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Assessment of the implementation of customer relationship management systems to support the competitive advantage of the company

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Abstract. The purpose of this study is to look for factors, indicators, and build a model of readiness for effective and efficient implementation in order to answer the problems that arise at PT XYZ related to the readiness of Customer Relationship Management (CRM) implementation. The research method used is the method of collecting data by observing, interviewing, and distributing questionnaires to respondents using the CRM Value Chain theory as a conceptual framework and the research method used in this research is factor analysis to process data obtained from questionnaires. In this study managed to get new factors along with the constituent indicators of these factors as well as an ideal readiness model. It can be concluded that factors related to the readiness of implementing Customer Relationship Management among others are Customer Service Information, Customer Relations Value, Lack of Service and Communication.

1. Introduction

Shopping centers or more often called shopping malls, we can often find in various areas in this capital city. The shopping center is a commercial place consisting of a large collection of retail units, and one or more of the department stores. The mall itself is often visited by many people ranging from children to adults, they spend their time there for shopping and not infrequently just eating with their families. PT XYZ is the owner of one of the major malls in Jakarta in the Kelapa Gading area, North Jakarta. One of the products implemented at PT XYZ Mall is the Customer Loyalty program, which offers its customers several benefits to gifts to their loyal customers so that they still come to the mall. It can be seen in Figure 1. that the number of mall visitors owned by PT XYZ over the past six months.
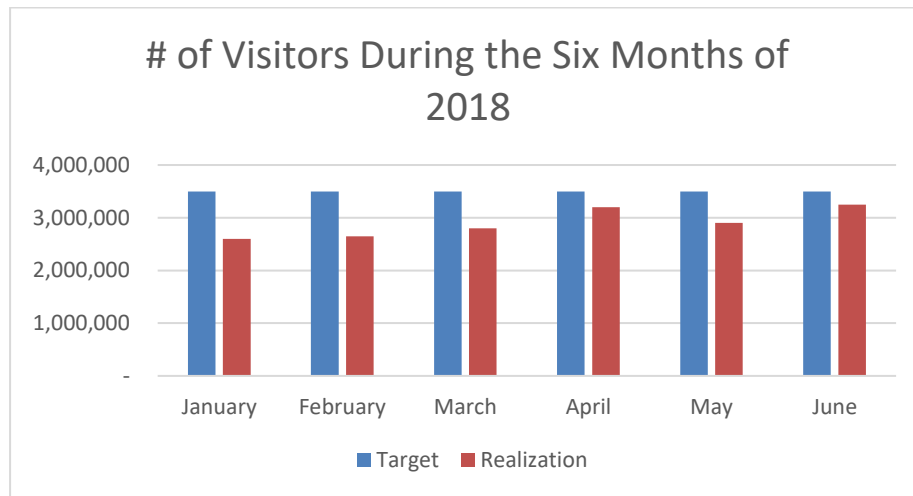
Figure 1. Graph of Total Visitors During the Six Months of 2018

Based on the data in Figure 1. the number of visitors to Kelapa Gading Mall has increased but still has not reached the target desired by PT. XYZ With the rapid development of technology, to increase customer satisfaction and loyalty, PT XYZ sees the business strategy of the CRM concept that is aligned with business processes for customer loyalty enhancement programs. CRM is a collaborative process and strategy for managing, enhancing, identifying and maintaining customers by building communication and fostering long-term and sustainable relationships [1], the concept of CRM has one goal with many shopping centers that continuously improve visitor satisfaction and loyalty to come. [2] to define customer relationship management as customer satisfaction with service providers, or emotional reactions to the difference between what customers get and what they receive, regarding the satisfaction of several desires, goals or needs [3]. With the rapid development of technology, to simplify the implementation of the concept of CRM which becomes more flexible, and faster one of them is to use mobile applications. Mobile applications that implement the CRM concept are expected to improve communication between customers and shopping centers [4]. Technology of cellular devices or arguably mobile devices has progressed very significantly, especially in Indonesia. Almost every year, platform providers update their features to become more efficient, effective. This makes us as users of mobile devices, must adjust to follow technological developments [5]. While the estimated growth of users of mobile devices is predicted to continue to increase from 2014 to 2019.
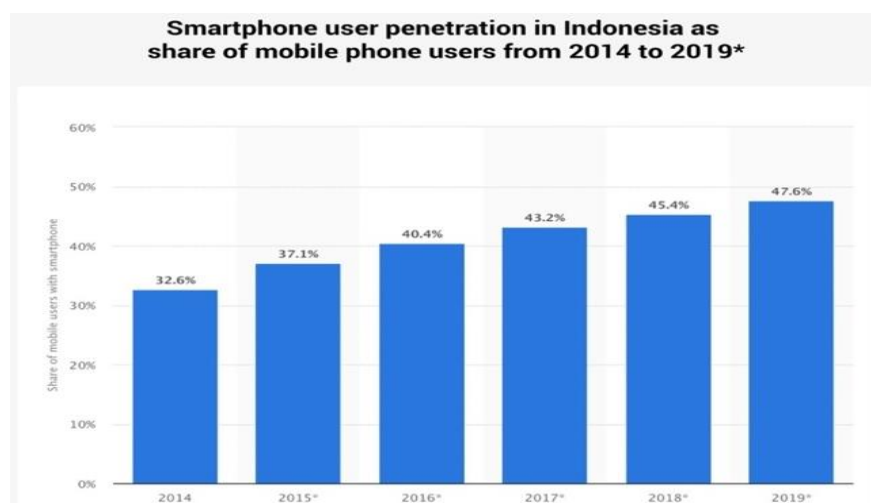

