

# The Effect of e-CRM towards Service Quality and Net Benefits Using Structure Equation Modeling

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**Abstract**—E-CRM is currently one of the major keys of a company in achieving the target of selling their products. Most companies today, used e-CRM without any consideration the effect of using e-CRM, such as information that is not right in use and is limited to general information delivery. E-CRM must be observed and monitored continuously to determine the extent of services provided to the company to users and buyers of their products. It is then, e-CRM can affect a quality of service and the net benefits obtained company is doing well or not. E-CRM in many forms in conveying information about products produced by a company, usually in the marketing of these products. The relationship between the user and the company must be closely and maintained mutual trust. The better the monitoring and delivery of their e-CRM, was influential excellent in quality of service and the net benefits obtained companies become more than without the use of e-CRM. One of the companies that implement e-CRM is PT. Garuda Indonesia. PT. Garuda Indonesia promote e-CRM in providing good quality services so as to obtain net benefits of the implementation of e-CRM.

**Keywords**—e-CRM; service quality; net benefits; structure equation modelling

## I. INTRODUCTION

CRM or an extension of Customer Relationship Management is a combination of humans, processes and technologies that are urgently needed to understand the needs of our customers, as well as an integrated approach to relationship relationships with customer retention and relationship development [1]. Current CRM can be the key to a company's understanding of the needs of its customers. CRM is currently widely supported by the development of information technology. Not just the needs of its customers alone, will they be able to predict their behavior, plan the right communication

tool, better target segment profitable, personalized marketing plan for each segment, new marketing opportunity, customer service enhancement and satisfaction, retain customers Frequently Experience retention, recover lost customers, and eventually turn it into a loyal customer [2]. In addition, today many companies are implementing CRM electronically or commonly called e-CRM.

The concept of e-CRM itself emerges as a concept of customer relationship management of the needs by the company (manufacturing and services) for continuous improvement in the quality, profitability and growth of seeds in a clear competition in the business environment through the development of customer relationships [3]. At openings, e-CRM is an e-business application and a wide range of information technologies used to support a company's CRM strategy. This in turn will make e-CRM impact on customer satisfaction, online sales, patronage sites, loyalty and retention are widely supported [3]. Most companies today make e-CRM just make it, regardless of the effect of using e-CRM. Similarly, the quality of information conveyed to users or consumers via e-CRM is sometimes not well targeted and is limited to general information delivery rather than detailed and required by its customers. So the net benefits obtained by the company is not maximal, just because the delivery of information on their e-CRM is not so serious. So long with PT. Garuda Indonesia, a company that runs its business from the aviation sector. Garuda Indonesia is the only airline in Indonesia that carries Flag Carrier to promote Indonesia in the eyes of the world. With respect to that, of course, as the best aviation company in Indonesia should be able to provide the best service to its customers so that the image of Indonesia in the eyes of domestic and international awake and well promoted. Not only that, the inclusion of flag carrier also stacked to the world to support the national economic development by providing excellent service and professional.

In order to realize a comprehensive reform, it will require a change to the paradigm of thinking of all components of Garuda, and the change in the following matters:

1. Garuda Indonesia is a very clear business trip to be profit oriented.
2. Garuda will concentrate and prioritize services in the form of Business Service. With this paradigm Garuda

should have been restrained on security, safety, and comfort in flight.

3. Garuda is also oriented towards commercial airlines that will promote business ethics.
4. The paradigm established in this period is to prioritize domestic flights for the interests and relations of all regions in Indonesia.
5. Garuda Indonesia is located in different areas, with a view to avoiding competition in the continent down. In hopes of being able to use over by Citilink.
6. Prioritize the teamwork process among Garuda people.

From the source [3], this study aims to interconnect between the effect of e-CRM on the quality of services provided and the net benefits obtained by the company. In addition, here are other research objectives:

1. Investigate the relationship between service quality and net benefits gained.
2. Know how service quality can be affected by e-CRM.
3. Know how net benefits can be affected by e-CRM.

