### IMPROVING PRODUCTS WITH APPROACH CUSTOMERRELATIONSHIP MANAGEMENT IN SENTOSA ANDALAN WURMB CV

Sulistianto Barkah<sup>1</sup>, Alif Finandhita<sup>2</sup>

1,2 Teknik Informatika – Universitas Komputer Indonesia Jl. Dipatiukur 112 – 114 Bandung

E-mail: sulistiantobarkah@gmail.com<sup>1</sup>, alif.finandhita@email.unikom.ac.id<sup>2</sup>

#### **ABSTRACT**

CV. Sentosa Andalan Wurmb is a company that has several products produced. One of the products from CV. Sentosa Andalan Wurmb is a palm sugar product managed by Areniss Indonesia. The conditions that occur at this time found several problems, especially in palm sugar products because there was a decline in sales in 2017 because the quality of palm sugar decreased which resulted in the company getting a loss of 33.5%. As a result there was a buildup of products in the storage warehouse and made areniss factories suffered heavy losses. Besides that the quality of palm sugar decreases because there are 20 people from 50 consumers who complain about the sugar clumping and 13 people out of 50 consumers of color are less brown and taste too sweet, so it is not suitable for consumption by consumers who have diabetes. As a result, consumers are not interested in being a regular customer in the areniss company because consumers think that this sugar is less healthy for consumption by people with diabetes. Therefore, the company wants to improve the quality of the product so that the sugar palm sugar is safe for consumption by consumers with diabetes and also safe for consumers who do not have diabetes, this can increase consumer confidence to buy sugar palm sugar and become a permanent customer in areniss companies.

Based on the existing problems, it is necessary to have a system that can improve palm sugar products that will be recommended as products that are in line with the customer's wishes using the Customer Relationship Management approach. One of the methods taken to improve products is to use complaints and sales analysis.

Based on the results of research and testing it can be concluded that the application built can facilitate the manager in making product improvements and can improve the quality of the product.

**Kata kunci :** customer relationship management, sequential by lexicograph, improving products, product repair..

#### 1. INTRODUCTION

CV. Sentosa Andalan Wurmb is a company that has several products produced. One of the products from CV. Sentosa Andalan Wurmb is a palm sugar product managed by Areniss Indonesia. This palm sugar product is known as the Areniss trademark. Palm sugar produced has two types, namely palm sugar and solid palm. Quality palm sugar depends on the quality of the sugar. Fresh palm juice looks clear, tastes sweet, smells good with a degree of acidity (PH) 6-7 and sucrose levels above 12. When fresh juice is left just like that the color changes cloudy which resembles milk white. It smells and tastes sour. Nira like this is no longer suitable for making sugar because it has turned into palm wine with relatively high levels of ethanol.

Based on interviews conducted with Mr. Santosa as director of Areniss Indonesia, the conditions that occur at this time found several problems, especially in palm sugar products because there was a decline in sales in 2017 due to the decreased quality of palm sugar which resulted in the company getting a loss of 33.5%. As a result there was a buildup of products in the storage warehouse and made areniss factories suffered heavy losses. Though Areniss Indonesia has many customers from several regions in Garut. Customers of the areniss company are retail, housing and supermarkets.

Based on interviews conducted with Mr. Firman as manager of Areniss, the quality of palm sugar declined because there were 20 people out of 50 consumers who complained about the lumpy sugar and 13 of the 50 consumers were less brown and felt too sweet, so it was not suitable for consumption by consumers who have diabetes. As a result, consumers are not interested in being a regular customer in the areniss company because consumers think that this sugar is less healthy for consumption by people with diabetes. Therefore, the company wants to improve the quality of the product so that the sugar palm sugar is safe for consumption by consumers with diabetes and also safe for consumers who do not have diabetes, this can increase consumer confidence to buy sugar palm sugar and become a permanent customer in areniss companies.

Based on the problems described above, a Customer Relationship Management Information System at CV. Sentosa Andalan Wurmb is web based to make it easier for customers to access the system. The aim to be achieved in this study is to help companies improve product quality to minimize customer complaints.

# 2. CONTENT OF RESEARHC Theoretical Platform

The foundation of this theory contains theories that can be used as a reference in designing a customer relationship management system at CV Sentosa Andalan Wurmb.

#### 2.1.1 Information System

The system is a unit consisting of components that are linked together to facilitate the flow of information, material or energy to achieve a goal.

Information is a set of facts that have been processed into data forms, so that they can be more useful and can be used by anyone who needs these data as knowledge or can be used in decision making.

