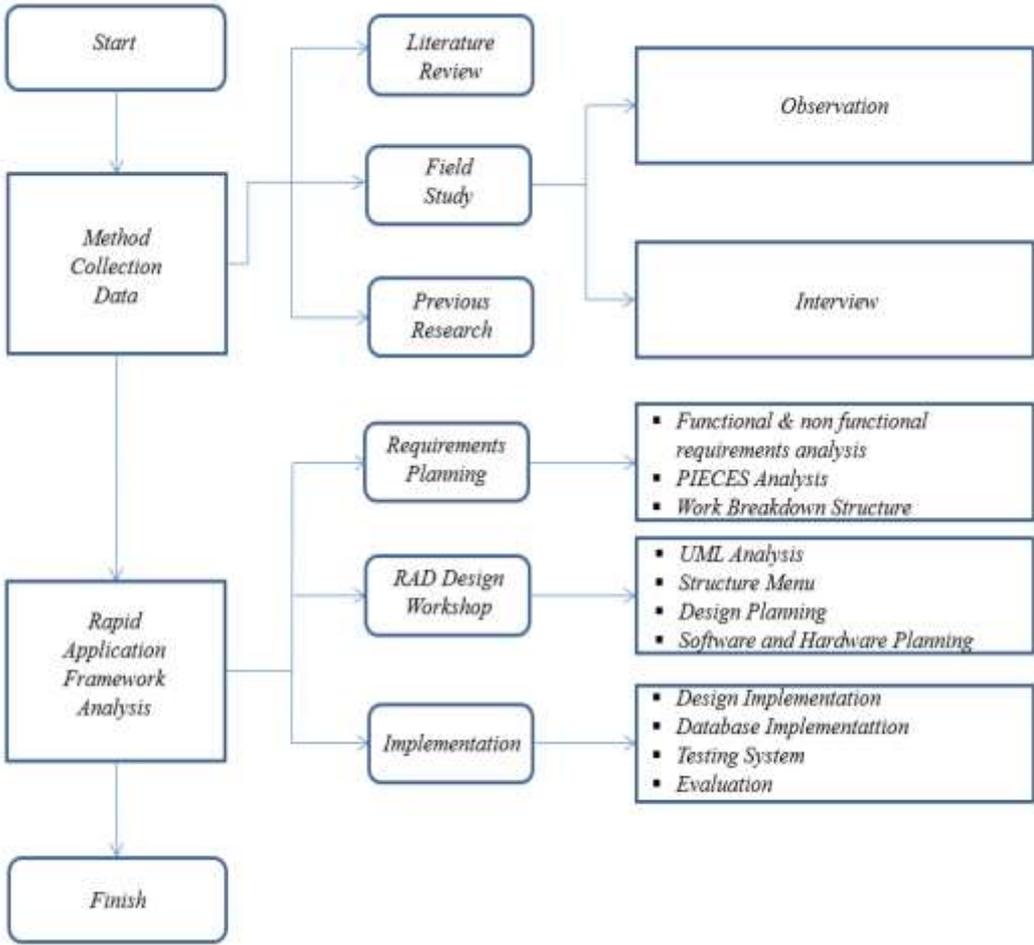


Figure 2. Research Flow Diagram

Based on information from figure 2, the research focus area is on determining system requirements, RAD Design workshops, and system implementation. In the RAD Design Workshop

it will use several UML techniques such as : use case diagram, activity diagram, sequence diagram, context diagram, class diagram, state transition diagram and interface design.

4.0 RESULTANTS AND DISCUSSION

4.1 Requirements Planning

Table 1. Functional & Nonfunctional Requirement

Functional Requirement	
1.	Display the login menu verification
2.	The system can input customer complaints
3.	The system can input customer claim
4	The system can search all transaction by set up parameters
5.	The system can input incoming letter for customer care
6.	The system can search transaction time
7.	The system can generate monthly report
8.	The system can set up all parameters data such as : user id, unit code, division, insurance type, claim type, insurance claim type, problem class,
9.	The system can generate daily transaction report
10.	The system can generate periodic transaction report
11.	The system can generate monthly recap report
12.	there is a help menu to provide information about guidelines for operating the system
Nonfunctional Requirement	
1.	Display system is easy to use and understood by the user
2.	The appearance of the system is simple and interesting
3.	Have good data security
4.	The system display shows the company's characteristics with the company logo
5.	Displays a user friendly system

After determining all system requirements, the next step is to identify the current problems. The method used to identify the problem is to use PIECES analysis.