From the research objectives, then got the problem formulation in this research. As the problem formulation that can be drawn from this research is measuring the relationship between e-CRM relationship with service quality, and e-CRM influence on net benefit gained. The net benefit from increased customer satisfaction with customers. Managing customer relationships effectively improves customer satisfaction and retention rates. This shows the existence of existing customers cheaper to try the interesting. In addition, customers will also enjoy the warmth of close contact and relationships. This makes the customer feel part of the company. Satisfied customers remain loyal for a long time, which makes repeating, and repurchases previous processes on an ongoing basis and usually becomes a good corporate supporter in support of the company.

## II. LITERATURE REVIEW

### A. CRM (Customer Relationship Management)

According to [4], CRM has now become one of the hottest and central issues in the business field. In fact, due to the competitive environment among the hotel sector, it is essential that the hotel should adopt new strategies such as CRM technology to help hotel managers, customer service and to improve organizational performance. Although previous research indicates that the relationship between CRM technology and hotel performance is ambiguous, inconsistent findings may be the emergence of an understanding of the lack of instruments linking CRM technology and the performance of hotels.

First and foremost, in order to build customer-oriented behavior, the organization must develop an appropriate work environment for service in the work. For example, providing staff with modern tools, and technology, tracking customer satisfaction and complaint management systems, inspirational leadership, and appropriate reward systems can make all of these behaviors [5].

CRM as defined by [6] as an implementation of an integral sequence of technologies and strategies developed deliberately for shareholder value creation through maintaining strong long-term relationships among customers (both current and potential customers). From the perspective of [7] CRM was defined as "the strategy and process of acquiring, maintaining, and partnering with selective customers to create superior value for a comprehensive enterprise and customer. This involves integration of marketing, sales, customer service, and organizational supply chain functions to achieve Greater efficiency and effectiveness in delivering customer value ". In the same vein, [8] describes CRM based on three different perspectives; Business philosophy, business strategy and technology towards effective and successful adoption and implementation. Therefore, CRM is considered to be a maker of people's use, processes and technology to retain existing customers, attract new customers and create value to customers as well as existing ones, new customers, and other potential customers.

### B. PT. Garuda Indonesia's e-CRM

Can be said for now, CRM PT. Garuda Indonesia is better and will be better again, because PT. Garuda Indonesia applies the concept of *Customers Are Everything*, where the following list becomes a matter of serious concern for PT. Garuda Indonesia, including:

- a. Meet all commitments that have been made public to the customer.
- b. Providing optimal service with no distinction between ethnicity, religion, race, color and social status.
- c. Provides ease of booking access and corporate airline service transactions.
- d. Provide convenience and convenience for customers in the flight readiness reporting service.
- e. Fulfill customer flight schedules accuracy.
- f. Protects the safety, security and comfort of passengers while on board.
- g. Ensure passengers and their luggage are safe.
- h. Ensure the accuracy and completeness of customer freight services.
- i. Keep customer information confidential.
- j. Provide customers with relevant and accurate information regarding the Company's services.
- k. Handle customer complaints by providing the best solution.
  - l. Thanking customers for suggestions and criticism.
  - m. Fostering good relationships with customers.

Not only that, they are not allowed to do things as follows:

- a. Make the most of important information about customers for personal gain.
- b. Create customers without clear and accurate information.
- c. Not responding to constraints facing customers.
- d. Not reporting receipt of gratification either directly or indirectly from customer.
- e. Receive gratuities from customers beyond the limits set by the company.

Of the umpteenth of many other concepts and regulations, then PT. Garuda Indonesia implements e-CRM to be closer to its customers wherever they are and whenever. The e-CRM products of PT. Garuda Indonesia is the Garuda Indonesia Website and GFF Membership Card (Garuda Frequent Flyer).

### C. Service Quality

The service has gained a great place in the national and international exchanges around the world. Service is the main offer of the hospitality and tourism industry and this industry is responsible for major improvements in the export of services. Different studies have explored the quality of services in different backgrounds and their impact on other variables [9, 10]. Whereas according to [11], the quality of service is defined because the customer's assessment of the product's overall superiority or experience when [10] is defined as consisting of service characteristics reflected in the ability to meet stated and implied needs.

