APPLICATION OF CUSTOMER RELATIONSHIP MANAGEMENT (CRM) TO IMPROVE REVENUE BASED ON PROMOTION AT THE MAJESTY HOTEL

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ABSTRACT

The Majesty Hotel has the concept of hotels and apartments, as a businessman in The Majesty Hotel need to think about how to establish cooperative relationships with agencies and how to continue to increase hotel revenue. The problems faced by The Majesty Hotel are mainly for Executive Asst. The manager was having difficulty in getting back the agency that had previously held the event at the hotel due to complaints raised by the agency. In addition, the Director of Sales and Marketing has difficulty in determining the revenue estimation target for sales calls in the following months, due to the absence of target revenue in achieving revenue every month. The application of Customer Relationship Management can provide solutions for each of these problems. The solution is to evaluate each priority of complaints raised by the agency by providing the right solution. Another solution is to make an agency recommendation to work together again by taking into account the previous sales call data, from these results you can estimate revenue for each month as a target sales call. Based on black box testing and beta testing that has been done, it can be concluded that the built system helps Executive Asst. Manager to provide solutions to complaints raised by agencies. In addition, it will assist the Director of Sales and Marketing in determining the revenue revenue estimation target that will be invited to cooperate again in the future.

Keyword: customer relationship management, complaint, sales call, revenue, trend moment.

1. INTRODUCTION

The Majesty Hotel is a hotel with hotel and apartment concept. Started operations in 2005 and is located in Bandung, precisely located at Surya Sumantri Street. The Majesty Hotel is the first apartment to be established in Bandung.

There are two guest categories, namely FIT (Free Independent Travelers) and GIT (Group Inclusive Tours). FIT is an individual guest usually a family, while GIT is a guest who is a group usually there is a partnership with the sales to hold events at the hotel.

Based on sales call data, referring to agencies that establish cooperation with hotels as of October 2018, there are 21 agencies. However, there are problems when the hotel will cooperate again with the agency. In October 2018 only 23% of the total 21 agencies that successfully collaborated with The Majesty Hotel. Based on 23% of the total, many agencies were reluctant to re-establish cooperation, this was triggered by a number of complaints raised by the agency, including complaints that prices were too expensive compared to other hotels, but facilities and services were lacking. Guaranteed Price is too high, slow response to service when the event is held, the agency's needs are too right, so the response to these needs is long lasting.

In addition to the complaint problems raised by the agency, the sales person has problems in determining the revenue target from the sales call every month. Revenue earned often experiences uncertain ups and downs. The sales party does not have a revenue target specifically targeted for achievement every month, the impact of revenue being out of control and determining whether this month has experienced an increase or decrease.

Based on the problems that have been described, a system is needed that can help sales people in maximizing the promotions given to agencies or guests. The system that focuses on promotional issues by providing solutions such as directing sales people to make sales calls which groups are prioritized, determine promotions on websites that are more attractive to guests in determining prices. The system also focuses on evaluating the complaints raised by guests so that they can increase the guests' return to stay or organize events at the hotel.

The purpose of this paper is to build an information system for implementing customer relationship management to increase revenue based on promotions at The Majesty Hotel.

The purpose of the research on the problems that occur is:

1. Helping the hotel, especially Executive Asst. Manager to evaluate and provide measurable

solutions to complaints given by agencies both short term and long term.

2. Helping the sales department especially the Director of Sales and Marketing in determining the revenue estimation target of the agency that will be invited to work together in the future.

In research planning there are several methods that can be used, according to the problems that occur, one method that can be used in this study is the forecasting method. The forecasting used is Periodic Data (Time Series). This method is a forecasting method that is influenced by a history of sales or previous transactions. The method used in this study is a trend moment, this is based on a history of data from the sale of transactions in previous months to determine sales in the following month. [1]

In a similar study, conducted by Ratih Kumalasari Niswatin in a study conducted in applying the trend moment method to determine the product at a specified time based on records of sales of goods in previous periods. [2]

2. THEORY BASIS

At this stage will explain or explain the theories relating to the problems that occur in customer relationship management research.