So the understanding of information systems is components that are one and interconnected that work together to collect, store, process, and distribute information as knowledge or can be used as decision making.

#### 2.1.2 Customer Relationship Management

Customer Relationship Management is a business practice that is focused or customer oriented. For companies engaged in information technology, the term CRM is used to automate marketing, sales and service functions.

The core of CRM understanding is how a company or a business knows customer behavior, customer needs, and then builds and implements a better business transaction to improve new customer acquisition capabilities and increase the ability to maintain existing customers.

#### 2.1.3 Stages in CRM

In Dony Surya Manggala's research entitled Development of Customer Relationship Management Information Systems at PT. Indoto Tirta Mulia, there are three stages in CRM, including the following.

- 1. Acquire is a stage of acquiring customers. Through this stage can provide an assessment to the company by assessing the first impression of the company. If the customer has a good assessment of the company, the transaction will work well. Acquire new customers by promoting products and services offered.
  - 2. Enhance is a process where a company builds good relationships with customers. By listening to complaints from customers and receiving suggestions from customers is one effective way to build relationships with customers. In this stage there are things that must be considered:

a. Sequential Elimination by Lexicograhpy, which is one strategy in identifying customers to increase sales. Retain is a stage where companies try to retain customers, in other words get customers and then maintain a relationship with them. In order to be able to establish relationships continuously and maintain relationships with customers, the company must use views that use customers by providing services and supporting applications.

#### 2.1.4 CRM Framework

In making the CRM system that will be built, a framework is needed as a reference so that CRM features that can be built quickly and accurately. This framework describes a series of stages in the development or implementation of CRM. The most important substantive is information obtained from the customer so that the output is obtained in the form of relationship management. The framework used is the Dynamic CRM framework.

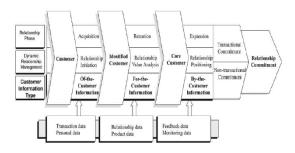


Figure 2.1 Dynamic CRM Framework [4]

The stages of this Dynamic CRM framework are as follows. Tahapan relatonship phase.

- a. The acquisition stage in this section explains how to get customers by being realized with various strategies.
- b. The retention phase in this section explains how a company can implement various strategies to maintain customers by improving services.
- c. The expansion phase at this stage is the stage of fostering good relationships with existing customers by always listening to complaints, customer desires, and how to serve customers well.
- 2. Stages of dynamic relationship.
  - a. Relationship initiation at the initiation stage of the relationship with the customer, the organization is collecting data on customers who have made transactions.
  - b. Relationship value analysis at this stage is carried out by analyzing data from

available data that aims to increase customer loyalty.Relationship positioning at this stage customer follow up after the Relationship value analysis stage.

#### 3. Stages of customer information type exist :

- a. Of the customer information, information about personal data and customer transaction data. Information in this category is often known as a marketing database and marketing target.
- b. For the customer information namely information about products, services, and company information that are considered important by customers. This information can be channeled through various communication media in the form of direct mail, auto response systems, and internet sites.
- c. By the customer information, namely non-transactional feedback information from customers which includes complaints, proposals, claims, customer needs and others. This information is usually realized in the form of expanded customer data because this information is very helpful in customer interaction. In addition, because it contains complaints, needs and suggestions, this type of information can be applied to develop products.

#### 2.2 Problem Analysis

Problem analysis is done by identifying the obstacles in the research that is being carried out. There needs to be problem analysis through a predetermined problem formulation. Based on observations it can be concluded that the company has difficulty in improving the quality of the product. The aim of improving product quality is that the company can retain old customers and attract new customers. But in making improvements to the company's products it is difficult to determine which products must be repaired first. This resulted in the company losing customers because the company did not quickly handle the complaint. Therefore, the company's income has decreased.

#### 2.2.1 Product Improvement Analysis With CRM Approach at CV Sentosa Andalan Wurmb

In implementing CRM, a framework is needed as a reference for order

The CRM that is built can be right. Below is a dynamic CRM framework in CV. Sentosa Andalan Wurmb explained about a series of stages in implementing CRM.

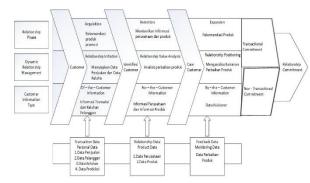


Figure 3.1 Stages Analysis Customer Relationship Management

Stages of the Dynamic CRM framework on CV. The mainstay of the Wurmb mainstay includes the relationship phase stage. Explanation of the relationship phase stages is as follows.

