An Empirical Model to Explain the Effects of Electronic Customer Relationship Management on Customer E-Satisfaction and E-Loyalty: Evidence from Iranian Service Shopping Websites

Mohammad safari[1], Mehrdad Forouzandeh[2], Noosha Safahani[3]

1. Ph.D. and Senior Lecture, Faculty of Management, University of Tehran, Tehran, Iran
2. MSc Student in EMBA Marketing, Farabi College, University of Tehran, Iran
3. MSc Student in Entrepreneurship E-Business, University of Tehran, Iran

Abstract
One of the most influential services provided in recent years, which have brought dramatic changes in the social system of different countries, are Internet and Web services. The desire to survive in a competitive environment has forced organizations to turn to solutions for gaining satisfaction and loyalty of customers and stakeholders. Extensive application of web technologies provides an opportunity for businesses to use internet as a tool for electronic customer relationship management. The objective of the present study was to analyze the effect of electronic customer relationship management (e-CRM) on customer e-satisfaction and e-loyalty of Mosalase-Rang shopping website (mosalaserang.com). Therefore, a sample of 300 users was randomly selected according to the formula of structural equation with the required volume. Data were collected using questionnaires. In addition, SPSS 18 and AMOS 20 programs were used for data analysis and hypotheses testing. The results of the study showed that e-CRM has a positive and significant effect on e-satisfaction and e-loyalty.

Keywords: Customer relationship management, e-CRM, customer e-satisfaction, customer e-loyalty, Relationship Marketing.

1. Introduction

Nowadays, Information Technology has significantly changed business processes. Internet services have increased bargaining power of customers compared to the past and thus customer relationship management (CRM) was created as an ultimate goal for keeping customers. CRM is among very important and vital aspects for organizations and it is used for supporting marketing processes, sales, and effective services. With the expansion of the Internet, available tools for communication with customers and electronic customer relationship management have become common in organizations (Hashemian and Alammeh Haeri, 2013: 1). Today's customers have higher expectations than before and services are provided to them through various communication channels such as telephone, e-mail, and web. With these capabilities, CRM is developed and evolved with e-CRM. E-CRM is the latest paradigm in the world of customer relationship management. Companies can no longer rely on past strategies and they should adapt themselves to market progress (Hua, Morosan and DeFranco, 2015: 109). Customer relationship management is a comprehensive strategy for marketing and business that integrates

technology, process, and all business activities related to customer (Fatholahzadeh et al, 2011). This strategy often focuses on customer acquisition and retention and leads to profitability. With the rapid growth of e-business and proliferation of Internet-based services, a new concept called electronic customer relationship management has emerged. This concept includes all required processes for capturing, creating and maintaining relationship with customers through e-business activities. E-CRM is mainly based on Web or Internet based transactions that take place between organizations and their customers (Bagheri, Hadadi, and Sazvari, 2012: 23). Organizations benefit from e-CRM through increased customer satisfaction and loyalty, online shopping, and website support. A successful e-CRM requires attraction and retention of economically valuable customers such that it could preserve highly precious and economically valuable customers as well. According to previous studies, e-CRM is the strengthening of traditional customer relationship management through implementing its methods in e-business markets (Fuentes, Moliner and Gil, 2014: 78).
This study was an attempt to highlight the significance of e-CRM for achieving e-loyalty and e-satisfaction of

customers. The main objective of this study was also the effect of e-CRM on customer e-satisfaction and e-loyalty of Digikala website located in Isfahan. At first, relevant literature of this study was reviewed and then, studies related to this subject were presented. Finally, a conceptual framework was designed and tested using statistical methods and the obtained results were presented.

2. Theoretical Background
2.1. Electronic customer relationship management

In recent years, modern systems and tools such as e-CRM have emerged for helping organizations gain competitive advantage and improve interactions between them and customers. In other words, it is the quality of service provided to customers that marks the leadership and excellence of a company. E-CRM is an efficient tool for providing the best service to customers and a smooth way for achieving victory in competition (Garrido-Moreno, Lockett & García-Morales, 2014: 1031).