2.1 Research Methodology

The research methodology is a process of how a study will be carried out. The research method that is in accordance with the research in The Majesty Hotel is a descriptive research method, the method aims to collect detailed information by describing and explaining existing symptoms, identifying problems and making a comparison of existing problems. These stages are as follows.
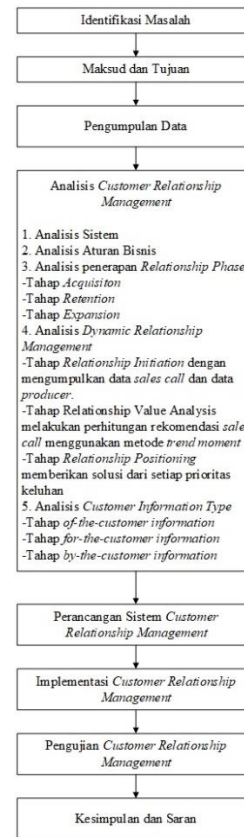

Figure 1 Research Methodology

2.2 Customer Relationship Management

Customer Relationship Management is a marketing strategy used by companies to get customers as much as possible. This is done to gain trust so that customers do not turn to competitors or company rivals. In essence the company has a goal to build stronger bonds with customers to increase customer loyalty itself.

Customer Relationship Management is a combination of several aspects which are interrelated with each other. The respective aspects are as follows.

1. Customer, is a user of services for goods or services which generate revenue for the company.

2. Relationship, is the relationship between the customer and the company can be in the form of communication or interaction and can occur in unpredictable time. Usually customers will make transactions repeatedly if they already have trust in the company. [3]

3. Management, all information obtained from customers where companies can take a strategy to see the habits of customers. So that it becomes an added value for companies to improve services that are different from other companies. [4]

2.3 Jenis dan Kerangka CRM

There are several frameworks of customer relationship management, among others:

1. CRM Strategic

Strategic CRM has the goal of building a company to deliver value or value to customers to the maximum and better or different from other companies. This CRM focuses on developing a customer-centric business culture. With the core goal of winning the hearts of customers and maintaining customer loyalty by giving something different from other companies.

2. CRM Operational
Operational CRM is different from CRM before, in operations more focused on how a company optimizes customer relationships.

3. CRM Analytic
It is a type of CRM that uses customer data to increase the value of the customer itself. This system is developed on data or information about customers. In this type, customer data is a more important element of the CRM strategy.

4. CRM Colaborative
The type of CRM which combines all systems in the company. The main goal is to expand customer loyalty to other customers, so loyal customers can become a magnet for new customers. [4]

2.4 Framework Dynamic CRM

In implementing a CRM system a framework is needed which aims to build a CRM system that is right on target. As a foundation in compiling the Software Requirement Specification (SRS), a framework is needed as a reference. C.H. Park and Y.G. Kim. Propose a framework called A Framework of Dynamic CRM. The framework explains the stages in building a CRM system. Briefly, the information obtained from the customer can be a relationship commitment. Following is the Dynamic CRM framework.[5]
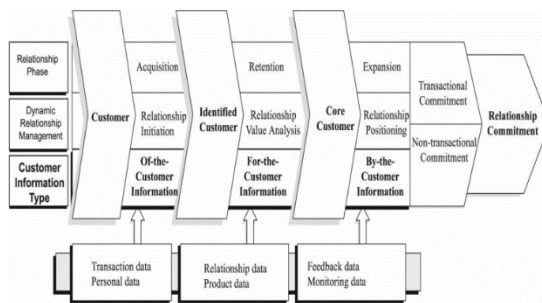

Figure 2 Framework Dynamic CRM

2.5 Dynamic Relationship Management

This phase is a form of relationship between the company and the customer where this relationship is seen from each point of view. Consists of three parts, among others:

1. Relationship Initiation
This phase is to collect all data that is directly related to the customer. This phase is also the initial phase in mapping which types of customers are more contributing to the company.

2. Relationship Value Analysis

At this stage is the stage where customers and companies are more accurately identified, by providing more value to the customer itself materially.

3. Relationship Positioning
The last stage is the stage of how a relationship between the customer and the company can be maximized by prioritizing the quality of service to the customer itself. [5]

2.6 Time Series

Time series is data arranged by time or historical data from time to time. The time used is dynamic, can be weeks, months or even years. Thus periodic data relates to statistics recorded in a certain period of time. [1]

Methods in periodic data use a number of data to increase or generate forecast values according to the data presented. With the existence of periodic data, then the pattern in the movement or variable value can be known. Periodic data can be used as a basis for:

1. Making a decision at a certain time.
2. Forecasting the situation in the future.
3. Planning conditions in the future. [6]