4.2 PIECES Analysis

The PIECES framework created by James Wetherbe is useful for classifying problems into several categories where some problems might appear in several lists and also lists problems that might not be complete [20]. The PIECES framework is suitable for analyzing manual and computerized systems and applications. The PIECES analysis in identifying current system problems is illustrated in the table below :

Table 1. PIECES Framework Analysis

INDICATOR ASPECT REVIEW	PROBLEMS	SOLUTION
PERFORMANCE	<ul style="list-style-type: none"> ▪ Customer care staff is slow in preparing complaints and claims reports through manual forms, emails and calls from customers. ▪ Takes longer to track customer complaint reports. 	<ul style="list-style-type: none"> ▪ Make an electronic-based system that can be a repository and management of complaint data and customer claims. ▪ By creating a system equipped with a database management system, it will speed up the data retrieval process.
INFORMATION	<ul style="list-style-type: none"> ▪ It is difficult to maintain the integrity of data and information in managing claims report data and customer complaints. 	<ul style="list-style-type: none"> ▪ Data integrity is maintained by using a DBMS in support of e-CRM systems. ▪ Data processing in e-CRM with the support of DBMS will

	<ul style="list-style-type: none"> ▪ Difficult to produce accurate information to be used by other operational units in managing complaints. 	facilitate the transfer of data on the core system used by operational units in life insurance companies.
INDICATOR ASPECT REVIEW	PROBLEMS	SOLUTION
ECONOMICS	<ul style="list-style-type: none"> ▪ Requires a larger budget to control the report using a file based model in reporting claims data and complaints. ▪ No paperless process. 	<ul style="list-style-type: none"> ▪ Designing e-CRM according to company needs. ▪ Upgrade management of data processes using a database system.
CONTROL	<ul style="list-style-type: none"> ▪ Difficult to control reports based on certain categories. ▪ Cannot measure customer care staff performance in the service progress of claims reports and customer complaints. 	<ul style="list-style-type: none"> ▪ System design that facilitates the categorization of reports. ▪ Designing e-CRM that can measure report completion status so that it can measure SLA customer care services staff.
EFFICIENCY	<ul style="list-style-type: none"> ▪ Too much management of claim documents and complaints that are not time efficient. ▪ It takes longer to produce claims data reports and complaints that come from customers during a certain period of time. 	<ul style="list-style-type: none"> ▪ e-CRM is an application that holds all reports to the customer care unit. ▪ Using e-CRM data has been managed in a database system and is easy to access claims reports or customer complaints.
SERVICE	<ul style="list-style-type: none"> ▪ Hampering customer staff performance in reporting claims data and complaints. ▪ Customers find it difficult to get updated information about the status of claims or complaints that have been reported. 	<ul style="list-style-type: none"> ▪ Customer care staff can focus more on customer service due to administrative reports of complaints and claims using e-CRM. ▪ Customers can more quickly receive the status of reporting claims or complaints.

After understanding the existing problems, the next project system scheme will be created using the work break down method.

4.3 Work Breakdown Structure

A work-breakdown structure (WBS) in project management and systems engineering, is a deliverable-oriented breakdown of a project into smaller components [21]. A work breakdown structure is a key project deliverable that organizes the team's work into manageable sections.