E-CRM is an integrated marketing, sales and electronic services strategy that plays an important role in identification, acquisition, and retention of customers, which are the largest capital of a company. E-CRM is the result of a fundamental change in business beliefs and paradigms and that is the transformation of organizational approaches from massive and general relationships with different groups of customers to individual and virtual relationship with each of the customers through ICT. In other words, it is a business strategy that moves towards increasing the volume of commercial exchanges and transactions of a company. In fact, it could be said that e-CRM is the result of web and Internet technology for facilitation, implementation, and efficiency of customer relationship management systems (Hsiao, Shen and Chao, 2014: 61).

Definitions of e-CRM indicate that the concept of electronic customer relationship management has direct relationship with customer desired values (Tajzadeh and Emardi, 2011: 91). "Electronic customer relationship management" includes a set of activities that improve the value chain of an organization. These activities include the following factors: Savings in the commodity production costs, improving their quality, speed, sensitivity, and flexibility of work process, enhancing staff skills, sustainability and durability of products that each organization takes advantage of for gaining e-satisfaction and e-loyalty of its customers and thus for gaining superiority to its competitors (Awuah and Reinert, 2012: 36). Studies carried out in the field of e-CRM are presented in Table 1.

Table 1. The most important studies conducted in the field of e-CRM

Results of the study	Title	Researcher(s)
The establishment of e-CRM leads to increased customer satisfaction, better cooperation with customers, legal commitment to customers, increased customer's trust in the company, and enhanced customer loyalty overall.	The Effect of E-CRM on Customer Loyalty	Hashemian and Allameh Haeri (2013)
The results of this study could reveal potential scientific and practical fields for better recognition of customers and increased market shares.	Factors Affecting E-loyalty of Iranian Internet users Compared To A Travel Agency Website	Tajzadeh and Emadi (2011)
Investigating the satisfaction factors of e-CRM system could help companies better identify the determining factors for achieving customer satisfaction from e-CRM system and also could help them make more effective decisions.	Investigating Factors of Satisfaction from E-CRM	Kamalian, Amini, and Moazi (2009)
E-CRM seeks further achieving and maintaining customers. Therefore, e-CRM and its tools lead to higher income and higher profitability.	The Relationship Between E-CRM and Performance of Hotels	Hua, Morassan, and DeFranco (2015)
Analyzing the required steps for gaining success in e-CRM further pushes the organization towards a better performance. In this regard, organizational commitment and knowledge management play the role of moderators.	Fulfilling the Steps for Achieving Success in E-CRM	Gario Lackette (2014)
Organization managers could obtain further customer loyalty by implementing e-CRM system and localizing it with Iranian culture.	The Effect of E-CRM Existence on Customer Loyalty	Farhadi et al. (2012)

Based on literature review of this study and other related studies, effects of e-CRM on e-satisfaction and e-loyalty of customers are the basis for the first and second research hypotheses as follows:

H1: e-CRM affects customer e-satisfaction.

H2: e-CRM affects customer e-loyalty.

2.2. Customer e-satisfaction

Customer satisfaction is defined as the feeling or attitude of a customer towards a product or service after using it. In today's world, measuring customer satisfaction is of great importance. Customer satisfaction is a feeling and it should be converted to a quantitative indicator in order to be able to improve it. Customer satisfaction index models are solutions for this conversion process. Customer satisfaction is resulted by customer perception from a transaction or a relationship with value such that price equals ratio of quality of service divided by the price and customer costs. In the intensive market competition, there are no other solutions for manufacturers except for gaining customer satisfaction (Hashemian and Haeri, 2013: 1).

In today's business environment, customer is an active and influential member in all business activities; because if goods and services meet the expectations of a customer, he is satisfied and thus the customer plays a vital role in the growth and survival of the company by continuing his purchases and introducing goods and services to others. On the contrary, if the quality of goods and services do not meet the expectations of the customer, he will be unsatisfied and this will result in reduced purchases, disloyalty of customers, negative advertisements, and finally causes the collapse and liquidation of the company. (Enguy et al., 2015: 33).

