The impact of the interactivity of the electronic word advertising systems and electronic quality on electronic loyalty with the role of measuring satisfaction of decision support (a case study of online customers of Iran insurance company in Tehran province)

El impacto de la interactividad de los sistemas de publicidad de la palabra electrónica y la calidad electrónica sobre la lealtad electrónica con el papel de medición de la satisfacción de apoyo a la decisión (un estudio de caso de clientes en línea de la compañía de seguros de Irán en la provincia de Teherán)

O impacto da interatividade da palavra eletrônica dos sistemas de publicidade à boca e da qualidade eletrônica sobre a lealdade eletrônica com o papel mediador da satisfação do apoio à decisão (um estudo de caso sobre clientes online da empresa de seguro do irã na província de tehran)

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Abstract
The aim of the present study is to examine the effect of interactivity of electronic word of mouth advertising systems and electronic quality over electronic loyalty with the role of measuring decision support satisfaction. The statistical population of the research includes all the online customers who have used the services of Iran Insurance Company in Tehran. To answer research questions and test the hypotheses a questionnaire was distributed among 390 members of the sample of the study. After collecting the questionnaires, the data was analyzed using SPSS and LISREL software. It should be mentioned that the validity of the questionnaire was assessed by content and construct validity and the reliability was examined by Cronbach’s alpha test. The results indicated that the questions have high reliability. Regarding construct validity, which was investigated using confirmatory factor analysis by LISREL software, it was found that the questions have appropriate validity. The results of the data analysis and hypothesis testing showed that the interactivity of electronic word of mouth advertising systems has

Resumen
El objetivo del presente estudio es examinar el efecto de la interactividad de los sistemas electrónicos de publicidad de boca en boca y la calidad electrónica sobre la lealtad electrónica con el papel mediador de la satisfacción del soporte de decisiones. La población estadística de la investigación incluye a todos los clientes en línea que han utilizado los servicios de Iran Insurance Company en Teherán. Para responder preguntas de investigación y probar las hipótesis, se distribuyó un cuestionario entre 390 miembros de la muestra del estudio. Después de recopilar los cuestionarios, los datos se analizaron con el software SPSS y LISREL. Cabe mencionar que la validez del cuestionario se evaluó por el contenido y la validez de constructo y la fiabilidad se examinó mediante la prueba alfa de Cronbach. Los resultados indicaron que las preguntas tienen una alta fiabilidad. En cuanto a la validez de constructo que se investigó utilizando el análisis factorial confirmatorio mediante el software LISREL, se encontró que las preguntas tienen una validez adecuada. Los resultados del análisis de datos y...
a significant and positive effect on decision support satisfaction and electronic quality. The electronic quality also has a positive and significant effect on decision support satisfaction. Moreover, decision support satisfaction has a positive and significant effect on electronic loyalty.

**Keywords:** the interactivity of mouth advertising of the electronic word, electronic loyalty, decision support satisfaction.

**Introduction**

Having full understanding of customers, prioritizing the customer service, and maintaining their satisfaction and loyalty are among the factors that ensure the success in today's business market. The current definition of a customer is quite different from the past; this means that customers are no longer the buyer of goods or services; rather they are active and influential member in all commercial activities. In the case of service companies, particularly in the insurance industry, it is more difficult and requires attention and insight of high and middle rank managers because the services provided in insurance companies are not goods that customers can use at any moment. Unlike many other goods and services that their benefits can be determined at the time of purchase, insurance is an intangible good that satisfies the future needs of the customer. These features distinguish the insurance from other goods and influence insurance culture (Jallilian et al., 2012).

