Study of Factors Influencing Loyalty of Iranian E-Shop Customers: Role of E-Shop Quality, E-Trust and E-Satisfaction of Customers

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Abstract: Purpose of present study is to provide an applied model in order to identify factors influencing loyalty formation process in e-shop customers and in the pattern presented for it e-loyalty process is divided in to three cognitive, affective and conative phases. E-loyalty (electronic loyalty) refers to consistent and stable support from e-customers and tries to address loyalty issue in electronic environments. This word implies combination of two domains i.e. information technology (IT) in Internet space and loyalty concept in behavioral topics and study of it requires paying attention to both domains simultaneously. Totally, 350 questionnaires were distributed to customers of e-shops operating in computer business that 267 questionnaires were used for the final analysis; then, research model was fitted and after fitting it employing LISREL software, research questions were examined and finally factors of e-satisfaction, e-trust and e-shop quality were identified as indicators influencing e-loyalty.

Keywords: E-Loyalty, E-Satisfaction, E-Shop Quality, E-Trust

1. Introduction

After less than two decades since appearance of Internet, perhaps no aspects of human life can be found which has not been influenced by ICT. Given development of e-money and possibility of doing financial transactions using online and electronic tools, e-commerce increasingly spreads and penetrates into even more areas of global economy and in this way a distinct type of business has been founded on the basis of this technology i.e. e-business. Nearly all scholars agree on direct effect of customer loyalty on firm profitability. However formation of loyalty in e-shop customers was emerged as a great challenge since business competition was intensified in electronic world in which customers can compare various choices available to them with spending least time and effort only by pressing some keys. Because of this, a great amount of studies in marketing field has allocated to loyalty in Internet space or e-loyalty marketing.

Development of loyalty in customers is a strategic goal of many firms and organizations and today, the main effort of many firms is allocated to retain customers and obtaining even more ones (Duffy, 2005). On the other hand given rapid and increasing growth of Internet users and with the aim of setting new and diverse economic and commercial objectives in using this new technology towards enhancement and improvement of businesses, competition methods have been transformed in dynamic environment of market (Caruana et al., 2010). Thus, characteristics of loyal customers and method for formation of loyalty in customers in Internet space are different to those in traditional one in some respects and study of them may be beneficial in improving performance of firms, organizations and shops involving in this field of business. Also it may help managers of these types of businesses to make efficient and effective decisions towards success of their organizations.

2. Literature Review

2.1 E-Loyalty of Customers

E-loyalty refers to favorable attitude of customer towards e-salespersons which leads to repeated purchase; indeed concept of e-loyalty extends traditional loyalty to online behavior of consumer (Anderson, 2003). E-loyalty is considered as a factor effective in optimizing economic conditions of online seller and by reducing operational costs, it can exploit e-customers as necessary (Reynolds, 1999). Factors having effects on e-loyalty include customization, website characteristics, community, cultivation, mutual communications between customers and e-shop officials, customer protection...
and providing options for customers because of product diversity (Srivinasan et al., 2002; Flavin et al., 2006) and in another study such factors as e-satisfaction, e-trust, meeting customer needs, security, responsiveness to problems and complaints of customers and website ease of use are indicated (Gummerus et al., 2004). In 2004, electronic indicators including e-trust, e-satisfaction, reliability, ease of use, having electronic experience, responsiveness and customization were examined (Ribinik et al., 2004) and Semijn et al. (2005) referred to factors of reliability, accuracy, having electronic experience, responsiveness and customization. Also in another study, three influencing components of e-shop quality, e-trust and e-satisfaction were introduced and e-shop quality was considered as involving such factors as reliability, responsiveness, website design and security (Jiung et al., 2009).

2.2 Quality of E-Shops

Most of firms experienced and successful in e-commerce have realized the fact that success or failure of a firm is not solely depend upon web presence or low price but one significant factor i.e. high quality of e-services is also of a specific effect (Karna et al., 2009). Electronic quality is defined as customer’s evaluation of process and result of interaction with online seller. According to Ribinik (2004) study, electronic quality has five dimensions including ease of use, website design, customization, responsiveness and reliability. In one study, four main dimensions were considered for electronic high quality consisting of: efficiency, reliability, order handling and observation of confidentiality (Wang, 2006).