2.7 Trend Linear/Trend Moment

Trend Linear or trend moment is a trend where the time variable is the highest one. Linear trends form an equation in the form of a straight line equation. In applying this method can be done with historical data from one variable, here are the formulas of the method.[6]

$$Y = a + b\,X \qquad (1)$$

Y   =   periodic data for a certain period
a   =   konstanta, value Y if X = 0
b   =   coefficient X, slope of the trend line (slope)
X   =   time peroide (day, month, year)

Before calculating using formula 1. Trend lines must first look for variable values a and b. To calculate these variables can use the least squares method. The following is the formula of the least squares method to calculate or know the values of a and b. [7]

$$a = \frac{\sum Y}{n} \; dan \; b = \frac{\sum XY}{\sum x^2}$$
(2)

Y   = periodic data values
n   = number of time periods
X   = code year

2.8 Framework Dynamic CRM Analytic

In implementing a CRM system a framework is needed as a reference. The following is the framework used in this study.
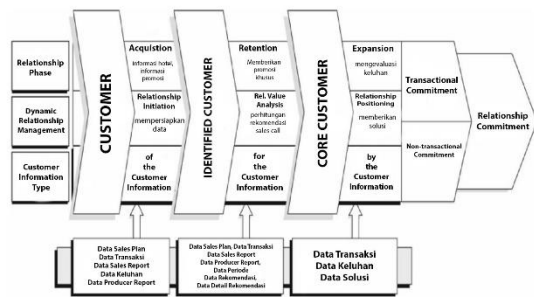
Figure 3 *Framework Dynamic CRM The Majesty Hotel*

The following is an explanation of the framework.
1. *Acquisition*
   At the stage of acquisition the sales person will conduct a sales call to the agency that has previously held the event at the hotel. In conducting a sales call for an institution that has held an event before at the hotel, the sales person will conduct a sales call based on the amount of PAX from the institution that has organized the event. something about The Majesty Hotel.
2. *Retention*
   Retention stage is a process where companies build good relationships with agencies. This stage aims to get the agency to come back to stay or to hold events at the hotel. The retention stage that runs at The Majesty Hotel is to provide guaranteed prices for agencies that often hold events at hotels. With the system built, it will help the hotel in choosing the most influential agencies or agencies that often hold events in hotels and will provide guaranteed prices in accordance with applicable regulations.
3. *Expansion*
   The expansion stage is the stage to build a good relationship with customers or guests to increase guest loyalty to the hotel in order to always stay or organize events at the hotel. Guest arrival loyalty will increase by maximizing service or service to these guests. The expansion stage that has been running at The Majesty Hotel towards the agency resulting from the sales call is the presence of representatives from the relevant agencies and provide complaints or suggestions directly contacting the hotel sales. With the existence of a system that is built, it will record which complaints are the most raised and will be a priority in evaluating the complaint.
4. *Relationship Initiation*
   At the stage of initiating relations with customers, the hotel collects the agency. Relationships carried out by the hotel are preparing data from all departments to determine the promotion that will be held in the future. The data is in the form of sales report data from the beginning of 2017 to November 2018. This sales report data comes from the data of the sales plan that made the transaction.

The following is the sales report data from the beginning of 2017 to November 2018.

Table 1 *Sales Report Confirm*

Months	GIT Confirm	PAX Confirm	Revenue Confirm
January	5	132	Rp38.xxx.xxx
February	9	506	Rp155.xxx.xxx
March	10	509	Rp146.xxx.xxx
April	12	959	Rp608.xxx.xxx
May	14	793	Rp592.xxx.xxx
June	8	499	Rp220.xxx.xxx
July	14	743	Rp207.xxx.xxx
August	14	608	Rp293.xxx.xxx
September	20	419	Rp305.xxx.xxx
October	23	736	Rp418.xxx.xxx
November	14	666	Rp289.xxx.xxx
December	11	365	Rp56.xxx.xxx
January	8	457	Rp234.xxx.xxx
February	11	531	Rp440.xxx.xxx
March	14	423	Rp303.xxx.xxx
April	18	241	Rp437.xxx.xxx
May	20	781	Rp589.xxx.xxx
June	14	235	Rp301.xxx.xxx
July	7	641	Rp211.xxx.xxx
August	9	521	Rp159.xxx.441
September	12	457	Rp301.xxx.500
October	21	951	Rp569.xxx.222
November	18	877	Rp771.xxx.800