Due to this fact, in today's extremely competitive market, service businesses managers are looking for new ways to inform the public of their products and improve their brands and increase customer loyalty and satisfaction. To achieve this purpose, a variety of marketing techniques is used to attract more customers. One of the most effective methods based on interpersonal communication is electronic word of mouth marketing (advertising). In recent years with the increase in the Internet users in Iran there is a good opportunity for service companies to take advantage of this new method alongside traditional marketing methods to increase their
market share and boost the customer recognition of their products and services and to improve customer loyalty and satisfaction. In fact, the advent of the Internet has caused a revolution in the mouth to mouth advertising activity. It is therefore essential for service companies to pay attention and if required monitor the word of mouth communication in the cyberspace (Mazloumi et al., 2012).

Often it seems that the increase in selling a product or service is simply because of successful advertising, but in fact the main sale drive is people’s conversations with each other about the company and its products (Silverman, 2001). People tend to talk to each other about their different experiences and exchange positive or negative recommendation on a particular product or service to lower the purchase risk and choose the best and most appropriate option (Nielson, 2006).

With the development of electronic and digital communication channels such as mobile phones and the Internet in recent years and the increasing number of users of the media, the physical boundaries have disappeared. People can use this media for activities such as searching for information they need and consulting with others for decision making (Nielson, 2006).

In such circumstances, service businesses, including insurance companies, can step up and take this opportunity to inform people of the benefits and features of their products and services. Moreover, by motivating customers to use the services, they are driven to transfer their experiences to others. Therefore, they don’t pay a high price to increase credibility and reputation of the brand and customer loyalty and satisfaction. Compared with the costly and time-consuming traditional marketing methods, modern methods such as electronic word of mouth marketing have amazing results in a shorter time and with less capital (Hamidizadeh and Yazdani, 2011). Accordingly, the present research seeks to answer a major question: what is the effect of the interactivity of electronic word of mouth advertising systems and electronic quality on electronic loyalty with the mediating role of decision support satisfaction among the online customers of Iran Insurance Co. in Tehran Province?

Theoretical Framework

- Interactivity of Electronic Word of Mouth Advertising Systems and the Decision Support Satisfaction. Interactivity designates how much the interaction of one customer with other customers is facilitated by the electronic word of mouth advertising systems (Yu et al., 2015). Interaction is one of the main advantages of the Internet. Word of mouth advertising systems provide a channel through which customers experience a high level of interaction and interplay (Sung et al., 2008). In general, interactivity has four dimensions: reciprocity, responsiveness, nonverbal information and the speed of response (Johnson et al, 2006; Johnson et al, 1985). Reciprocity refers to the opportunities available to consumers for participation in the dialogue with the companies in contrast to merely listening to their speech. One of the basic assumptions in the electronic word of mouth advertising systems is the ability of customers to participate in the activities. Therefore, reciprocity is conceptually applied to electronic word of mouth advertising systems, which shows that electronic word of mouth advertising information remains intact and is presented as it is sent (ibid, 2006).

Responsiveness designates how much a customer can obtain information in their search. Weak response reduces interactivity which results in low user satisfaction (ibid, 2006). Nonverbal information refers to the use of multiple channels to transmit the information. An example is the use of images, video or audio clips to provide information rather than the use of text. The speed of response is determined by how fast the response is. Interactivity is achieved when users receive immediate feedback and feel that a media environment has been modified based on their input. Many researchers believe that the speed of response is one of the aspects of interactivity. The speed of response can be considered high when responses from other customers or online retailers are added immediately after a customer sends a complaint or expresses dissatisfaction with a product or service in the electronic word of mouth advertising systems (ibid, 2006).

Decision support satisfaction is defined in terms of capability and capacity of information system in aiding decision-making and better performance of user jobs (Sanders, 1984). Interactivity is one of the important prerequisites for customer satisfaction with decision support
systems that promotes the customer’s use of the system. High-level interactivity leads to increased customer satisfaction and purchase intent (Sung et al., 2008).