Rodger et al. (2005) divided electronic quality into three parts: 1. Information quality, 2. System quality and 3. Service quality and addressed their effects on e-loyalty. They believe that factors influencing information quality are usefulness of information and funniness of information and believe that system quality refers to quality of system components with respect to achieving main goals of that system and it can be examined based on such factors as website quality and interaction. Finally they noted that factors influencing service quality include such variables as option, customization, community and 24/7 availability of website.

2.3 E-Trust

Customer trust has widely been accepted as foundation of e-commerce success in such a way that in various studies lack of trust has been introduced as a barrier to development of e-commerce (Lee & Turban, 2004). Despite lack of a comprehensive and perfect definition for trust, virtual trust has been described as a state of mentality in which an individual becomes susceptible because of embarking on an electronic trade (Chen, 2003). Several research sought to introduce factors having effect on e-trust some of them including such variables as security, privacy, brand name and reputation, information, word of mouth and Internet work experience and Internet purchase experience (Ha, 2004). In another study, factors influencing e-trust were divided into two sorts of technological and social ones and such components as information quality, extent of training and learning and features of shop website and system were introduced (Hsu & Wang, 2008). Yousafzai et al. (2003) studied e-banking and identified such influencing factors as security and privacy and in another study such variables as information quality, brand reputation, security, experience of Internet work and extent of perceived risk of online purchase were introduced (Alam & Yasin, 2010).

2.4 E-Satisfaction

E-satisfaction means to prefer products or services of an e-firm compared to competitors at buying point (Casalo et al., 2008) and this concept is influenced by such factors as website design, information or contents of website, ease of purchase and security of purchase (Oliver, 1999) and represents customer satisfaction with support for receiving and sending product or service orders, after-sales service for products or services, quality of website contents, website speed, website trustworthiness, website ease of use and website security and privacy policies (Chia, 2004). Also such indicators as interaction with website, perceived quality of website services and perceived value are among factors influencing customer satisfaction (Mukhrjee & Nath, 2007) and in other place, such factors as access to information, communicational framework, customization and integration of information and transactions are indicated (Lin, 2003).

3. Research Hypothesis

In present section, research model is presented so that a better insight can be obtained on e-loyalty topic and also research hypotheses can be examined in a more appropriate way based on it. Purpose of present study is to examine e-loyalty process being divided into three cognitive, affective and conative phases (Chang & Chang, 2008). In this pattern, main components influencing e-loyalty consists of e-shop quality, e-trust and e-satisfaction (Jiung et al., 2009). Combining above components, e-shop quality is put in cognitive phase and respecting the fact that e-shop quality variables influence e-trust and e-satisfaction and through them influence e-loyalty, thus e-trust and e-satisfaction variables are
located in affective phase and finally, e-loyalty is put in conative phase.

Among three components influencing e-loyalty, two components of e-trust and e-satisfaction have immediate and direct effects on e-loyalty because increased e-trust and e-satisfaction may positively improve customers’ loyalty in online activities (Ribinik et al., 2004) and these lead to following hypotheses:

**H1:** The e-trust has a positive influence on e-loyalty.

**H2:** The e-satisfaction has a positive influence on e-loyalty.

Given research theoretical bases, measures for evaluation of e-trust include variables of responsiveness, security, reputation and cultivation (Ha, 2004) and for e-satisfaction corresponding variables consist of product characteristics, meeting customer needs, perceived value and electronic purchase convenience (Semjen et al., 2005). Also improved e-trust may be effective in increasing e-satisfaction while buying products from e-shops (Jiung et al., 2009) and these lead to following hypothesis:

**H3:** The e-trust has a positive influence on e-satisfaction.

Quality of e-shop exerts its effect on e-loyalty through e-trust and e-satisfaction (Gummers, 2004). In present study quality of e-shop is divided into three parts of information quality, system quality and service quality (Rodger, 2005) which each of above variables influence satisfaction and trust. In the following, hypothesis associated with each of electronic quality variables are presented:

**H4:** The information quality of e-shop has a positive influence on e-trust.

**H5:** The information quality of e-shop has a positive influence on e-satisfaction.

**H6:** The system quality of e-shop has a positive influence on e-trust.

**H7:** The system quality of e-shop has a positive influence on e-satisfaction.

**H8:** The service quality of e-shop has a positive influence on e-trust.

**H9:** The service quality of e-shop has a positive influence on e-satisfaction.

Measures for evaluation of information quality including variables of usefulness and funness and corresponding variables for system quality consists of website characteristics and interaction and with respect to service quality these variables include accessibility, community, customization and option (Srinivasan et al., 2002; Rodger et al., 2005). Research model can be seen in Figure1.
4. METHODOLOGY

