DETERMINATION OF MARKETING AND PRODUCT DEVELOPMENT BASED ON CUSTOMER SATISFACTION USING CUSTOMER RELATIONSHIP MANAGEMENT APPROACH IN CV MABASA

Aldi Rachman Putra[1], Adam Mukharil Bachtiar, S.Kom, M.T.[2]

[1,2] Teknik Informatika – Universitas Komputer Indonesia
Jl. Dipatiukur No. 112-114, Coblong. Bandung, Jawa Barat.
E-mail : aldirachman14@gmail[1], adam@email.unikom.ac.id[2]

ABSTRACT

CV Mabasa Seleraku Company is a company engaged in snack foods especially dry macaroni in the packaging. Currently Mabasa has 2 production houses located in Bandung and Ciamis. Mabasa Having a sales system called a franchise (franchise). Based on interviews with the Main Owner of CV Mabasa, Mr. Asep Nugraha, he said that the company has difficulties in determining the right marketing area. And also other problems is on aspects of product development. Based on sales data used (January 2017 - June 2017), there was a decrease in Mabasa's sales.
Based on the problems that occur in Mabasa company, it takes an Information System that can recommend the area or area of marketing with the highest opportunity, and an Information System that can collect opinions, criticisms and suggestions for product development from outside Mabasa, also called Agent .
While the tools used to recommend the marketing area, is market segmentation and market targeting. For product development, an online questionnaire will be used, to gather all aspirations from Mabasa agents.
Based on the test results, UAT (User Acceptance Test) and end user testing this study can be concluded that this system can help the company Mabasa to address the problem of determining the area of marketing and product development.

Keywords: Customer Relationship Management, Regional Marketing, Product Development, Questionnaire, and Customer Satisfaction.

1. INTRODUCTION

MABASA is a company engaged in the snack foods especially dry macaroni in the packaging. Currently Mabasa has 2 production houses located in Bandung and Ciamis. Mabasa has a sales system called frenchise (franchise), so everyone can become Mabasa's agent (agent) by registering first to the Mabasa Branch Office in each City that already has Mabasa Branch.

Based on the interview with Mr. Asep Nugraha as the main owner of CV Mabasa, it can be concluded that there is a problem that is being experienced by Mabasa especially in the Marketing and Production section. In the Marketing section, this time for the determination of marketing areas are all under the control of the CEO. Marketing Mabasa will conduct promotion to areas where there is no agent from Mabasa without paying attention to the great potential sales of Agent registrants (french enthusiasts) in each region. The impact of the lack of attention to potential sales, make Marketing only to promote to each region that has been determined without the calculations performed previously. An example is when making a determination of previous marketing areas in Jogjakarta. Due to the determination of marketing area not through the previous calculation. Thus, mabasa suffered considerable losses in Jogjakarta. Because the capital out to open the production house, not comparable with agents interested in signing up. In the end the Jogjakarta branch can not continue its operations, because the Franchise sales did not reach with the target company targeting 100 Agent in the initial 18 months, in fact after 2 years of running the registered Mabasa franchise agent only amounted to 46 agents only. According to Mr. Asep Nugraha, Mabasa party feel difficulty and confusion when it comes to determining the area of marketing that should be prioritized because they do not know the area that has great potential for the sale of Mabasa franchise. Therefore, it needs an analysis of the large potential sales in the area that will be the next marketing target by Mabasa so as not to happen big losses as previously happened in Jogjakarta.

Another problem arises when the company does product development, so far the production department of Mabasa develops the product regardless of any information, suggestions or requests from Agent. Mabasa will develop the product by covering the criteria of product condition, flavor variant, packaging form, packaging material,

packaging quantity, and retail price. While on the field, Agent who knows exactly how the sales of Mabasa more precisely. According to sales data of Semester 1 of 2017 (January 2017 to June 2017), there was a decline in sales of Mabasa products in January 2017 to June 2017.