The following is the WBS scheme in the research conducted :

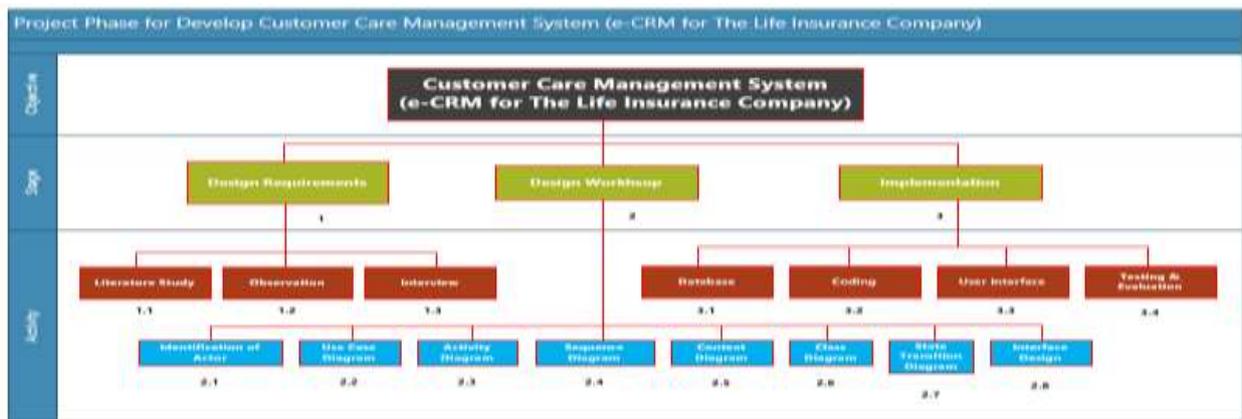


Figure 3. Work Breakdown Structure for Development e-CRM System

4.4 UML Analysis

4.4.1 Use Case Diagram

The following is a use case diagram depiction on an e-CRM system plan :

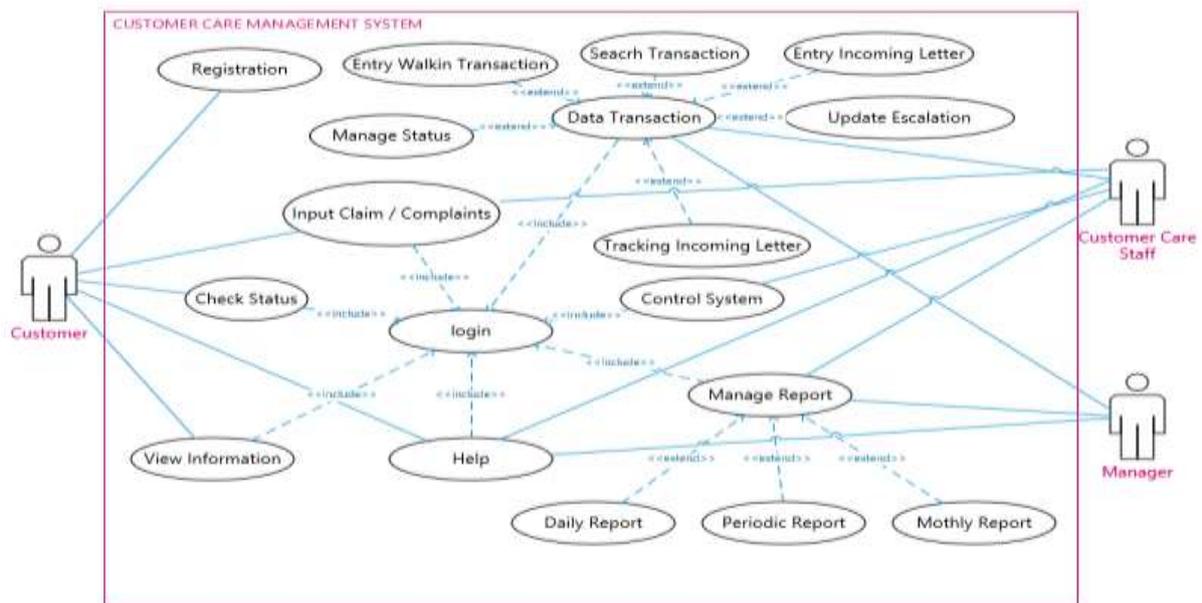


Figure 4. Use Case Diagram Customer Care Management System

Based on the description of the use case diagram above it can be understood that there are several actors in the system with different function

4.4.2 Activity Diagram

Activity diagram represents only the structure of the process; however, it is useful to have comprehensive data model associated with the RADs for analysis and improvements. [22]. One of the processes carried out is to enter data claim or complaint with the stages of the process and illustrated in the following activity diagram (figure 5) :