4.1 Research Sample

In this study, information was collected in August 2012, from customers of e-shops active in the field of computer and its accessories in Tehran area. Random sampling method was used for choosing subjects so that all subjects had an equal chance of being chosen. Because there was not a complete and accurate list of e-shops in the field of computer and its accessories, they were searched and at last 135 computer e-shops were found and among them seven ones were selected at random. Then officials and managers of selected e-shops were asked to email research questionnaire copies to their customers randomly and after completed questionnaires were returned, submit them to researchers. Because of the fact that above-said e-shops did not provide complete and accurate information on customers, thus sample size employed for collecting data was considered as infinite based on sample size formulae and therefore, using mathematical relations associated with sample size, number of 267 was obtained.

4.2 Validity and Reliability of Questionnaire

In present research content validity and construct validity were employed for examination of questionnaire validity. In order to evaluate content validity, opinions of professors of management and behavioral science and experts of customer relations in e-shops were exploited and according to

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**Figure 1.** Research conceptual model
their opinions, required modifications were conducted in order to achieve content validity. In order to study construct validity of instrument, exploratory factor analysis was used which with respect to first output of software, KMO was equal to 0.785 and Bartlet significance test was equal to zero. Given KMO of 0.6, adequacy of sampling was confirmed. Also Bartlet significance test was less than 0.05 which shows that matrix was not a single one and consequently both KMO and significance test showed appropriate validity of questionnaire. Second outputs respectively represent initial and extraction communality. The greater the extraction communality, the better the extracted factors show variables and/or questions and minimum extraction communality required for confirmation is 0.5 which with respect to output of software SPSS all extraction communality values were greater than 0.5 and consequently referring performed analysis, it can be inferred that questionnaire of present research has acceptable construct validity for studying factors influencing e-loyalty. In order to examine reliability, Cronbach α was employed. Before distribution of questionnaires, initially 45 copies of it were distributed in order to examine reliability of instrument and Cronbach α calculated using SPSS software was equal to 0.935. Thus it can be concluded that the questionnaire is of adequate reliability i.e. answers to questions has not been provided at random and by chance but influenced by the variable being tested.

4.3 Data Analysis

Data collected for analysis and conclusion should be converted into information using statistical tests. Since the main variables employed to examine research were designed in the form of Likert scale, thus the questions can be considered as random variables with values in the range of 1 to 5. In present research descriptive analysis on responders was performed using software SPSS and for answers provided to questions and with the aim of evaluation of model, confirmatory factor analysis and structural equation modeling were conducted using software LISREL.

In order to examine appropriateness of measures of each research variables, confirmatory factor analysis was employed and measures with inappropriate factor loadings and/or with unacceptable correlation were dropped and finally acceptable confirmatory factor analysis results for e-trust, e-satisfaction and e-loyalty were obtained as:

\[ \chi^2 = 223.50, \text{ df} = 78; \text{ p-value } < 0.00003; \text{ GFI } = 0.92; \text{ AGFI } = 0.91; \text{ RMSEA } = 0.055 \]

And for quality of e-shop they were as follows:

\[ \chi^2 = 386.97, \text{ df} = 149; \text{ p-value } < 0.00002; \text{ GFI } = 0.94; \text{ AGFI } = 0.89; \text{ RMSEA } = 0.044 \]

It can be seen that all measures had acceptable correlation and all factor loadings were between 0.64 and 0.92. Then using structural equation modeling, research model was examined and software output has been shown in Figure2.

**Figure2.** Path coefficients between variables hidden in research model

\[ \chi^2 = 178.43, \text{ df} = 67; \text{ p-value } < 0.00002; \text{ GFI } = 0.93; \text{ AGFI } = 0.92; \text{ RMSEA } = 0.041 \]
According to the fact that value of $\chi^2$ to df is 2.66 which is less than 3, thus research model is in favorable condition with respect to $\chi^2$ to df index. Also as can be seen in Figure2, RMSEA value is equal to 0.041 which is less than 0.05 and therefore the model is in favorable condition with respect to RMSEA. Values obtained for indices GFI and AGFI are respectively equal to 0.93 and 0.92 and model is in good conditions based on these two indices. With respect to the fact that in structural equation modeling, conclusion about overall fitness of model should be based on a set of indices, present research model is in good condition and it can be concluded that model is an appropriate one with respect to fitness.

