The Effectiveness Of The Intelligence E-CRM Application In Enhancing Positive Customer Relationships

Bashar Ahmed, M.L. Ben Maâti, Badreddine Al Mohajir

Abstract—E-CRM (electronic customer relationship management) is a derivation from CRM techniques which influenced direct marketing technology and call Centre to promote massively created products and services to small sub-segments of market. When CRM techniques are incorporated in e-commerce environment it becomes E-CRM which involves building a strong and sustainable customer relationship by using Internet. It is a strategy which is purely based on Internet and software development, it requires to create essential integrated software suite to deal with all kinds of customer related issues like customer services, sales and marketing field support. The essential parts of E-CRM are to focus on building new customer base, segmentation of high valued customers, enhancing the profitability of existing customer and maximize the value and life of profitable customers.

Keywords: E-CRM, Intelligence, quantitative and qualitative methodologies, technology

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1   INTRODUCTION

In the recent years, customer relationship management or better known as CRM has gained new momentum. Electronic services have found application in the customer relationship management under the new internet dispensation. Studies, therefore, have come up trying to investigate internet application in the whole body of CRM. Electronic Customer Relationship management which is shortened to E-CRM is new and integrates IT to an internal organization as well as external marketing strategies in the bid of fulfilling the customer requirements. CRM as an essential business strategy aims at maintaining and acquiring a new customer over the long term (De, 2012). There are various channels in which customers can interact within the framework of CRM.E-CRM, therefore, entail all the CRM that use the net settings, for instance, intranet, internet, and extranet. E-CRM focuses on the IT platform for maintaining and acquiring new customers. Application of E-CRM does not mean other CRM approaches can never be used. Companies will have to formulate and implement E-CRM in order to have a competitive edge. The E-CRM strategy is beneficial to companies since it allow them to focus and retain the profitable customers. In addition, application of E-CRM allows the company to understand the customer behaviour thus allowing effective marketing. The remarkable growth of ERP (Enterprise Resource Planning) in 1990 brought a legacy in the world business. The legacy system was used for the backend operation so that various systems across the firm use information access in firm.

II. PROBLEM

The current issue facing the application of E-commerce in the online shopping industry is determining whether prospective customers are responsive to the e-commerce application (Woodcock, Stone, & Foss, 2003). Subsequently, it has been

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noted that customers become frustrated while attempting to use the E-CRM application. In such a case, the application becomes redundant and thus incapable of meeting the desired objectives. In the effort of using the application in meeting the desired needs, it would be important to measure and ascertain whether the e-commerce application fosters ergonomic relationships (Becker, 2008). Testing the E-CRM application is prone to subjectivity and biases, hence, the measuring methods must avoid such instances. Most of the biases stem from existing customer especially in data collection or the methods of gathering this information. The problem for the research is to determine whether prospective customers are capable of responding to e-commerce application.

III. METHODOLOGY

The approach used for the research will involve exploitation of qualitative and quantitative methodologies. In the case of a qualitative approach, assessment of the findings based on secondary research will be done. Assessing these findings will help in proving the effectiveness of E-CRM in enhancing positive customer relationships. Analysis of the previously published articles provides a theoretical framework that forms the inspiration of the research. Qualitative approach makes use of journals and books as the source of factual justification. The research will also employ the scientific research design which makes use of the scientific methodologies. Scientific research designs are central to inquiry thus proving to be the source of quantitative data. In addition, testing using the scientific methodologies will be critical in explaining the social behavioural systems (Becker, 2008). Qualitative research reviews will help in assessing the research findings of both primary and secondary sources. Qualitative research thus proves the intelligence of E-CRM applications and the approaches in online shopping industry. Qualitative approach will examine the effectiveness of E-CRM application in enhancing positive customer relationship

QUALITATIVE APPROACH

The study will be objective to the reactions of the customer after using E-CRM application. Under this realization, the qualitative approach thus allows the possibility of developing flexibility (Dyché, 2002). Using the integrated approach such as scientific methodologies to complement the qualitative

approach ensures that the research bridges between the quantitative and qualitative designs. The qualitative design thus will help in developing a research question. The qualitative approach will enable the researcher to develop and test the hypothesis. The hypothesis in this case is intelligence E-CRM applications had positive impacts on customer relationship.

QUANTITATIVE APPROACH

The mathematical formulas developed compared the different influences of E-CRM to the customers that would like to purchase the online tickets. The mathematical formulas will influence the construction of ideas by the researcher (Huddleston, 2011). Planning a processing click stream data will create the possibility of building a model that will predict the probability of the current user purchasing an item online. In dividing the click stream data sessions, it is important to specify the criterion that will be used for the optimization process. This will be done through the identification of similar groups of consecutive pages identified in a continuous stream. The clicks are portioned under several sessions in order to maximize both intra-sessions similarities and intersession differences (Franklin, 2012). A basic approach that would be used in specifying the differences and similarities will involve identification of the variance used for browsing. A basic parameter in such a case will entail assessing the amount of time that is spent in viewing a page. In cases of random sessions, the assumption of the number of time per page will be 'μi', where i will represent the session number

$$\text{Minimize} \quad \frac{\sum_{i-1}^{n}\sigma i}{n} \quad \text{and}$$
$$\text{Maximize} \sum_{i-1}^{n}(\mu - avg(\mu i)2/n)$$