Quality of service is primarily a reflection of (customer's user satisfaction), which is related to customer expectations and perceptions. Service quality is decided by the comparison between customer expectations about the service to be delivered and their perception of the service actually provided by a company [12]. Quality of service is one important factor in maintaining customer loyalty. Good quality should be maintained and improved so that customers will always feel satisfied with the services provided. Where satisfaction is the key of loyal customers. Complaints are also one of the factors that form loyalty because loyal customers will notify the complaints. Should the complaint can be an input for better service.

### D. E-CRM towards Service Quality and Impact Level Model

To extent in which information systems contribute to the success of individuals, groups, organizations, industries, and countries, this study used impact model as the function of net benefits. The DeLone & McLean renewable model (2003) was interesting model but it missed on how the net benefit giving the contribution to individuals, groups, organizations. This model is also not state clearly the impact to the individual or organization. This model was adapted from their model by considering trust in use, perceived usefulness, individual impact and organization impact. In this study this model was used in electronic CRM. The model can be presented as the following:

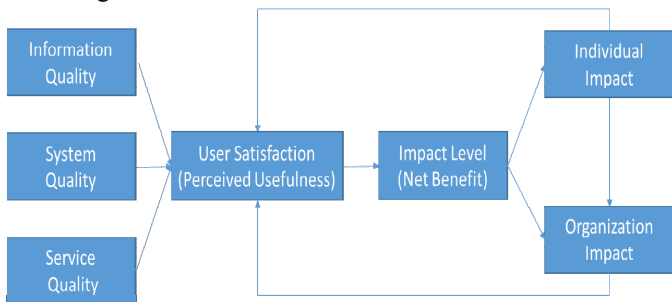


Fig. 1. Service Quality and Impact Level Model

### E. Structure Equation Modelling (SEM) Method

According to [13], Quantitative communication researchers increasingly use structural equation modeling (SEM), which consists of a family of techniques, such as path analysis and confirmatory factor analysis (CFA), that estimate causal relations between variables of substantive interest, given variances, covariance, or means from observed variables. Meanwhile [14], quantitative communication researchers increasingly use structural equation modeling (SEM), which consists of a family of techniques, such as path analysis and confirmatory factor analysis (CFA), that estimate causal relations between variables of substantive interest, given variances, covariance, or means from observed variables.

Structural equation model (SEM) is used to examine multiple and interrelated dependence relationships and able to take into account the measurement error of the independent variables [15]. According to [13], [14], and [15], so SEM are very related to find the solutions for reach the aims of this research.

## III. E-CRM EFFECT RESEARCH MODEL

### A. Determining Research Variables

User satisfaction is assessed using a multi-item scale that has been adapted from [16]. The service quality attributes assessed in the SERVQUAL model are tangibility, reliability, responsiveness, assurance and empathy [17]. So that this attribute forms hypothesis 2. For hypothesis 0 hypothesis 1, its measuring attribute uses model from [18], i.e. e-service quality, web-based CRM, internet enabled CRM, and mobile CRM. A five-point Likert scale, from 1- strongly disagree to 5- strongly agree to be used to measure customer agreement or disagree with each item.

### B. Determining the Sampling

A convenient sampling technique was employed to distribute 300 survey questionnaires to customers using PT e-CRM services. Garuda Indonesia. Of the total, 300 usable questionnaires were returned to the researcher, yielding a 100 percent response rate. A survey questionnaire was answered by the participants with their consent and on a voluntary basis.

### C. Data Analysis

As recommended by [19], SmartPLS 2.3 should be used to analyze questionnaire survey data as it may provide latent variable scores, avoid the small sample size problem, hassle stringent assumptions about the distribution of variables and error terms, estimate any complex model with many latent variables and Manifest and handle both reflective and formative measurement models. In addition to SmartPLS 2.3, can be analyzed through SEM (Structural Equation Modeling), if the whole dimension has a value above the minimum value of Cronbach's Alpha 0.700. The data for this study were analyzed using the following steps: first, construct and validity of items determined using convergent and discriminant validity analysis. Second, build reliability is assessed by Cronbach

Alpha minimum of 0.7 [20] and composite reliability analysis. Third, the structural model is assessed by examining the path coefficients using standard beta ( $\beta$ ) and t statistics ( $t > 1.96$ ).