Figure 2. Mobile Phone Users Until 2019, Source: Statista (www.statista.com)

The development of mobile devices technology has a key feature, which has the capacity to read the situation around the environment with sensors embedded in it [6]. Mobile devices have sensors designed to read where they are, and where they are going. The sensor can identify its whereabouts up to a few meters in the future, and take what is facing up to the speed of movement. This device also has the capability to capture information about the level of light, temperature, and pressure that is around it. One more important feature of mobile devices has the capability of communicating with computer devices with many variants of communication mechanisms [7]. Laptops can communicate with Wi-Fi, and Bluetooth. Cellular devices can also have such capabilities for communication, plus communication via cellular networks and near-field communication where the antenna used is shorter than the signal operator waves [8]. Wi-Fi alone cannot reach in all situations, and is glued to its range, whereas what is done by cellular networks can cover a wider range. In this capability comparison of mobile devices and computer devices, cellular devices also have similarities, such as being able to manipulate and display data. Some of the same features also have increased usability when on a mobile device, because of the ease of movement. One example is the camera, when it is run on a computer device most have limitations in its use because it is difficult to move. This can mean that mobile devices such as smartphones and tablet computers dramatically and slowly [9].

1.1. Introduction to Customer Relationship Management (CRM)

Customer Relationship Management (CRM) is a strategic process for selecting useful customers to serve and shape interactions between companies and customers to get various kinds of benefits [10]. Groups of customers or customers are very important for the company's existence. If no one uses the services or products of a company, then the company will not live. Management of customer relationships not only builds relationships between companies and customers, but to get close and profitable customer relationships. The important keys of a company's relationship with customers are integration, long-term profitability, differentiation and IT support [11]. Customer Relationship Management is the core of the business strategy that integrates internal processes and functions, to the external network, to create and deliver value to targeted customers who benefit. This is based on high quality customer related data and is activated by information technology [12].

1.2. Customer Relationship Management Value Chain
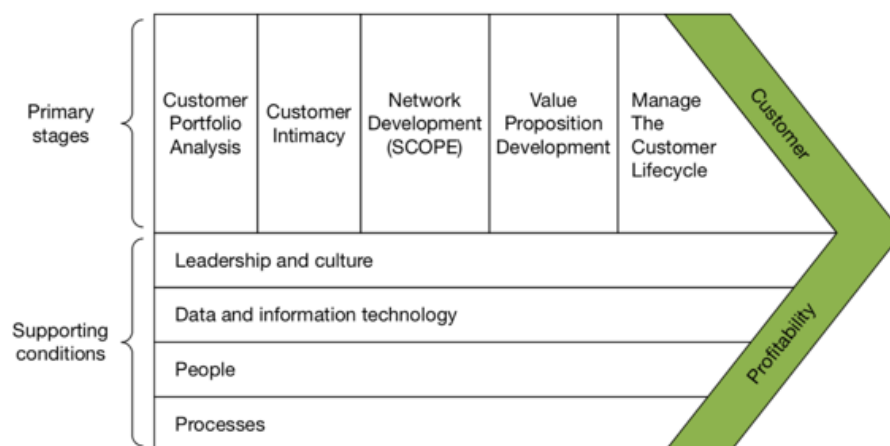
Figure 3. The CRM Value Chain

In Figure 3. is a model of Francis Buttle, consisting of 5 (five) primary activities followed by 4 (four) supporting activities leading to the final goal to increasing customer profitability. Starting with customer portfolio analysis, customer intimacy, network development, value proposition development, and manage the customer life cycle are used to ensure that the company, with the support of leadership and culture,

data and information technology, people and processes. That is followed by supporting conditions so that the CRM strategy functions effectively and efficiently [13].