#### 1. Stages relatonship phase.

a. Acquisition stage

This section explains how to get customers by implementing various strategies. According to (Francis Buttle, 2004: 57) there are five stages of the process for developing and implementing Customer Relationship Management (CRM) strategies, namely customer portfolio analysis, customer intimacy, network development, development of value propositions, managing customer life cycles.

- b. One of the strategies used by CV. Sentosa Andalan Wurmb in this acquisition stage is the company giving free samples to consumers who are the first to buy palm sugar. Thus the company hopes to get new customers. Tahap retention
- c. This section explains how a company can implement various strategies to retain customers by improving services. The strategy used by CV. Sentosa Andalan Wurmb in this retention stage is the company providing product recommendations and promotions to customers. Tahap expansion

At this stage is the stage of fostering good relationships with existing customers by always listening to complaints, customer desires, and how to serve customers well. The strategy used by CV. Sentosa Andalaln Wurmb in this expansion stage is the sequential method. Elimination byLexicography Sequential Elimination by Lexicography is a method to improve service quality and also improve product quality. To make product improvements, a complaint data and sales data is needed. This method has the final output to give priority to complaint segmentation based on the complaint category.

Based on the framework of the CV. Sentosa Andalaln Wurmb which has been explained in the previous discussion, it can be concluded that CV. Sentosa Andalaln Wurmb made product improvements using complaint data and sales data. The analysis used in product improvement uses the Sequential Elimination by Lexicography technique. The results of this analysis produce which products must be improved in quality. Information regarding product quality improvement will be delivered to customers through email and telephone services. This framework is expected to be able to influence the ongoing business processes at CV. Sentosa Andalaln Wurmb.

## 2. Stages of Dynamic Relationship Management

#### a. Stage of Relationship Initation

At this stage is the initiation of relationships with customers, the company conducts data collection on customers who have made transactions. At this stage the company prepares sales data and complaint data to see how often these customers make purchases and complaints.

#### b. Stage of Relationship Value Analysis

At this stage is the analysis phase of Product Improvement Using Sequential Elimination by Lexicography.

In this stage, the solution to the problem of product improvement will be carried out at CV. Sentosa Andalaln Wurmb using the Sequential Elimination by Lexicography method. This method has the final output to give priority to sementation of complaints based on the complaints category.

#### 2.3 Database Analysis

The database analysis phase is done so that the system is made as desired, at this stage entity relationship diagram (ERD) is used for the analysis. ERD can make it easier to work on databases, because the ERD can know the relationship of each data. Database analysis at CV Sentosa Andalan Wurmb using ERD can be selected in Figure 3.12

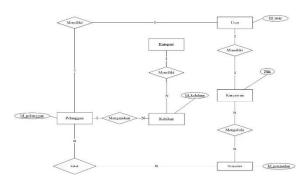


Figure 3.2 ERD CRM Diagram CV.Sentosa Andalan Wurmb

#### 2.4 Context Diagram

Context diagram is the highest level diagram of the DFD that describes the relationship between users and the system. There are four users who play a role in this system, namely, Admin, Customer, manager, and Director.

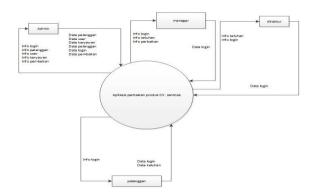


Figure 3.3 CRM Context Diagram CV. Sentosa Andalan Wurmb

#### Data Flow Diagram

Diagram is the development of a representation of a system based on a context diagram that describes the parts of the process that exist in the system and the involvement of data and users to the process.

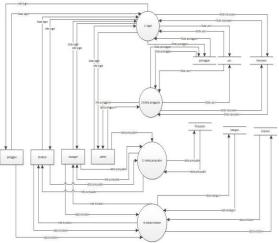


Figure 3.1 DFD Level 1 CRM CV Sentosa Andalan Wurmb

#### 2.5 Relationship Scheme

The relation scheme is a description of some of the data that are interconnected and their boundaries.



Figure 3.2 Relationship Scheme

#### 2.6 Menu Structure Design

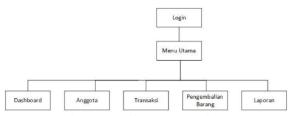
The Admin menu structure is a menu structure that has the main function as processing the CRM system to be built.