Based on the results of interviews with the Head of Branch Mabasa Bandung, Benni Ramdani, said that Marketing confusion in determining the location of the error of the incidence of sales decline for 4 months in a row (from March to June). Therefore, to avoid the inaccurate data that will cause losses to the company, it is necessary to develop the right product target and in accordance with the Agent demand in order to increase sales of products that had decreased sales.

So by considering and considering the problems faced by Mabasa, then needed a system that can analyze the large potential sales in areas that have no Mabasa agent in it and a system that can get information about the wishes of customers / agents about existing products in Mabasa itself using Customer Relationship Management approach.

From the problem to be studied, the purpose of this thesis is to collect data and information as a supporting material to find the right way in designing an information system Customer Relationship Management (CRM) in the work environment Mabasa. While the purpose of this research is as follows:

a. Assist Marketing Mabasa in determining potential market opportunities for marketing areas.

b. Assist Mabasa Production section in obtaining product development recommendation information based on customer satisfaction.

2. RESEARCH CONTENT

2.1 Theoretical Basis

Collection of theories that become the rationale in the development of Information Systems In the following CV Mabasa.

2.1.1 Information Systems

A system contained within an organization that contains daily needs, operations, management, and provides certain outside parties with the required reports, is the definition of the Information System. [1]

As the information system itself consists of several components called the building block terminology: [1]

1. Block enter

Input data into the information system. Input here includes methods and media used to capture data to be inserted, such as basic documents.

2. Block model

It consists of a combination of procedures, logic and mathematical methods that will manipulate the input data and data stored in the database in a way that is certain to produce the desired output.

3. Output block

Products from information systems are outputs that are quality information and useful documentation for all levels of management as well as all system users.

4. Block technology

Technology is used to receive inputs, run models, store and access data, generate and transmit outputs and assists overall self-control. Technology consists of the main elements, namely:

a. Technician (humanware or brainware)

b. Software (software)

c. Hardware (hardware)

5. Block database

Is a collection of data that is connected or connected to one another, kept on the computer hard and will be used by software or software to be manipulated later.

6. Block control

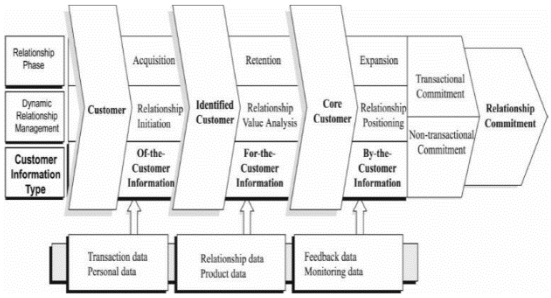
Many factors can damage the information system, such as natural becana, fire, high temperature, water, dust, fraud, system irregularity itself, errors of inefficiency, sabotage and so on. Some controls need to be designed and implemented to ensure that things that can damage the system can be prevented or if there have been errors can be directly addressed.

2.1.2 Customer Relationship Management

In general, Francis Buttle opened his book with a clear explanation about CRM, Francis said CRM is a business practice focused or customer oriented. While the detailed understanding is as follows; Customer relationship management or customer relationship management is an integrated strategy in the business that involves the process and function of internal and external parts to realize value for the profitable consumer for the organization or company. [2]

2.1.3 Dynamic CRM Architecture

To set the CRM feature appropriately, as a foundation for developing Software Requirement Specification (SRS), a framework is required as a reference. CH Park & YG Kim proposed a CRM Framework called "A framework of dynamic CRM". This framework describes a series of stages on the development / deployment of CRM. The most important substantive is the information obtained from the customer so that the output obtained in the form of Relationship Commitment. There is a major set of framework processes, namely the Acquition-Retention-Expansion process. [3]



Picture 1. Dynamic CRM

2.1.3 Marketing Management

The planning, analysis, implementation and control of the program will be designed to build mutually beneficial exchanges with objectives in order to achieve the objectives of the organization. This process will involve more than just getting enough customers for the organization. Rather than simply designing strategies to attract new customers and create transactions with them, the company is now focused on maintaining current customers and building long-term relationships through value-added offerings and superior customer satisfaction. Marketing is a social and managerial process whereby individuals and groups derive what they want and need through the creation and exchange of goods and values with others.