2. Method

This section will present methodologies related to research variables and indicators, data collection, reliability testing, and factor analysis methods.

2.1. Research Variables dan indicators

In measuring variables in this study, appropriate indicators are needed. Indicators obtained based on journal references and theories related to research variables will produce statements that will later be used as a basis for making questionnaires. There are 5 research variables, each variable has 5 indicators which will be explained with the research instrument development matrix in Table 1. as follows:

Table 1. Research Variables and Indicators

Research Variables	Indicator
Customer Portfolio Analysis	Customer Relations
	Customer Satisfactions
	Customer Life Time Values
	Customer Experience
	Customer Acquisition
Customer Intimacy	Service Quality
	Social Marketing
	Customer Value
	Professional Service
	Relationship Building
Network Development	System Use
	Value Chain
	Supply Network
	Social Media
	Interaction
Value Proposition Development	Business Process
	Service Ecosystem
	Customer Equity
	Sales Process
	Customer Integration
Manage The Customer Lifecycle	Customer Retention
	Organizational Alignment
	Customer Journey
	Sustainable
	Product Innovation

2.2 Data Gathering Method

In this section the results of the questionnaire will be explained. Respondents were used as research samples of a total of 150 questionnaires distributed using online form survey media. The following is a questionnaire distribution table:

Table 2. Number of Questionnaires Distributed

No	Questionnaire Information	Number of Questionnaires
1.	Questionnaire distributed	150
2.	Questionnaire that did not return	7
3.	Inappropriate questionnaire	12
4.	Questionnaire that can be processed	131

The thing to know from respondents is whether the respondent knows about Customer Relationship Management. Data obtained from the questionnaire can be seen in Table 3.

Table 3. Respondent Data Based on the Introduction to CRM

No.	Get to know CRM	Respondents	Percentage
1.	Yes	92	70.2%
2.	No	39	29.8%
	Total	131	100%

2.3. Reliability Test
In this research, reliability testing is used as a tool to measure the questionnaire which is an indicator variable. Through the process of collecting data using a questionnaire, it is necessary to test the reliability of the data obtained by using the Cronbach's Alpha reliability test. In this study, testing was carried out on 131 respondents. Table 4..

Table 4. Reliability Test

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.946	.946	25

2.4. Factor analysis method
Factor analysis is a technique in analyzing the dependence of several variables simultaneously with the aim of reducing the number of variables studied to be less than the variables studied [14, 15]. Explaining the structure of relationships between many variables in the form of factors or latent variables is the main objective of factor analysis. The factors formed are random quantities that previously could not be observed or measured or determined directly [16].