#### D. E-CRM on Service Quality and Net Benefits

In accordance with this research, we get a research model between the influence of e-CRM on Service Quality and Net Benefits as in Figure 2.

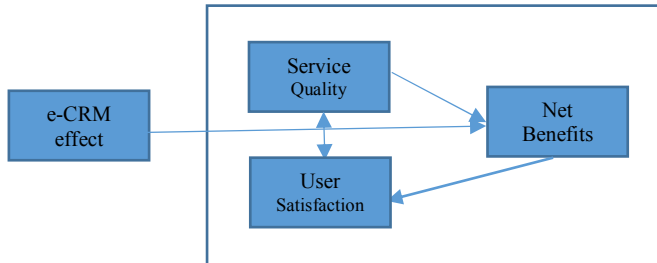


Fig. 2. The influence of e-CRM

The research hypothesis obtained this time, seen from Figure 2 is as follows:

- H<sub>0</sub>: e-CRM has a positive effect on service quality,
- H<sub>1</sub>: e-CRM has a positive effect on net benefits.
- H<sub>2</sub>: The quality of service and user satisfaction affect each other

### IV. RESULTS AND DISCUSSION

#### A. Respondents Demographic

From the data collection of questionnaires that have been spread, it can be taken demographic data of respondents that can be seen in Table I.

TABLE I. RESPONDENTS DEMOGRAPHIC

| Characteristic of Respondent | Sub-characteristic | Percentage |
|------------------------------|--------------------|------------|
| Gender                       | Men                | 65%        |
|                              | Women              | 35%        |
| Age                          | > 20 Years old     | 20%        |
|                              | 21 – 30 Years old  | 40%        |
|                              | 31 – 40 Years old  | 27%        |
|                              | < 41 Years old     | 13%        |
| Occupations                  | PNS                | 44%        |
|                              | TNI/POLRI          | 7%         |
|                              | BUMN               | 1%         |
|                              | Private            | 43%        |
|                              | Entrepreneurship   | 3%         |
|                              | Not working        | 2%         |

From the description of Table I, it is known that the most respondents of the sex Men (65%) and Women (35%). In addition, the age of the respondents was varied, from the oldest or above 40 years amounted to 13% and the most are at the age range 21 - 30 years, which amounted to 40%. In terms of employment, the most are customers from civil servants (44%), followed by Private (43%), and others that can be seen in Table I.

#### B. The Questionnaires Validity and Reliabilities

To recognize a questionnaire has value and accuracy, it is necessary to test the validity and reliability of a questionnaire as presented in Table II. The questionnaire is valid if it has a value above the minimum threshold of Cronbach's Alpha, which is 0.7.

TABLE II. THE QUESTIONNAIRES VALIDITY AND RELIABILITIES

| Dimensions               | Number of Statements | Validity | Cronbach's Alpha | Validity Percent |
|--------------------------|----------------------|----------|------------------|------------------|
| Tangibility              | 4                    | 4        | 0.922            | 100%             |
| Reliability              | 5                    | 5        | 0.911            | 100%             |
| Responsiveness           | 5                    | 5        | 0.897            | 100%             |
| Assurance                | 4                    | 4        | 0.888            | 100%             |
| Emphatic                 | 4                    | 4        | 0.921            | 100%             |
| <b>Service Quality</b>   | 22                   | 22       | 0.943            | 100%             |
| e-Service Quality        | 5                    | 5        | 0.924            | 100%             |
| Web-based CRM            | 4                    | 4        | 0.933            | 100%             |
| Internet enabled CRM     | 4                    | 4        | 0.854            | 100%             |
| Mobile CRM               | 5                    | 5        | 0.767            | 100%             |
| Effect of e-CRM          | 18                   | 18       | 0.878            | 100%             |
| <b>User Satisfaction</b> | 5                    | 5        | 0.966            | 100%             |
| <b>Net Benefits</b>      | 8                    | 8        | 0.943            | 100%             |