2.1.4 Customer Satisfaction

Kotler revealed that according to him, satisfaction is the feeling of pleasure or disappointment of someone who emerged after comparing the perception / impression to the performance or the results of a product or service.

The level of one's feelings after comparing the performance or outcomes that he feels compared to his expectations is the general definition of customer satisfaction. [4]

2.1.5 Likert Scale

This method is used to measure the opinions, perceptions, and attitudes of a person or more about social phenomena. In this study, this social phenomenon has been specified specifically by the researchers, hereinafter referred to as research variables.

With Likert scale, the variable to be measured is translated into indicator variable. Then the indicator is used as a starting point to arrange the items of the instrument that can be a statement or question. [5]

The answer of each instrument item using Likert scale has gradation from very positive to negative, which can be words such as:

a. Very Agree
b. Agree
c. Doubtful
d. Disagree
e. Very Disagree

a. Always
b. Often
c. Sometimes
d. Never

2.2 Problem Analysis

All data processing procedures on the development of Information Systems CV. Mabasa will be described in this Problem Analysis section. The problem analysis of the current system is:

1. CV Mabasa, difficulties in determining marketing areas that have high potential market opportunities.
2. CV Mabasa, difficulty in obtaining product information to provide product development recommendations according to customer satisfaction.

2.2.1 CRM Framework Analysis

The CRM framework used in Customer Relationship Management Information System in CV Mabasa Seleraku is Dynamic CRM. It is illustrated that the CRM phase in a framework is a series of Acquisition-Retention-Expansion processes.

2.2.1.1 Acquitition Phase

This phase aims to gain new customers that can be realized in various strategies. Acquire is a stage that is in the aquisition at the stage of the relationship used to attract potential customers (agent franchise) to conduct transactions with Mabasa.

The facilities built by CV Mabasa Seleraku is innovating by expanding the marketing area, so Mabasa get new customers.

No	Criteria	Weight
1	Number of elementary and junior high schools in the region	20%
2	Population <15 years	30%
3	Large Market Opportunities	50%

1. Market Segmentation

a. Geographic Market Segmentation

This segmentation is done by dividing potential customers into markets by different geographical regions or locations. For research in CV Mabasa this will be done Segmentation by City & Regency.

b. Demographic Market Segmentation

This segmentation is done by dividing potential customers into the market according to demographic variables. For research in CV Mabasa this will be done demographic segmentation by excluding the population variable under 15 years and unemployment of the total population.

2. Market Targeting

At this stage, the result of the percentage of market opportunity will be calculated further to adjust the market opportunity recommendation that has been done in the market segmentation stage. In the acceptance of new agents who have signed up, the company will do the consideration in advance,

referring to the agency's sales area later. The goal is that no agents are too close together or will be scrambling for sale land. With the aim of facilitating the company in determining the marketing area, then the system to be built will be made a decision-making system. The decision-making system will use the Simple Additive Weight (SAW) method.

a. Converts Data into X form of matrix
Data yang telah diolah sebelumnya pada asumsi segmentasi pasar akan dirubah ke dalam bentuk matriks.

$$X = \begin{bmatrix} 462 & 197060 & 72.37 \\ 1501 & 303295 & 72.08 \\ 1209 & 686477 & 71.46 \\ 1120 & 328973 & 69.29 \\ 1593 & 728232 & 62.01 \end{bmatrix}$$

b. Menentukan Kriteria dan Bobot

c. Normalisasi Matriks X Menjadi R

The criteria for the amount of primary and junior high schools are included in the attributes of benefits. The greater the value generated, the better.
So:

$R_{11} = \frac{462}{Max(462; 1501; 1209; 1120; 1593)} = \frac{462}{1593} = 0.29$

Value 0.290 for the calculation of Malang.

$R_{12} = \frac{1501}{Max(462; 1501; 1209; 1120; 1593)} = \frac{1501}{1593} = 0.94$

Value 0.942 for Lamongan District calculation.