#### 2.6.1 Struktur Menu admin



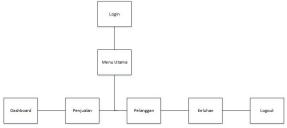
Gambar 3.3 Struktur Menu Admin

#### 2.6.2 Struktur Menu Pelanggan



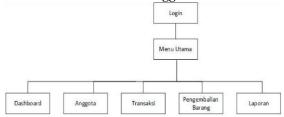
Gambar 3.4 Struktur Menu Pelanggan

#### 2.6.3 Struktur Menu Direktur



Gambar 3.5 Struktur Menu Direktur

#### 2.6.4 Struktur Menu Pelanggan



Gambar 3.6 Struktur Menu Pelanggan

#### 2.7 System Testing

System testing is the most important thing that has the purpose of finding errors or shortcomings in the application being tested. The test intends to find out the application made has fulfilled the performance in accordance with the design goals.

The test used to test the new system is the black box testing method. Black box testing focuses on testing the requirements of an information system.

#### 2.7.1 Test Conlcusion Black Box

Based on the results of testing with the test sample case that has been done, it can be concluded that the process in the application that is built is correct according to its functionality. The existence of error filtering in the form of an error message is quite maximal, and functionally the application built can produce the expected output.

#### 2.7.2 Conclusion of Beta Testing

Beta testing is a test conducted objectively where testing is carried out directly to the company concerned. Beta testing is done by interview technique, which is a technique where the test is done by conducting question-answer directly with the informants related to the problem being studied. From the results of the interview, it can be concluded whether the application built is in accordance with the purpose or not.

#### **FINISHING**

#### 3.1 Conclusion

Based on the results obtained from all the processes that have been carried out in the writing of this thesis, conclusions can be drawn as follows.

- 1. CRM applications to improve this product can make it easier for managers to make product improvements.
- 2. CRM applications for the improvement of this product can make it easier for managers to improve products that are in accordance with the number of complaints from customers and from sales.

#### 3.2 Suggestion

Suggestions for the development of CRM applications to improve this product is that the application built in the next research is expected to improve products that always get complaints and also sales are always decreasing so that the company does not get too large losses.

#### **BIBLIOGRAPHY**

- [1] Fathansyah. (2007). Basis Data. Bandung: Informatika
- [2] Budiardjo, Eko K dan Prasetyo, Ari. 2008. Kesamaan Antara Front-CRM Dengan Dynamic-CRM Sebagai Customer Relationship Management(CRM) Framework, SESINDO2008-ITS, 17-12-2008.
- [3] D. S. Manggala, (2016). "Pembangunan Sistem Informasi Customer Relationship Management di PT. Indoto Ttirta Mulia," Jurnal Ilmiah Komputer dan Informatika (KOMPUTA), vol. 01, p. 4.
- [4] E. K. Budiarjo dan F. Irwiensyah, (2008). "Analisis Fitur CRM Untuk Meningkatkan Kepuasan Pasien - Berbasis Pada Framework Of Dynamic Crm Studi Kasus: Departemen Obstetri Dan Ginekologi Fkui - RSCM Jakarta," semnasIF 2008, p. 151.
- [5] F. Buttle dan J. Turnbull, (2004). Customer Relationship Management: Concepts and Tools. Terjemahan Oleh Arief Subiyanto. Malang: Bayumedia
- [6] Kendall, Kenneth E dan Julie, 2003. Analisis dan Perancangan Sistem, Edisi bahasa Indonesia, Jakarta: PT Prenhallindo.
- [7] Fathansyah, (2004). Basis Data, Bandung: Informatika Bandung.
- [8] R. S. Presman, (2002). Rekayasa Perangkat Lunak: Pendekatan Praktisi (Buku 1). Terjemahan Oleh LN. Harnaningrum. Yogyakarta: Andi.
- [9] I. Gautama dan Sheila, "ANALISIS PERANCANGAN CUSTOMER RELATIONSHIP MANAGEMENT BERBASIS WEB PADA PT ASP JAKARTA," Jurusan manajemen, Fakultas Ekonomi dan Bisnis, Bina Nusantara University, 2010.
- [10] E.K. Budiardjo dan F.Irwiensyah, "ANALISIS FITUR CRM **UNTUK** MENINGKATKAN KEPUASAN PASIEN -FRAMEWORK OF BERBASIS PADA STUDI KASUS DYNAMIC CRM**DEPARTEMEN OBSTETRI** DAN GINEKOLOGI FKUI – RSCM JAKARTA," Ilmu komputer, Universitas Fakultas Indonesia.