5. Hypothesis Testing and Result

Based on outputs of software LISREL in Table1, if t-value is more than 1.96 or less than -1.96, then the related hypothesis will be supported with a CI confidence intervals of 95%.

<table>
<thead>
<tr>
<th>No</th>
<th>Hypothesis</th>
<th>Path coefficient</th>
<th>t-value</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>E-trust → E-loyalty</td>
<td>0.82</td>
<td>7.65</td>
<td>supported</td>
</tr>
<tr>
<td>2</td>
<td>E-satisfaction → E-loyalty</td>
<td>0.73</td>
<td>5.05</td>
<td>supported</td>
</tr>
<tr>
<td>3</td>
<td>E-trust → E-satisfaction</td>
<td>0.67</td>
<td>4.96</td>
<td>supported</td>
</tr>
<tr>
<td>4</td>
<td>Information quality → E-trust</td>
<td>0.74</td>
<td>6.95</td>
<td>supported</td>
</tr>
<tr>
<td>5</td>
<td>Information quality → E-satisfaction</td>
<td>0.85</td>
<td>8.72</td>
<td>supported</td>
</tr>
<tr>
<td>6</td>
<td>System quality → E-trust</td>
<td>0.02</td>
<td>0.42</td>
<td>Rejected</td>
</tr>
<tr>
<td>7</td>
<td>System quality → E-satisfaction</td>
<td>0.66</td>
<td>4.26</td>
<td>supported</td>
</tr>
<tr>
<td>8</td>
<td>Service quality → E-trust</td>
<td>0.07</td>
<td>0.63</td>
<td>Rejected</td>
</tr>
<tr>
<td>9</td>
<td>Service quality → E-satisfaction</td>
<td>0.44</td>
<td>3.22</td>
<td>supported</td>
</tr>
</tbody>
</table>

Hypothesis 1: According to Table1, path coefficient value for e-trust to e-loyalty is 0.82. Therefore it can be concluded that there is a positive relationship between e-trust and e-loyalty, and also significance value (t-value) between these two variables is equal to 7.65 and given the fact that this value is more than 1.96, thus e-trust has a positive effect on e-loyalty; thus hypothesis 1 is supported.

Hypothesis 2: According to Table1, path coefficient value for e-satisfaction to e-loyalty is 0.73. Therefore it can be concluded that there is a positive relationship between e-satisfaction and e-loyalty, and also significance value (t-value) between these two variables is equal to 5.05 and given the fact that this value is more than 1.96, thus e-satisfaction has a positive effect on e-loyalty; thus hypothesis 2 is supported.

Hypothesis 3: According to Table1, path coefficient value for e-trust to e-satisfaction is 0.67. Therefore it can be concluded that there is a positive relationship between e-trust and e-satisfaction, and also significance value (t-value) between these two variables is equal to 4.96 and given the fact that this value is more than 1.96, thus e-trust has a positive effect on e-satisfaction; thus hypothesis 3 is supported.

Hypothesis 4: According to Table1, path coefficient value for e-shop information quality to e-trust is 0.74. Therefore it can be concluded that there is a positive relationship between e-shop information quality and e-trust, and also significance value (t-value) between these two variables is equal to 6.95 and given the fact that this value is more than 1.96, thus e-shop information quality has a positive effect on e-trust; thus hypothesis 4 is supported.

Hypothesis 5: According to Table1, path coefficient value for e-shop information quality to e-satisfaction is 0.85. Therefore it can be concluded that there is a positive relationship between e-shop information quality and e-satisfaction, and also significance value (t-value) between these two variables is equal to 8.72 and given the fact that this value is more than 1.96, thus e-shop information quality has a positive effect on e-satisfaction; thus hypothesis 5 is supported.

Hypothesis 6: According to Table1, path coefficient value for e-shop system quality to e-trust is 0.02 and significance value (t-value) between two variables is 0.42 and respecting the fact that this value is between -1.96 and 1.96, thus system quality of e-shops does not influence e-trust; thus hypothesis 6 is rejected.