$R_{13} = \frac{1209}{Max(462; 1501; 1209; 1120; 1593)} = \frac{1209}{1593} = 0.75$

Value 0.758 for the calculation of the city of Surabaya.

$R_{14} = \frac{1120}{Max(462; 1501; 1209; 1120; 1593)} = \frac{1120}{1593} = 0.70$

Value 0.703 for the calculation of Magelang Regency.

$R_{15} = \frac{1593}{Max(462; 1501; 1209; 1120; 1593)} = \frac{1593}{1593} = 1$

Value 1 for Cianjur Regency calculation.

d. Rangking

$V_1 = (0.20)(0.29) + (0.30)(0.27) + (0.50)(1)$
$= 0.058 + 0.081 + 0.5$
$= 0.639$

The result of 0.639 is rank for Malang City.

$V_2 = (0.20)(0.94) + (0.30)(0.41) + (0.50)(0.99)$
$= 0.188 + 0.123 + 0.495$
$= 0.806$

The result of 0.806 is rank for Lamongan District.

$V_3 = (0.20)(0.75) + (0.30)(0.94) + (0.50)(0.98)$
$= 0.15 + 0.282 + 0.49$
$= 0.922$

The result of 0.922 is rank for Surabaya City.

$V_4 = (0.20)(0.7) + (0.30)(0.45) + (0.50)(0.95)$
$= 0.14 + 0.135 + 0.475$
$= 0.75$

Result 0.75 is rank for Magelang Regency.

$V_5 = (0.20)(1) + (0.30)(1) + (0.50)(0.85)$
$= 0.2 + 0.3 + 0.425$
$= 0.925$

The result of 0.925 is the ranking for Cianjur regency.

Thus, from the calculation of the final result rankings, Cianjur Regency occupies the top position, superior to other regencies / cities with a value of 0.925.

e. Conclusion Market Targeting

No.	City/Region	Final score
1	Kabupaten Cianjur	0.925
2	Kota Surabaya	0.922
3	Kabupaten Lamongan	0.806
4	Kabupaten Magelang	0.750
5	Kota Malang	0.639

2.2.1.2 Retention Phase

This phase is a process that aims to improve the relationship between agent and company. Facilities to be built in this phase include:
a. Company Information
b. Information Franchise
c. Product Information
d. Location Information

2.2.1.3 Expansion Phase

This stage is a step that will be used to keep customers constantly against the use of products in CV Mabasa Seleraku. Here are the facilities to be built in the expansion phase.

In this facility will be a product development process for products that experience sales decline by spreading questionnaires to customers or agents who have transacted up to the calculation phase of the results of the online agent questionnaire. Here are the steps in product development.

The Marketing section prepares questions based on item questions that include macaroni conditions, flavor variants, packaging materials, packaging designs and Mabasa retail prices.

Question from questionnaire number 1 is "How do you think the condition of Mabasa's product macaroons is current?"
Answer Options:
A: Very good, macaroni condition is very crunchy.
B: Good, crispy macaroni condition.
C: Enough
D: Less, hard macaroni condition.
E: Very Less, the macaroni condition is very hard.

No.	Question	Answer				
		A	B	C	D	E
1	In your opinion, what is the condition of Mabasa's product macaroons today?					
2	In your opinion, what flavor variants should Mabasa add to his sales?					
3	How do you think the changes should be made in the form of mabasa product packaging?					
4	How do you think the changes need to be made on the mabasa product packaging design?					
5	In your opinion, what is the appropriate retail price for current mabasa products?					

The results of Questionnaire No. 1 can be seen in the following table.

No	Answer	Score	Total respondents (n)	Total Score (Score x n)
1	A	5	2	10
2	B	4	3	12
3	C	3	15	45
4	D	2	7	14
5	E	1	3	3
Total				84

Based on the results of the calculation in the table above, the number of scores obtained is 84. So based on the data, then the percentage level question number 1 is (84/150) x 100% = 56% of 100% expected. So based on data obtained from 30 respondents, question number 1 is in the area Enough (C).

Then the calculation is done on the whole questionnaire question.