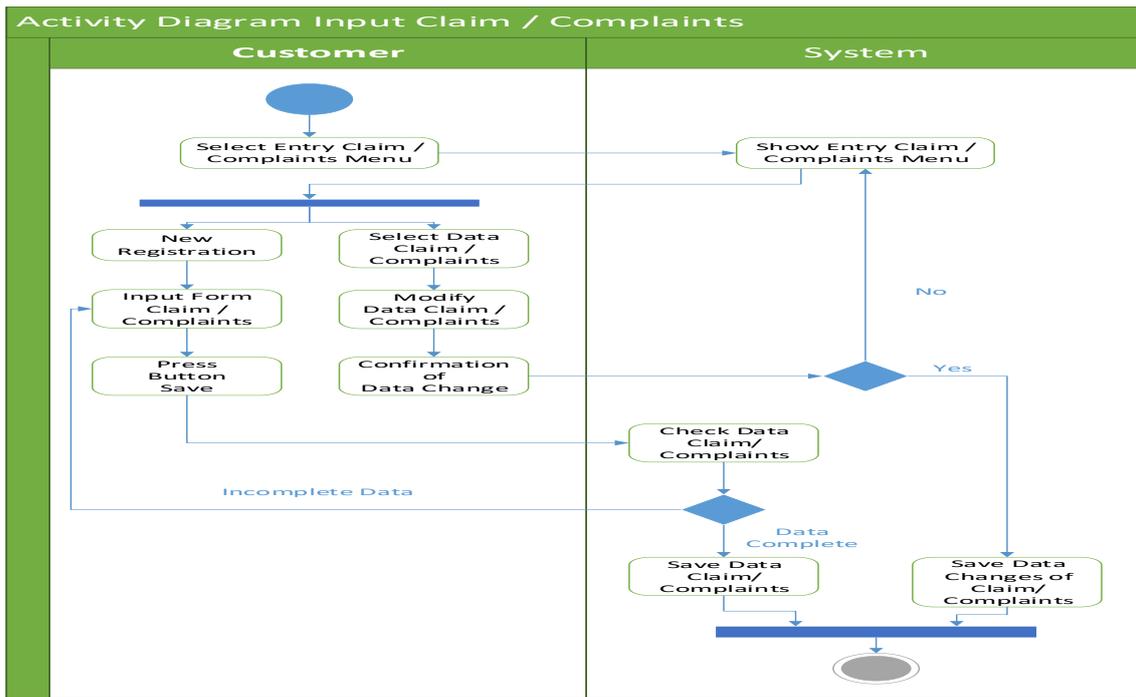


Figure 5. Activity Diagram Input Claim or Complaints

4.4.3 Sequence Diagram

The following figure is the flow of the claim transaction or complaint data input process illustrated in the sequence diagram model:

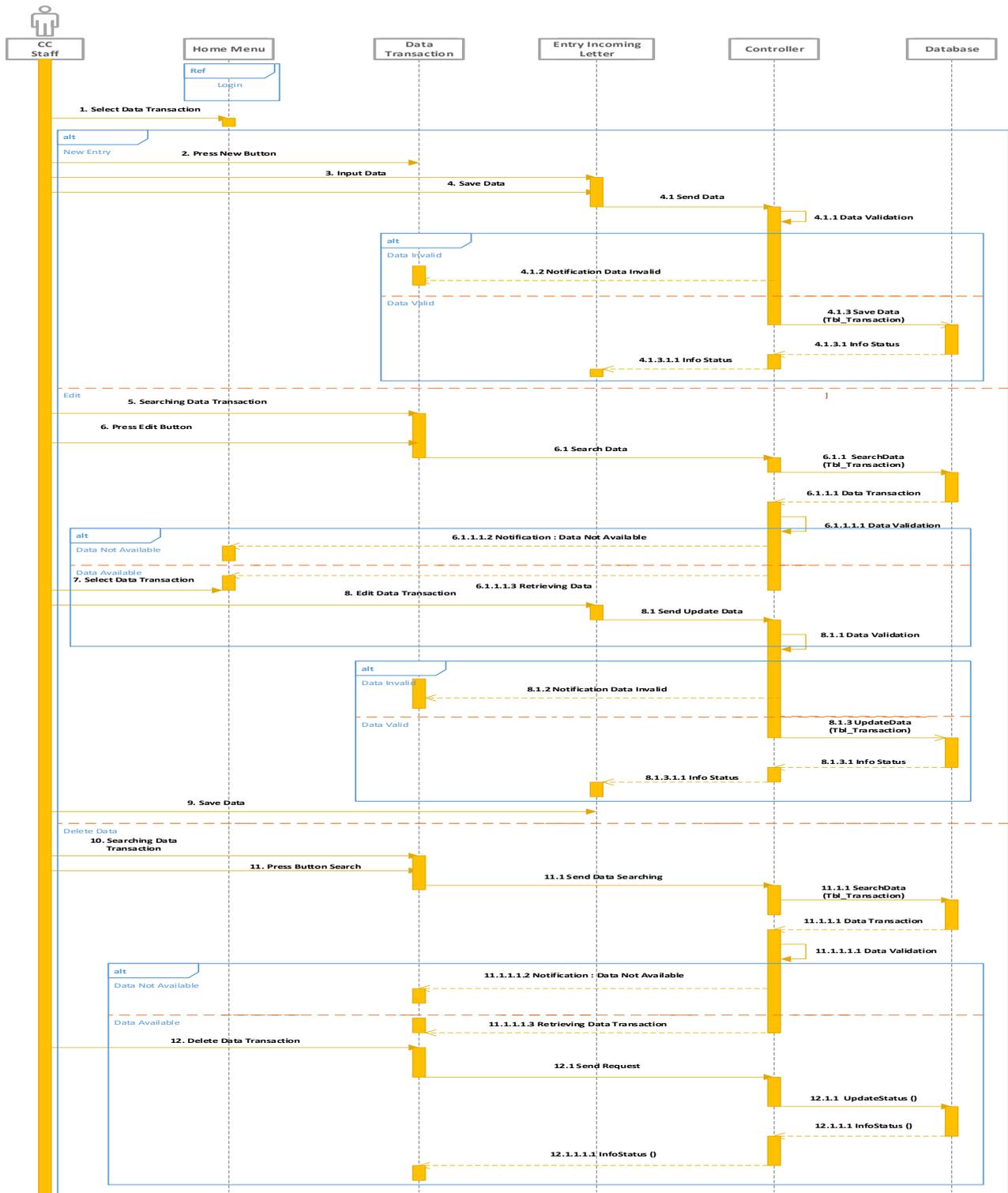


Figure 6. Sequence Diagram Input Transaction (Claim / Complaints)

Based on the sequence diagram above the process flow is divided into 3 phases, the input, edit and delete data scenarios.

4.4.4 Class Diagram

In planning database design that will support the system needed a model. One of model that can be used in database planning is to use class diagrams. The following figure is a

depiction of the class diagram that explains the data process in the e-CRM system that will be built :