2.3. Customer e-loyalty

Customer loyalty is defined as the tendency of a customer to continue his shopping from a store or shop. Loyalty towards a brand or shopping again from that brand also means that the individual forms a rather biased behavioral reaction towards a brand over time. In evaluation and decision-making process, this behavior causes the individual to make a special orientation towards that specific brand. This reaction is subordinate to psychological and mental processes of the individual (Ahmadi, Jafarzadeh, and Bakhshizadeh, 2014: 65). Repetition of purchase from the same brand or a set of identical brands happens with regards to situational factors and marketing efforts affecting behavior transformation (Mehrabi, 2014: 10). Increased loyalty towards a brand could make the income streams of customers predictable and also could increase revenues over time (Tajzadeh and Emadi, 2011: 91).

Loyal customers help the organization in determining anticipated stream of sales and increasing profits. In addition, customers who are familiar with the organization's brand will most likely recommend it to their friends and families and affect the feedback cycle and product evaluation of the organization, which is of vital importance in today's business environments (Husseini, 2012: 169). Customer loyalty towards brand name could lead to positive word of mouth advertising, creation of major barriers to rival entry, empowerment of companies in dealing with competitive threats, sales creation and increased revenues, and reduced sensitivity of customers to marketing efforts of competitors (Ngai, Tao and Moon, 2015: 33). In this study, loyalty was measured according to purchase recurrence rate and the rate of introduction of the virtual shop to friends.

H3: Customer e-satisfaction affects customer e-loyalty.

This study was an attempt to highlight the significance of e-CRM for achieving e-loyalty and e-satisfaction of customers. In addition, the main objective of this study was to analyze the effect of e-CRM on customer e-satisfaction and e-loyalty of Digikala website located in Isfahan. Given the mentioned literature related to the subject of this study and formulated hypotheses, the conceptual framework of the study was formed as shown in Figure 4.
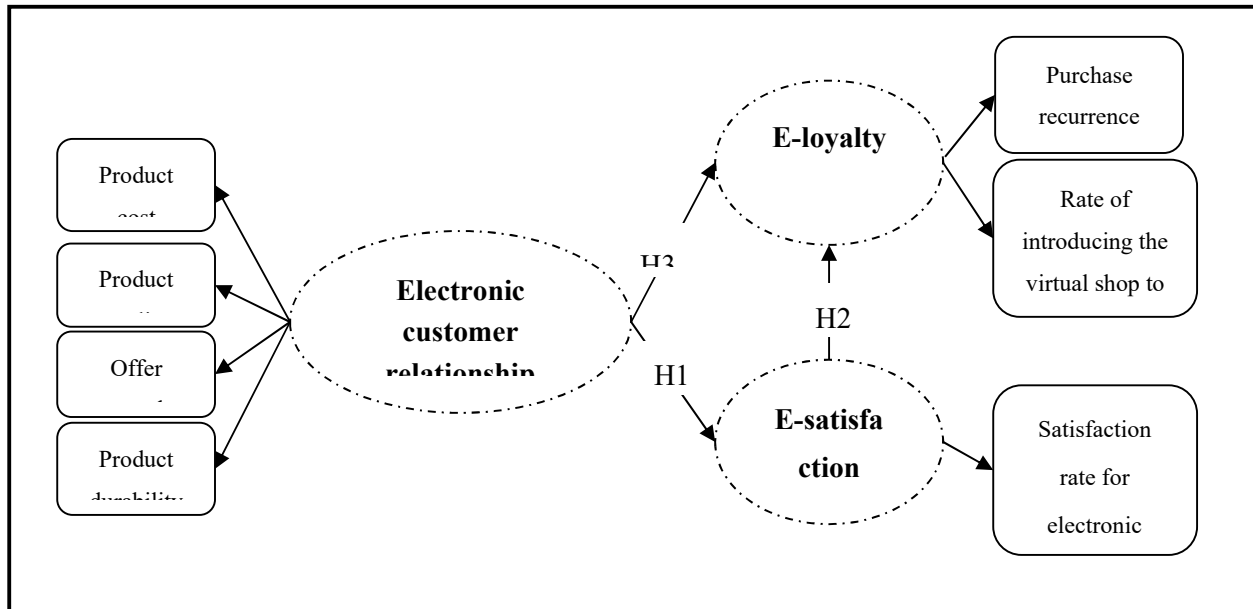
Figure 1: Conceptual framework of the study