Table 2 *Sales Report Denial*

Bulan	GIT Confirm	PAX Confirm	Revenue Confirm
January	5	330	Rp250.xxx.xxx
February	4	545	Rp334.xxx.xxx
March	4	368	Rp225.xxx.xxx
April	2	320	Rp117.xxx.xxx
May	8	668	Rp274.xxx.xxx
June	4	430	Rp220.xxx.xxx
July	1	25	Rp11.xxx.xxx
August	8	570	Rp194.xxx.xxx
September	5	281	Rp200.xxx.xxx
October	4	276	Rp22.xxx.xxx
November	4	399	Rp200.xxx.xxx
December	5	451	Rp146.xxx.xxx
January	6	566	Rp200.xxx.xxx
February	7	425	Rp200.xxx.xxx
March	9	300	Rp220.xxx.xxx
April	6	578	Rp168.xxx.xxx
May	5	246	Rp150.xxx.xxx
June	7	540	Rp250.xxx.xxx
July	4	431	Rp160.xxx.xxx
August	5	325	Rp225.xxx.xxx
September	8	286	Rp190.xxx.xxx
October	16	425	Rp290.xxx.xxx
November	4	415	Rp270.xxx.xxx

In addition to the sales call data above, to establish a relationship with customers or guests is also required complaint data that aims to provide an

evaluation of the sales in providing solutions to complaints made by guests. The following complaints data come from transactions made based on sales plan data. Following are complaints data in November 2018.

Table 3 *Agency Complaint 2018*

No.	Complaint	Total
1	A little disturbed by other activities such as worship, apartment residents, etc.	1
2	Room not on request.	2
3	Miss communication with officers so the breakfast box is not prepared properly.	3
4	Improve food quality and variety.	4
5	The room is rather dark.	1
6	Can not WiFi.	1
7	The hotel is old looking ordinary.	2
8	Guaranteed Price is too high.	5
9	Slow response to food refill and meeting needs.	3
	Total	**22**

5. *Calculation of Sales Call Recommendations*

In the problem that will be calculated the calculation of sales call recommendations the required data is sales report recap data from January 2018 to November 2018. From these data it is known that the number of months is 23 months, which means it will use the oddest least squares data method.

Table 4 *Recommendations Calculation*

MONTHS	PAX (y)	Time (x)	x.y	x^2
January 2017	132	-11	-1452	121
February 2017	506	-10	-5060	100
March 2017	509	-9	-4581	81
April 2017	959	-8	-7672	64
May 2017	793	-7	-5551	49
June 2017	499	-6	-2994	36
July 2017	743	-5	-3715	25
August 2017	608	-4	-2432	16
September 2017	419	-3	-1257	9
October 2017	736	-2	-1472	4
November 2017	666	-1	-666	1
December 2017	365	0	0	0
January 2018	457	1	457	1
February 2018	531	2	1062	4
March 2018	423	3	1269	9
April 2018	241	4	964	16
May 2018	781	5	3905	25
June 2018	235	6	1410	36
July 2018	641	7	4487	49
August 2018	521	8	4168	64
September 2018	457	9	4113	81
October 2018	951	10	9510	100
November 2018	877	11	9647	121
Total ($\sum$)	**13050**	**0**	**4140**	**1012**

Based on table 4, to obtain the values a and b is to use the formula 2. Value a is a constant value or trend value in the base period. While the value of b is the slope of the trend line or trend change for each period. First we calculate the value of a, as mentioned before the value of a serves as a constant value or crossing the value of y. By using formula 2, the equation is obtained as follows.

$$a = \frac{13050}{23}$$

$$a = 567,39$$

After the value of a obtained next is the value of b, the value of b is the value of the slope of the trend line.

$$b = \frac{4140}{1012}$$

$$b = 4,09$$

From the calculation of the two values above, the value of a = 567.39 and the value of b = 4.09 are the values that will be used in the trend moment method formula. If the value of a gets a positive result, the base period has a strong value against the value of b or the slope of the trend line. If negative, the base period has a weak value against the value of b or the slope of the trend line. Whereas if the value of b gets a positive result, the slope value of the trend or the value of x for each period increases, whereas if the result is negative then each period has decreased. Next enter the values of a and b which have been calculated into the trend moment method formula, using formula 1.

$$Y = 567,39 + 4,09(12)$$
$$Y = 567,39 + 49,08$$
$$Y = 616,47$$

By using the trend moment method formula, the results are 616.47. This figure is a forecasting number used to forecast the amount of PAX in December 2018. The results are based on sales call data from January 2017 to November 2018. However, for forecasting with more measurable results the figure will be adjusted to the percentage calculation of the agencies that contributed the most. By connecting the numbers of trent moment calculation results and data from the most contributing agencies, it is expected that the forecasting results can help the hotel optimally and measurably in conducting sales calls.