Hypothesis 7: According to Table1, path coefficient value for e-shop system quality to e-satisfaction is 0.66. Therefore it can be concluded that there is a positive relationship between e-shop system quality and e-satisfaction, and also significance value (t-value) between these two variables is equal to 4.26
and given the fact that this value is more than 1.96, thus e-shop system quality has a positive effect on e-satisfaction; thus hypothesis 7 is supported.

_Hypothesis 8:_ According to Table1, path coefficient value for e-shop service quality to e-trust is 0.07 and significance value (t-value) between two variables is 0.63 and respecting the fact that this value is between -1.96 and 1.96, thus service quality of e-shops does not influence e-trust; thus hypothesis 8 is rejected.

_Hypothesis 9:_ According to Table1, path coefficient value for e-shop service quality to e-satisfaction is 0.44. Therefore it can be concluded that there is a positive relationship between e-shop service quality and e-satisfaction, and also significance value (t-value) between these two variables is equal to 3.22 and given the fact that this value is more than 1.96, thus e-shop service quality has a positive effect on e-satisfaction; thus hypothesis 9 is supported.

6. Discussion and Conclusions

Purpose of conducting applied research is to achieve strategies using them executive affairs can be improved; present study was also sought to identify indicators influencing e-loyalty from viewpoint of e-shops customers so that in this way, the identified indicators can be addressed in relation to e-shops and customer loyalty can be improved. However as results of present research imply, e-satisfaction is among the factors influencing electronic loyalty and has a direct and immediate effect on it. This result is consistent with findings of such researchers as Anderson & Srinivasan (2003), Ribinik et al. (2004) and Jiung et al. (2009) and these researchers also believe in immediate effect of e-satisfaction on e-loyalty. Thus managers of e-shops are recommended to adopt appropriate strategies in order to please and satisfy e-customers. So they should seek to meet customers’ needs by providing a complete set of products and try to match the characteristics of products displayed in e-shop and ones being received actually. Also they should not exaggerate in introducing products in their websites and by giving real information about them, they should present a transparent introduction to their products. Also they should promote customers’ convenience while navigating in e-shop website especially at the time of doing financial transactions in order to conduct e-buying and avoid using complicated methods at the time of doing electronic transactions in process of e-buying. The above-said tips are important in achieving customer satisfaction. Indeed by progressing in relation to the above-said tips, e-satisfaction in affective phase can be more extended and a continuous improvement in customers’ loyalty process can be created.

Another factor in affective phase which has a direct effect on conative phase and loyalty is e-trust. Caruana & Ewing (2010), Flavian et al. (2006) and Jiung et al. (2009) also believe in effect of e-trust on e-loyalty and mention it as a factor influencing customer loyalty; they contend that customer loyalty can be improved by trust building in e-shopping environments. Factors may be effective in creation of e-trust include appropriate responsiveness of e-shops to complaints and problems raised by customers, security of e-shops in relation to personal information and financial information of customers and improvement of e-shop reputation. Managers of e-shops are also recommended to try towards creation a secure and risk free environment for customers and collaborate with valid and reliable banks and financial institutions for conducting their financial transactions in e-shop website so that they can be successful in making customers feel security in doing online transactions. Also formation of independent groups for addressing complaints and problems of customers in electronic, online and telephone forms may be effective in creation of trust sense in customers.

Indicators of e-shop quality are located in cognitive phase of loyalty process which in turn influence variables of second phase i.e. trust and satisfaction and in this way improve the situation in affective phase. Based on studies by Gummerus et al. (2004) and Srinivasan et al. (2002), Semeijn et al. (2005) and Chang & Chung (2008), indicators of e-shop quality influence e-satisfaction and are able to increase customers’ satisfaction positively. In present research also all factors of e-shop quality had effect on e-satisfaction and among above factors, information quality had the greatest path coefficient and had more effect than other variables. So it should be paid more attention by e-shop managers in process of satisfying customers. Studies by Ribinik et al. (2004) and Jiung et al. (2009) acknowledge the effect of shop quality on customers trust and positive effect of shop quality variables on e-trust. Also in present research, electronic quality influenced trust through information quality variable and two other variables i.e. system quality and service quality were not effective in this respect. In other words, in improving trust with the aid of cognitive phase, e-shop managers should resort to information quality variable and try to improve its qualitative condition by addressing such factors as usefulness and funness. They can enhance usefulness of information by providing appropriate information on computer products in e-shop and funness of it by creating up-to-date news stations in relation to new topics on computer technology.
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References