Viewed from Table II, it can be concluded that the service quality dimension consisting of several constructs in it, namely tangibility, reliability, responsiveness, assurances, and empathy have Cronbach's Alpha value above 0.700 is 0.943. And for the dimension of e-CRM influence in which there is construct e-Service Quality, web-based CRM, internet enabled CRM, and mobile CRM have Cronbach's Alpha value above 0.700 that is 0.878. Also for user satisfaction dimension has Cronbach's Alpha value 0.966 and net benefit dimension has Cronbach's Alpha value above 0.700, that is 0.943. This indicates that all constructs in each dimension are considered valid and reliable. Next is to look for the existing hypothesis-breaking relationship using.

#### C. Structure Equation Modeling

Based on the previous Table II, it is time to find the relationship between the hypothesis that was previously built if this model is met the hypothesis. Table III provides more details of the SEM result.

TABLE III. RESULTS OF CUSTOMER SATISFACTION MEASURE WITH SEM

| Dimensions     | Dependent Variable | Non-Standard Estimates | Standard Estimates | S.E   | Label    |
|----------------|--------------------|------------------------|--------------------|-------|----------|
| Emphatic       | Satisfaction       | 0.922                  | 0.943              | 0.079 | Accepted |
| Responsiveness | Satisfaction       | 0.828                  | 0.874              | 0.073 | Accepted |
| Assurance      | Satisfaction       | 0.804                  | 0.921              | 0.077 | Accepted |
| Reliability    | Satisfaction       | 1.000                  | 0.966              |       | Accepted |
| Tangibility    | Satisfaction       | 0.766                  | 0.875              | 0.078 | Accepted |

From Table III can be represented into graphic form, as presented in Figure 3.

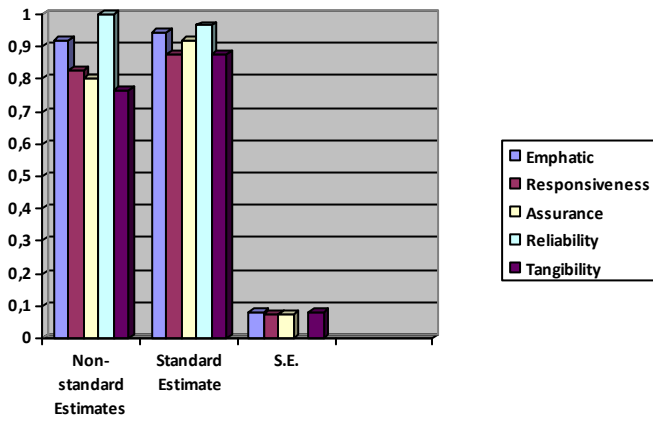


Fig. 3. Customer satisfaction measure graphic

Table III described the coefficient value of each dimension on customer satisfaction. First, it appears that the dimensions of service quality included in this scale represent 90% of the total variance. Which means that customer satisfaction depends on the service quality dimension in this survey as 90%. Furthermore, each dimension has a different level of impact on customer satisfaction. For example, Empathy has a coefficient of 0.943 on a multiple regression line that indicates customer dependency satisfaction. Responsiveness has a coefficient of 0.874, Assurance has 0.921, reliability has 0.966, and Tangibles dimension has 0.875 value of coefficient impact on customer satisfaction. Based on the results in Table 3, it can be seen that the hypothesis  $H_2$  is acceptable. To know hypothesis  $H_0$  and  $H_1$ , it can be seen in Table IV.

TABLE IV. RESULTS OF E-CRM EFFECT MEASURE WITH SEM

| Dimensions           | Dependent Variable | Non-Standard Estimates | Standard Estimates | S.E.  | Label    |
|----------------------|--------------------|------------------------|--------------------|-------|----------|
| e-Service Quality    | Quality Service    | 1.000                  | 0.977              |       | Accepted |
| Web-based CRM        | Quality Service    | 0.934                  | 0.954              | 0.073 | Accepted |
| Internet enabled CRM | Quality Service    | 0.879                  | 0.922              | 0.077 | Accepted |
| Mobile CRM           | Quality Service    | 0.855                  | 0.921              | 0.088 | Accepted |
| e-Service Quality    | Net Benefits       | 0.922                  | 0.943              | 0.079 | Accepted |
| Web-based CRM        | Net Benefits       | 1.000                  | 0.983              |       | Accepted |
| Internet enabled CRM | Net Benefits       | 0.804                  | 0.921              | 0.077 | Accepted |
| Mobile CRM           | Net Benefits       | 0.832                  | 0.855              | 0.072 | Accepted |