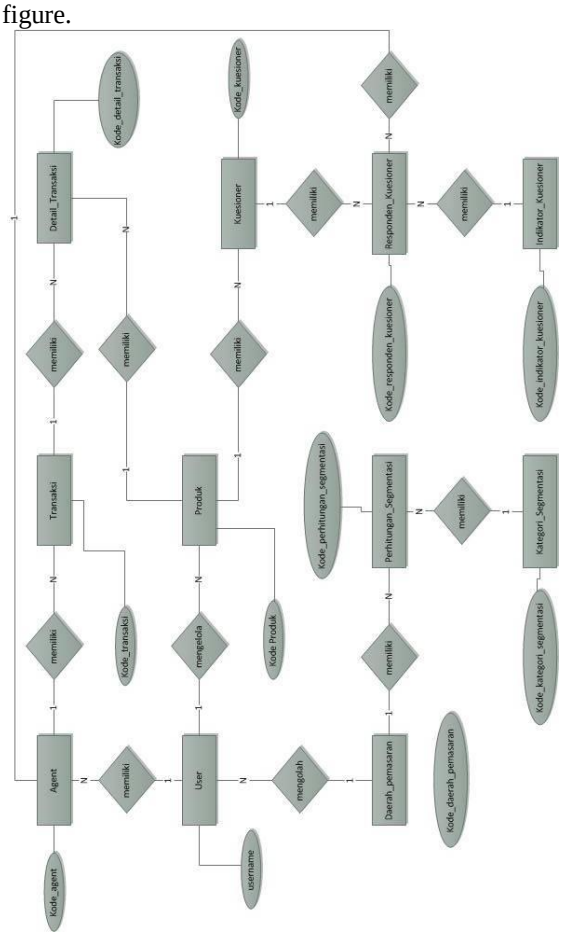
The conclusion of the questionnaire analysis for Mabasa product development obtained from the calculation of 30 respondents is as follows:

a. Changes to Macaroni Condition: Enough
b. Addition of Flavor Variance: Seaweed
c. Changes in Packaging Form: Need sealer on the packaging
d. Changes in Packaging Design: Being more colorful
e. Changes in Retail Price: Rp 2,500

Furthermore, the results of the above will be a recommendation as a reference section of Marketing in obtaining information Mabasa product development to match the customer satisfaction.

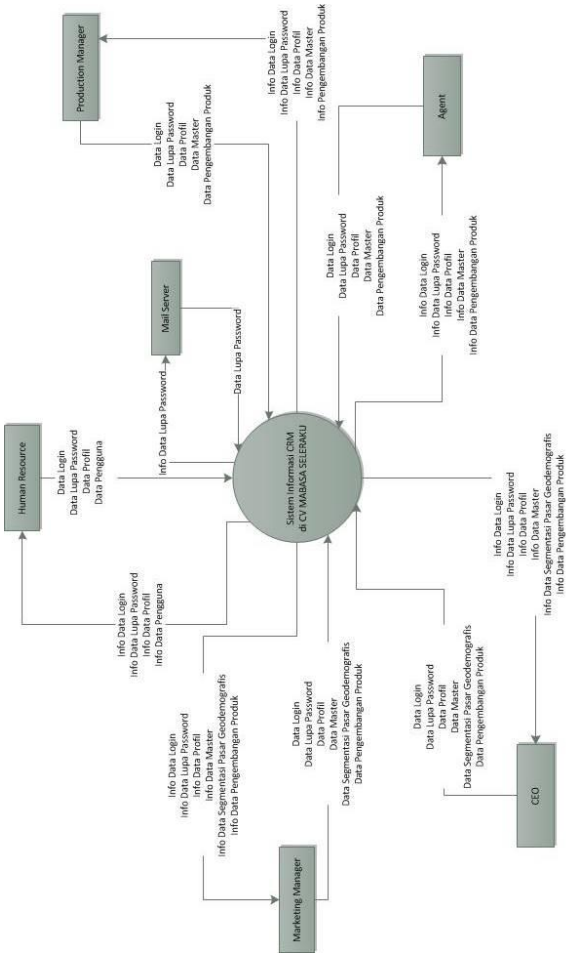
2.3 Database Analysis

Entity diagram to be built on Mabasa Information System can be seen in the following figure.