MATHEMATICAL EQUATIONS

The research will make use of the proportionate percentage to survey the question. Under this realization, similar bibliographies will be aligned to assess sequence justifications. Proportionate percentage will allow analysis of theoretical assumptions outlined in different journals. Proportionate percentage thus will enable analysis of large volumes of literature (Simon & Shaffer, 2001). The researcher fragmented the resources for review into two main sections. Primary sources and secondary sources were fragmented at the proportionate percentage of 70% and 30% respectively. Furthermore, the sources were defragmented into two central groups comparing justification of E-CRM as advantageous in comparison to the manual systems. The following equation was then applied in the study:

n= (b\m) 2 s(1-s)
n =solution
b = bibliographical justification level
s =sample
m = modulus

The z score was 1.645 in the case of 90% bibliographical justification level while 1.96 for 95% justification level. Finally, the z score was 2.575 for the 99% bibliographical justification level. In the formula m represented (.07 = + or − 7%, .05 = + or − 5%, and .03 = + or − 3%). Understandably, s represented the value of journals that were in support of E-CRM influences on aspects of positive customer relationship.

III. RESULTS

Finite Population Correction (FPC) was used to calculate the initial sampling with the variance being at least 5%. The number of units in the population, N is unknown, thus finite population correction factor is not applicable. Sampling proportion is below 5%, hence the finite population correction factor equals to one hence minimal influence on standard error. FPC was then expressed as follows:

n=n/1+n÷p
Where,
n represented the number of inherited sample size
p represented the population size
n is then calculated as follows:
n=21/1+21÷450=21/1.047=20.06

From the formula, 21 different sources out of 450 were used. The figure 1.047 was derived from 21/450+1=1.047. Dividing the 21 by 1.047 gave 20.06.

IV. DATA ANALYSIS

The answer 20.06 obtained from the above calculations represented the new sample size. The number of the units is known in the case of standard error. In such cases, finite population correction factor is applied. The researcher in this case makes use of the finite population correction factor. The formula enables calculation of true standard error (Hadaya and Cassivi, 2009). The approximate standard error is calculated without the use of finite population correction factor. Using the approach, the value p is the gives the unknown standard error. FPC approach influences the data sample data size. From the sample size, it is clear that a high possibility of people anticipate using the online platform as compared to streaming for a ticket.

V. DISCUSSION
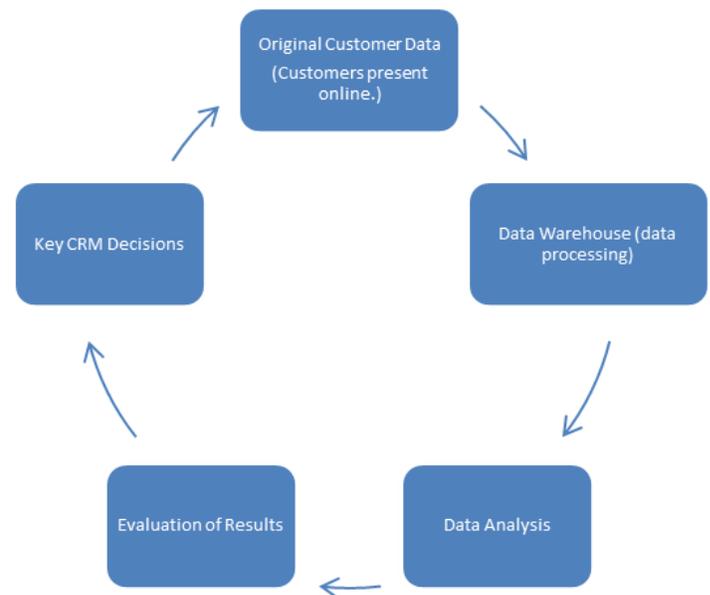
Flow chart *diagram showing data streaming process for the study*

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CRM analytics used in the study entailed online analytical processing (OLAP), Web analytics and data mining. The CRM analytics not only contribute to productive customer relations in terms of improved sales and service delivery but also helps in improving advertisements, planning and analysis. In the flow chart above, original customer data was obtained from internet activities, that is, the numbers of customers present online (Simon & Shaffer, 2001). The data was then processed in the data warehouses and then analysed. The process of data analysis entailed reporting, and evaluation of customer profiles. The data was then evaluated before key decisions were made. The research envisaged at the customer experience derived from e-CRM application.

VI. CONCLUSION

The approximated response as realized from the research was 80 per cent. From the study, it is vivid that the experience of the online customer when using the application relies on clear and concise application. Approximately, 45% of the individuals will express high levels of dissatisfaction in situations when the experience is not pleasing. One-on-one interaction with the client required the research to decrease some of the sample expectations. The research sought to use a smaller sample size to make data computation easier and relevant. Despite the earlier frustrations relating to the use of E-CRM application, the research is indicative of a prospective situation in which individuals will make use of e-commerce. Perhaps the most important derivation made from the research is the convenience when using the application to conduct online shopping. Nevertheless, the ability of using the application depends on its clarity and conciseness. This would be an important consideration to make especially for the companies when generating the application

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