Based on the results in Table IV, it can be seen that the hypotheses  $H_0$  and  $H_1$  are acceptable. From Table 4 can be represented back into graphic form, as seen in Figure 4 and Figure 5.

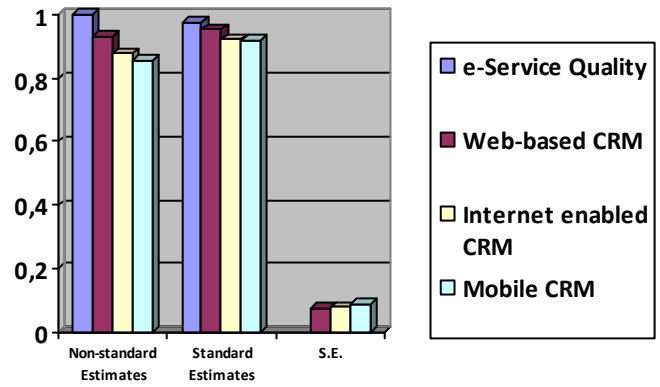


Fig. 4. E-CRM effect towards quality service results

Figure 4 presented that e-Service Quality was very effected to e-CRM, than next is from web-based CRM, internet enabled CRM, and the last one is mobile CRM. That's different ones with the results from figure 5, that web-based CRM was very effected to the e-CRM net benefits. Cause more users tried to access the information via website from the company. Anywhere, anyplace, and anytime, the information from, it's easily to access via website. To find out the result of the relationship between e-CRM effects and the net benefits gained can be seen in Figure 5.

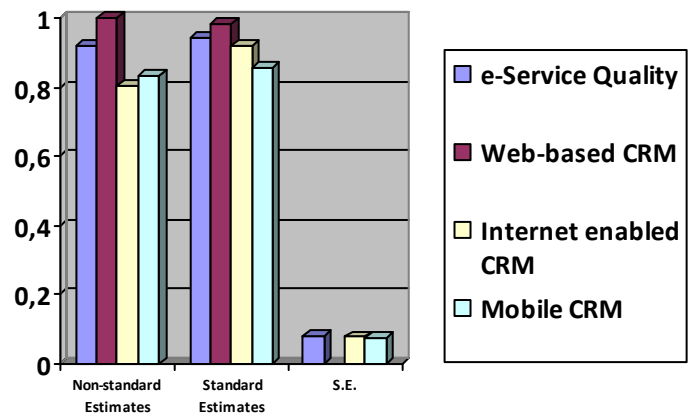


Fig. 5. E-CRM effect towards net benefits.

## V. CONCLUSIONS

E-commerce and e-business have helped Garuda Indonesia business process. The Garuda Indonesia website helps Garuda Indonesia to give a boost to the importance of customer information and services. From the results obtained by using the SEM method, resulting in that customer satisfaction from Garuda Indonesia depends greatly from the quality of service provided and the friendliness of its staff. This can be seen from the high interest of the customers in using their e-CRM Garuda Indonesia, either through the website, mobile, or other internet devices connected to the official website of Garuda Indonesia. From the quality of service that Garuda Indonesia provide to its customers is what then Garuda Indonesia get a

lot of net benefits, and positively influential for the development of the red plate of this airline Indonesia.

From the results of research that has been done, then the results will be filed back to the company concerned in order to take follow-up action plan in the future and this research can be developed or used in other research sciences and the like. However, Garuda Indonesia should continue to develop its efforts to fulfill the needs of aviation services for the community. With the continuous upgrading of existing e-CRM, the services provided will be better and the benefits gained for Garuda Indonesia will be more than what is expected.

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