The following are the agencies that contributed the most to the hotel until November 2018. The data came from the results of the sales report data.

Table 5 *Top Agency*

No	Nama Perusahaan	Jumlah
1	Dirgantara Indonesia	5204
2	Gereja Yesus Kristus OSZA	177
3	Bank BJB Syariah Bdg	144
4	BIRD Privileges Card	132
5	KEMENPORA Bag. Keuangan	98

Based on the forecast calculation using the trend moment method the forecast number is 616.47. The

forecast value will be used for reference in conducting sales calls in December 2018 by visiting the priority of agencies in accordance with the order of agencies in table 3.6. For the estimated revenue target, it will be calculated using the sales call price, the sales call price according to hotel policy is IDR 250,000. The price is multiplied by the value of the trend moment method, the target to be achieved in the following month is around Rp154,117,500.

6. Relationship Positioning

Building mutually beneficial relationships is very important to maintain long-term relationships between guests and the company. After determining the promotion that will be issued a facility is needed which can convey that maintaining relations with the agency can continue to be maintained so that the agency comes back to stay overnight or organizes events at the hotel. In complaints raised by agencies there are several criteria, there are complaints about facilities and complaints about service. There are several complaints that are followed up in this case as a lesson or measure to improve service in the future, there are also complaints that are not followed up or entered into a list that will be discussed by other departments namely complaints about facilities.

Tabel 6 Complaint

No.	Complaint	Total
1	A little disturbed by other activities such as worship, apartment residents, etc.	1
2	Room not on request.	2
3	Miss communication with officers so the breakfast box is not prepared properly.	3
4	Improve food quality and variety.	4
5	The room is rather dark.	1
6	Can not WiFi.	1
7	The hotel is old looking ordinary.	2
8	Guaranteed Price is too high.	5
9	Slow response to food refill and meeting needs.	3
	Total	**22**

With the complaint, a calculation will be made for complaints about existing services. The following mathematical formula is used.
Percetage of Complaint

$$\frac{Number\ of\ service\ complaint}{Total\ Complaints}\ x\ 100\%$$

From the formula, the equation is obtained as follows.
Percetage of Complaint
$$= \frac{12}{22}\ x\ 100\%$$
Percetage of Complaint

54,54%

In addition to service complaints we also need to calculate the percentage of complaints facilities. The following mathematical formula is used.
Percentage of Complaints =
$$\frac{Number\ of\ Complaints\ Facility}{Total\ Complaints}\ x\ 100\%$$
Percentage of Complaints $= \frac{10}{22}\ x\ 100\%$
Percentage of Complaints $= 45,45\%\%$

From these complaints the solution given will be 2 types, namely solutions for not short and solutions for the long term, short-term solutions will be provided by the Director of Sales and Marketing and will begin to run at the next agency that will hold the event while the long-term solution will be provided . Manager at a coordination meeting that is held once a month and starts in the following month.

Table 7 Solution to Complaint Service

Total Complaints	Complaint	Short Term Solution	Long Term Solution
4	Improve food quality and variety	Ask FBM (Food & Beverage Manager) to monitor food quality by using the checklist form and provide chef with several selected menus.	Make a list of food recommendations by chef.

Table 8 Solutions to Complaint Facility

Total Complains	Complains	Solutions
5	Guaranteed Price is too high	Adjust to the normal price stated on the flyer that has been distributed. If the number of guest PAX exceeds 300 PAX and the agency has already held an event at the hotel. If the agency is new, then the guaranteed price will be 350 PAX.

2.9 Entity Relationship Diagram

The database aims to analyze the data that will be applied in the system and explain the data needed so that the system can run properly according to its use needs. Database modeling on systems that are built using entity relationship diagrams (ERD). [8]
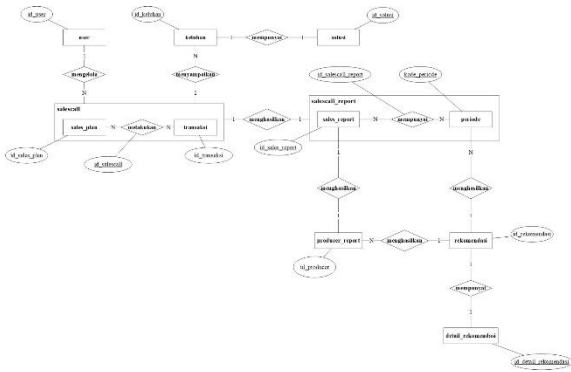
Figure 4 ERD