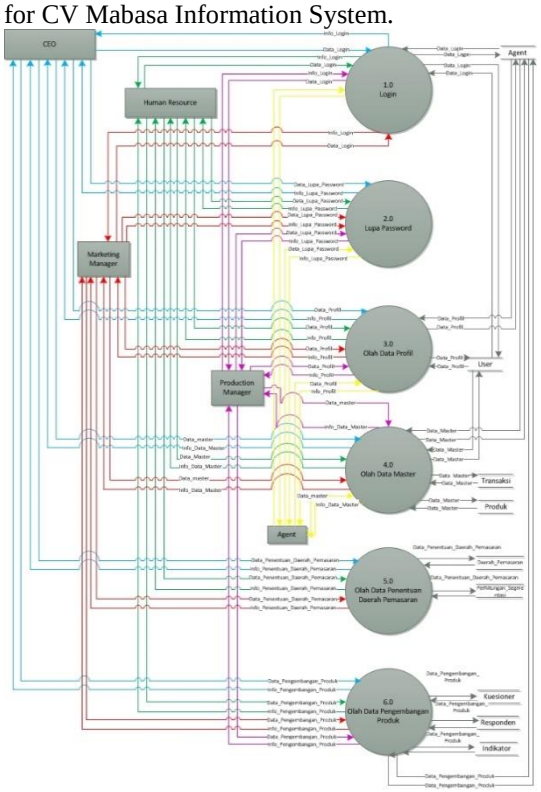
2.3 Context Diagram

Below is a context diagram designed for the CV Mabasa Information System.



2.4 *Data Flow Diagram*

Below is Data Flow Diagram (DFD) Level 1 for CV Mabasa Information System.



2.5 Perancangan Antarmuka

Bagian ini dibuat untuk memberikan gambaran maupun tampilan program yang akan dibangun kedepannya dalam sistem. Berikut adalah tampilan antarmuka untuk Login Sistem.



2.6 System Testing

System testing aims to find errors and deficiencies in information systems that have been built. Testing also aims to determine whether the Information System has met expectations and in accordance with the objectives.

2.6.1 Functional Testing

Functional testing focuses on functional requirements as well as built systems. Here is an example of functional testing change profile data.

Data Entry	Expectd	Conclusion
Cases and Test Results (Data true)		
Entry Example Name : Aldi R P Level : Marketing Email : aldirp@mabasa.com	Message appears "Profile data updated successfully."	☒ accepted ☐ rejected
Cases and Test Results (Empty Data)		
Sample input Name: Position: Email:	Message appears "This field is required." In the blank field.	☒ accepted ☐ rejected

2.6.2 *User Acceptance Test*

The purpose of User Acceptance Test (UAT) testing is to confirm that the system being tested can meet the business needs to provide confidence that the system being tested works correctly and can be used before it is officially assigned to the end user. End user testing is performed by one or more user representatives with the help of the testing team.

No.	Test Case	Status	Tested By	Tanggal Test
1	Testing Edit Profile Data (DFD 3.2 Edit Profile Data)	Work	Agus	23-01-18
	User memasukkan data profil user to be changed Data input Name: Position: Email: Photo:	Work	Agus	23-01-18

3. CLOSING

In this section, conclusions from the results of research that has been carried out by the authors will be presented, and as well as suggestions for future research and more .

Conclusion

After doing the analysis, design, and testing. Then can be obtained conclusion as follows:

1. Customer Relationship Management Information System This can help the Marketing Manager of Mabasa company in determining the Regional Marketing Opportunities.
2. Customer Relationship Management Information System This can assist the Production Manager in determining recommendations for product development based on customer satisfaction (agent).

Suggestion

In order for the system built to work better, should be added several things as follows:

1. The existence of the addition of online franchise registration facility on this built Information System.
2. Product Development can be done in more detail for its recommendation.
3. There is improvement for the analysis of Determination of Regional Marketing on Information Systems in this CV Mabasa.

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