3. Results and Discussion
From the results of the factor analysis process, obtained 6 (six) new factors namely Customer Service Information (X_1), Customer Relationship Value (X_2), Lack of Service and Communication (X_3) then those three factors will be used by the author to evaluate the readiness for implementation CRM at PT XYZ. Figure 3.
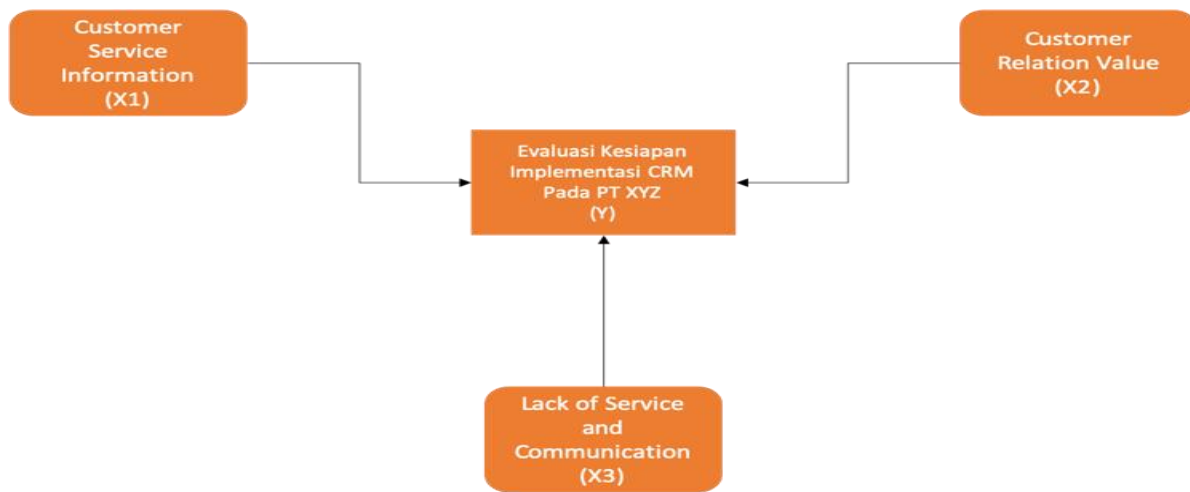
Figure 4. New Factors Affecting the Readiness of CRM Implementation

The next step the writer will do is a process called factor scoring of 3 (three) new factors that are formed. Based on a questionnaire statement regarding the level of understanding of Customer Relationship Management at PT XYZ using a scale of 1 (one) to 10 (ten), the author will carry out a regression process for the six new factors with a level of understanding. The level of readiness of implementing Customer Relationship Management is now considered as the dependent variable and the factor score which is the output of the factor analysis process was previously considered as an independent variable, then the analysis continues with a factor regression on the two types of variables. From the results of this analysis, mathematical equations are obtained that can illustrate the implementation model of Customer Relationship Management implementation in organizations.

$$Y = 6.176 + 0.241 \, X_1 + 0.632 \, X_2 - 0.040 \, X_3$$

Based on the model above, the analysis model for the implementation readiness of Customer Relationship Management can be described in the form of a chart Figure 4.
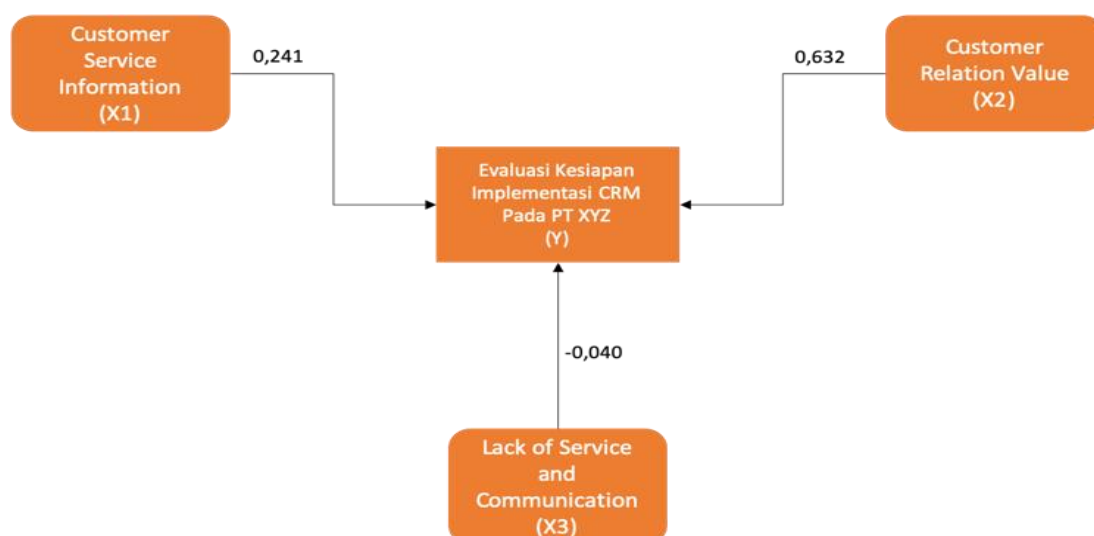
Figure 5. Value Factors for Respondents' Understanding Level