3. Research Methodology

This was an applied research and data were collected using descriptive survey method. The most important data collection methods for this study were: 1. Library studies: In this section, library resources, essays, required books and also web sources were used for collecting information for theoretical principles and literature review of the study. 2. Field studies: In this section, questionnaires were used for collecting data and information for analysis. From various ranges of preparing questionnaires, five point Likert scale (one to five) was used, in which 1 is the lowest score and 5 is the highest score.

3.1. Sample and statistical population:

The statistical population of this study consisted of customers and users of Mosalase Rang website.

Random sampling method was used. 300 acceptable and valid questionnaires were selected for analysis. Questionnaires used for this study consisted of two parts. The first part included demographic variables and the second part measured the considered variables of this research.

3.2. Measurement of research variables

The validity of the contents for the used questionnaire was confirmed by experts and university professors. Cronbach's alpha was used for determining test reliability. Cronbach's alpha for all questions related to the existing variables in the analytical model of the study was obtained as 0.90, which is acceptable. Cronbach's alpha for each of variables are presented in Table 2.

Table 2. Cronbach's alpha

Cronbach's alpha	Variable
0.90	E-CRM
0.82	E-loyalty
0.87	E-satisfaction

4. Analysis and Findings
4.1. Confirmatory factor analysis results

In order to determine to what extent indicators are acceptable for measurement models, all measurement models should be analyzed first. Based on this method,

fifteen measurement models that are related to variables were separately analyzed at first. Overall model fitness indices for measurement models (confirmatory factor analysis) are presented in Table 3.

Table 3. Overall fitness indices for measurement models

	CMIN/DF	RMR	GFI	AGFI	IFI	TLI	NFI	CFI
E-CRM	1.58	0.20	0.98	0.94	0.98	0.97	0.97	0.98
E-loyalty	1.69	0.20	0.98	0.94	0.98	0.96	0.96	0.98
E-satisfaction	2.38	0.30	0.97	0.91	0.97	0.92	0.95	0.97

According to the results obtained from the above table, measurement models had acceptable and good fitness. In other words, overall indices confirmed the fact that data supported models in a good manner. Related factor loadings were all above 0.3 and had a significance level more than 0.000.

4. 2. Structural equation modeling results

After analyzing and confirming measurement models in the first step, path modeling was analyzed and fitted in the second step.
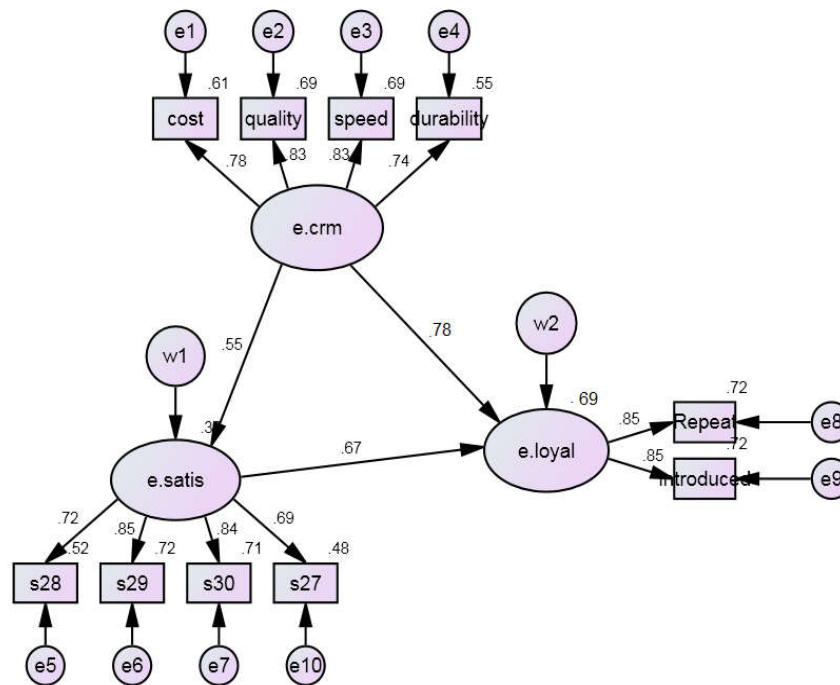
Figure 2. Measured proposed model of the study