2.10 Diagram Konteks

Context diagram is the highest level diagram of the DFD that describes the relationships in the system with its use. There are five users who play a role in this system, namely, corporate, front office manager, asst. sales manager, accounting manager, executive secretaies and executive asst. the manager. [9]
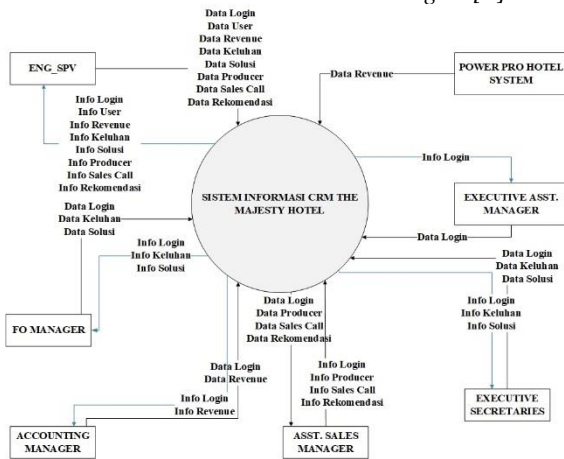

Figure 5 Diagram Konteks

2.11 Relation Table

The process of relations between files is a combination of files that have the same primary key, so that the files become a single unit connected by the key field. In this process the data elements are grouped into one database file along with the entity and its relationship. The following scheme of relations is used.
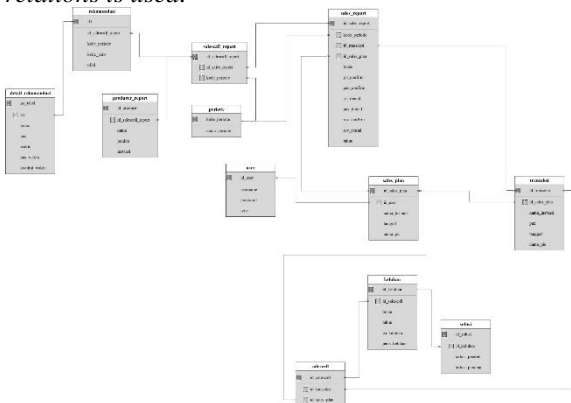

Figure 6 Relation Table

2.12 Blackbox Testing

Based on the test plan prepared, testing is carried out in accordance with the test class described above. [10]

Tabel 9 Testing Planning

Test Class	Testing Details	Type of Testing
Rekomendasi	Recommendations Calculating	Black Box

2.13 Beta Testing

Based on these tests, beta testing is obtained as follows.

Table 10 Beta Testing

No.	Questions	Answer
1.	Does the system built help in carrying out promotional activities?	Mrs. Niana said the system was built to help the Dept. Head in seeing the results of the recapitulation from previous transaction data. And also in determining subsequent recommendations it has been made easier based on existing data.
2.	What do you think about this system?	Mrs. Niana said that the system, which was built in too many menus, was a little confusing when it would change pages. But the system built can help the main problem in determining the sales call that affects future revenue.
3.	Give your advice on the system that was built so that it will be evaluated in the future!	Mrs. Niana said the display of the system was made easier and more informative to users. Reducing some menus that are considered less important and more showing what is ordered according to the existing company hierarchy.

3. COVER

Conclusions contain the results obtained after conducting analysis and system design research and implementation of the software built and suggestions provide important notes for further software development.

3.1 Conclusions

Based on research conducted at The Majesty Hotel with the implementation of customer relationship management. Conclusions can be drawn as follows.

On priority complaints help Executive Asst. manager in providing measurable solutions in accordance with the most posted complaints. The calculation of sales call recommendations helps the Sales and Marketing Director in making revenue targets in the following months. However, the system built has not been fully integrated with the existing system.

3.2 Suggestion

Based on the results achieved in building customer relationship management at The Majesty Hotel, there are a number of things that are expected to be developed in the future, among others.

Coordinate with the IT Manager and Outsourcing Power Pro to integrate other systems into unity. So that the hotel does not need to hold a lot of existing systems.

Solutions provided by Executive Asst. Managers can add things that have been done by Food and Beverage. So that the solution has been given by Executive Asst. The manager can be monitored as to where the work is done.

Some menus are removed that do not match the hierarchy or command of the Board of Directors, so they can reduce menus that are not needed.

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