Based on the model formed, it can be seen that the first factor Customer Service Information (X_1) is positive 0.241 which indicates that quality improvement with a group of indicators on these factors can increase respondents' understanding of Customer Relationship Management. The second factor, Customer Relations Value (X_2) is positive 0.632 which indicates that the increase in the quality of these factors can affect respondents' understanding of the implementation of customer relationship management. The third factor, is the lack of service and communication (X_3) with a negative sign of 0.040, which illustrates the existence of quality and communication limitations and is a representation of several variables that can affect the value of -0.040 on the respondents' lack of understanding of the implementation of Customer Relationship Management in the organization as a whole. These three factors must be the attention of the management to be optimized in order to build a competitive advantage for the companyThe results obtained after distributing the questionnaire found the readiness value of the implementation of CRM is shown to 6.176 where the value obtained is in a position between moderate and sufficient. By looking at the factor regression generated, we get the minimum and maximum values for each of the factors. Table 5.

Table 5. Simulation Table Model for CRM Implementation Readiness

Variable Condition	Y	β_0	X_1	X_2	X_3
Current	6.176	6.176	0	0	0
Minimum	3.740	6.176	-2.808	-3.145	-2.139
Maximum	7.836	6.176	1.661	2.139	2.281
Unexpected	3.420	6.176	-2.808	-3.145	2.281
Ideal	8.156	6.176	1.661	2.139	-2.139

Table 5. shows the results of evaluating the readiness of implementing customer relationship management as follows:

a) Normal conditions, in this condition the value of the analysis of respondents' understanding of customer relationship management is 6.176 where the value obtained is in the sufficient category. In this condition no addition or subtraction of values in the new factor is found. Based on data obtained from data processing, it can be seen that according to respondents they have enough information about the development of the implementation of Customer Relationship Management which will indirectly make respondents feel not involved in the implementation of the system.

b) Minimum conditions, in this convention the value of the analysis of respondents' understanding of Customer Relationship Management with the lowest level is 3.740 where the value is in the very poor category. This minimum condition is seen from the lowest value on all newly discovered factors. It should be noted because the lower or minimum value of this understanding analysis which was originally under normal conditions is considered sufficient, but this minimum condition drops to very less. Need to improve the quality of factors that can reduce the level of understanding of the use of CRM by providing training and basic knowledge related to the CRM.

c) Maximum conditions, in all new factors found are increased from normal conditions by looking at the highest or maximum value of each of the new factors that exist. In this condition the value of the analysis of respondents' understanding of Customer Relationship Management with the highest level is 7.836. In this condition there is one factor from the three factors can reduce the level of respondents' understanding of the usefulness of CRM, but with the high value for the other two factors, the decline can be covered so that it can improve the quality of existing understanding. When compared with normal conditions, this condition is an increase because the numbers generated are in the quite good category. And if CRM is implemented, prospective users will understand the usefulness of CRM itself.

d) Unexpected conditions, in this condition the value of the positive value factor is lowered to the lowest value and the negative value factor is raised to the highest value. After testing it by lowering the value of the negative factor at the highest value, the value of the analysis of respondents' understanding of Customer Relationship Management when extreme conditions is 3.420 where the value is categorized as very less. If CRM is implemented in the future, the organization needs to provide an understanding of the usefulness of CRM and provide training to improve the quality of CRM comprehension.

Ideal conditions, all new factors that are found to be positive are increased to the maximum value, and to factors that are negative are reduced to the minimum value. After testing in ideal conditions in the evaluation of Customer Relationship Management understanding, a value of 8.156 was obtained which indicates this condition is better than normal conditions and maximum conditions. This value of 8.156 is included in the good category so that from the evaluation of CRM readiness implemented at PT XYZ, users have understood the usefulness of CRM so that it can be used to increase the loyalty of visitors and visitors who come.

4. Conclusion

Based on the results of the analysis that has been carried out on the evaluation of the readiness for the implementation of Customer Relationship Management at PT XYZ using factor analysis involving thirty one (131) respondents, it can be concluded that: Found three (3) new factors that affect the readiness of implementing CRM System at PT XYZ, namely Customer Service Information, Customer Relationship Value, Lack of Service and Communication.

Models that illustrate the readiness of implementing CRM systems at PT XYZ are:

$$Y = 6.176 + 0.241 X_1 + 0.632 X_2 - 0.040 X_3$$

Where the value of the readiness of implementing Customer Relationship Management System at PT XYZ is influenced by the value of Customer Service Information, Customer Relationship Value, Lack of Service and Communication.

Acknowledgements

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