Table 4. Fitness model indices

RMR	IFI	CFI	NFI	AGFI	GFI	RMSEA	CMIN/df	CMIN
0.005	0.99	0.99	0.99	0.96	0.99	0.04	1.27	1.27

Output results for standard estimation model indicated that path analysis model was an appropriate and suitable model. Normal chi square value was 1.27, which is between 1 and 5. RMSEA value of the model was 0.04 and is appropriate. In addition, GFI and AGFI values and three indices of NFI, CFI, and IFI were all above 95%. Finally, RMR value was near zero. All values for fitness indice model were in the acceptable zone. These indices indicated a very good model fitness for data. The collected data supported this model in a good manner. Along with regression coefficients, hypotheses and

partial index values related to each hypothesis are presented in Table 5.

Table 5. Hypotheses testing results

Hypotheses	Significance number	Critical value	Correlation coefficient	Test result
E-CRM on E-satisfaction	0.000	7.75	0.55	Validation
E-CRM on E-loyalty	0.000	10.13	0.78	Validation
E-satisfaction on E-loyalty	0.000	9.70	0.67	Validation

5. Conclusion and Suggestion

Based on the conducted research and hypotheses testing, the following results could be extracted and the following appropriate suggestions could be made: According to the first hypothesis testing of the study, e-CRM affected customer e-satisfaction with a regression coefficient of 0.55. This result was consistent with the results obtained from the studies of Hashemian and Allameh Haeri (2013), and Hua, Morosan and DeFranco (2015).

In addition and according to the second hypothesis testing, e-CRM affected customer e-loyalty with a regression coefficient of 0.78. This result was also consistent with the results obtained from the studies of Hashemian and Allameh Haeri (2013), Hua, Morosan & DeFranco (2015), and Fahadi et al. (2012).

According to the third hypothesis testing, customer e-satisfaction affected customer e-loyalty with a regression coefficient of 0.67. This result was consistent with the results obtained from the study conducted by Hashemian and Allameh Haeri (2013).

Today's world is the world of rapid and extensive developments in all aspects. There is no doubt that all countries of the world are involved in a close competition for benefiting from economic, social, cultural,... advantages and especially gaining a greater share of revenue and profit and thus improving quality through using Information Technology. Intense focus on quality of service makes products valuable in the eyes of customers and leads to their loyalty. Given the importance of customer orientation in marketing, the most important possible weakness could be failure to establish an effective relationship and failure to continue this relationship with customers. However, modern information technologies enable the implementation of e-CRM throughout all sales, marketing, servicing, and other activities, which leads to more profits.

Establishing closer and deeper relationship with customers and creating required flexibility for behavioral transformation of companies in relation to interests and needs of each individual could facilitate the act of designing and implementing e-CRM and thus could facilitate profitability.

For implementing a customer-centric strategy, each organization should build motivation among its internal staff and customers and should drive them towards the ultimate strategy of the company by making them cooperate with each other. The missing link in e-business is electronic services and for this reason companies and vendors compete witch each other for benefiting from this missing link. In order to succeed in this regard, electronic service should be a part of e-CRM environment which includes sales, marketing, and e-business activities.

In order to form an effective electronic strategy, the company should set up an expert team with the required technical and commercial skills that leads to establishment of high standards for customer service. Information and technology is the basis for each strategy. Therefore, companies should make sure of the fact that important and appropriate information for effective planning and decision-making reaches the right people at the right time. To achieve this, companies could create standards for gaining customer satisfaction.

Overall, proper and efficient CRM could lead to customer satisfaction and loyalty. Customer satisfaction could in turn cause customer loyalty and a satisfied customer will typically become a loyal customer. With proper and effective utilization, companies can gain customer loyalty and earn money from the entire customer lifetime.

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