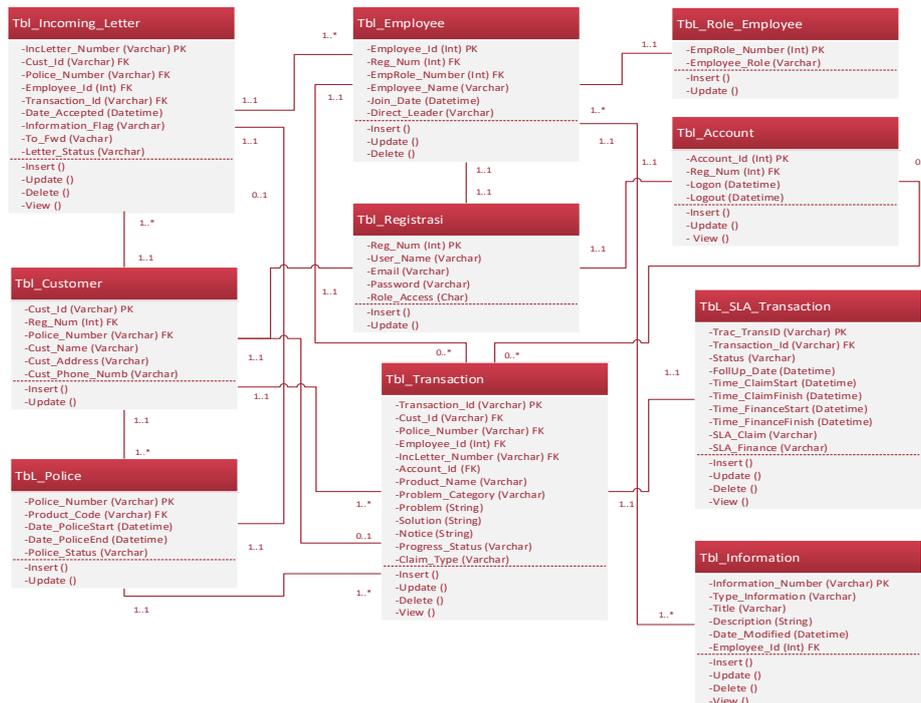


Figure 7. Class Diagram e-CRM (Customer Care Management System)

In the class diagram above there are 10 class objects associated with the transaction process and master data

4.5 Architecture e-CRM System

One of the other processes which are quite important in developing a system using the RAD method is to build an appropriate system architecture design. In the picture below is the e-CRM system architecture design that was built :



Figure 8. e-CRM (Customer Care Management System) Architecture System

e-CRM system developed has a function to make it easier for consumers to access information on membership in the insurance system by contacting customer care or through internet access on various electronic devices they have.

4.6 Implementation e-CRM System

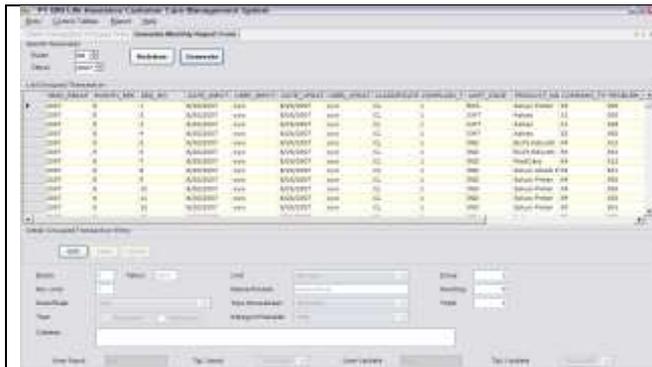


Figure 12. Claim Transaction Process Time Menu

Menu display on the side of the system functions as a monthly report generate report data claims and complaints to customer care staff.

In the development of e-CRM systems, filters are also provided in the search for reports by following certain indicators. This is to facilitate a manager in the customer care division in making monthly reports to be submitted to management



Figure 13. Claim Transaction Process Time Menu

The menu display beside is one example of a report which is an output of the e-CRM system used.

The report also needs to be checked regarding the status of the completion of the report from the customer. This is to facilitate the measurement of the service level agreement and the best service commitment whether or not it has been reached to the customers of life insurance companies.

5.0 CONCLUSION

5.1. Conclusion

e-CRM system development in financial services companies is one of the factors that support optimal service to customers. The development of the system can be done with various methods of developing information systems, one of which is the Rapid Application Development (RAD) method. RAD emphasizes working software and user feedback over strict planning and requirements recording. Appropriate requirements will affect the performance of the developed e-CRM system. The results of the development of the e-CRM system in life insurance companies in the form of a customer management system provide good results in supporting the management of information on claims reports and customer complaints that are managed systematically. In addition, e-CRM systems developed provide functions in terms of ease of periodic report management in the customer care department. The output of the system will assist operations in other departments such as the claims and finance departments especially in the project of insurance customer claim payments. Thus, it will be easier to check the progress of claim payments and resolve customer complaints.

Moreover, the growth of financial services companies needs to be supported by the correlation of various aspects such as good customer service, optimal data management, technology implementation and effective human resource performance. e-CRM system development is one of the efforts that need to be implemented by financial service companies such as life insurance companies to improve the effectiveness and efficiency of services to customers.

5.2. Suggestion

In further research, it is better to conduct research related to the development of e-CRM systems as a tool for financial service companies in managing complaints management effectively as an element of strength in developing a company's business.

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