Electronic word of mouth advertising system is an important channel through which customers communicate with other customers and the retailer. Interactive electronic word of mouth advertising systems provide reliable and relevant information by increasing the participation of previous customers. In addition, because customers can have a cognitive and emotional experience, they probably will be satisfied with the provided service (Kim et al., 2006). It can therefore be assumed that by engaging the customer, the interactivity has a positive impact on overall satisfaction of the customer. It can also provide information through quality communication to help customers make their decision (Ballantine, 2005, Noort et al., 2012). Therefore, the hypothesis (1) is proposed.

H1: Interactivity of electronic word of mouth advertising systems has a significant impact on decision support satisfaction.

-Interactivity of Electronic Word of Mouth Advertising Systems and Electronic Quality. When the electronic word of mouth advertising systems have interactivity, electronic word of mouth advertising information is more accurate and relevant to customers’ need (Shugan, 1980). Reciprocity and online presence of the seller affect the quality of the website, especially when they have active and strong manifestation in the interactive electronic word of mouth advertising systems. In addition, according to the previous studies, the customers find the data provided by the electronic word of mouth advertising systems effective and credible. Interactivity of electronic word of mouth advertising systems ensures that the customers’ comments and suggestions on the websites are relevant and unbiased. Accordingly, when electronic word of mouth advertising systems are reciprocating and responsive, the customer’s perception of overall quality can increase (Jason, 1985).

Customers enjoy more when electronics market includes non-verbal content, such as video. In other words, the electronic word of mouth advertising systems can be considered a good source for creating engaging services (Payne et al, 1993). Increasing the attractiveness in website is positively correlated with the quality of the website. Therefore, it can be said that the interactivity of word of mouth advertising systems has a positive relationship with electronic quality. This suggests that, due to higher interactivity of electronic word of mouth advertising system, the overall quality of a service has a positive impact on customer’s attitudes about the use of the company’s services (Jason and Betman, 2008; Palmer, 2002). With respect to what is mentioned, the hypothesis (2) is proposed.

H2: Interactivity of electronic word of mouth advertising systems has a significant impact on perceived quality.

-Electronic Quality and Decision Support Satisfaction. Previous studies largely examine the quality of information provided to users, the way the information is presented, and the interaction of the users with the information. The current environment of e-commerce, including the Internet, web, and hypermedia technologies, is highly dynamic and interactive. These features provide a different set of success factors for new electronic commerce; including improvement in data accuracy, information relevancy, completeness of information along with a user-friendly communication environment, a better design for the whole network, and keeping a history (Nielsen, 2000; Palmer, 2002; Zhang, 2001). According to the previous studies, people try to reduce the amount of cognitive effort associated with the decision making. The notion that people naturally are willing to reduce their effort despite risking the accuracy of their decision has been extensively studied. This is consistent with the concept of bounded rationality and satisfaction (Shugen, 1980).

Because of the relationship between effort and accuracy, decision makers are often satisfied when they have many alternatives, when comparison is difficult, and when decision making is highly complex. In the arena of network-based purchase decision systems, it is very important to assess to what extent the system supports or reduces the decision making effort of the users. Accordingly, it can be said that a high-level electronic quality supports the customers in the decision-making process (Jason, 1985, Jason and Betman, 1990). In addition, the previous literature on the electronic quality indicates a positive relationship between the quality and user satisfaction (Simon, 1995). For example, Garrity et.al (2005) showed that high levels of electronic service quality and usability create higher levels of perceived satisfaction is the users. Because the high quality of electronic services indicates the quality of providing.
information, when customers experience a high electronic quality they will probably be satisfied with the purchase decision support (Garrity et al., 2005). Thus, with respect to what has been mentioned so far the hypothesis (3) is proposed.

H3: Perceived quality from the website has a significant impact on decision support satisfaction.

**Decision Support Satisfaction and Electronic Loyalty.** Electronic loyalty refers to the views of customers about an e-commerce website which leads to frequent visits to the site and repeated purchase behavior, including attitudinal and behavioral aspects (Gommans et al., 2001). The concept of electronic loyalty expands the idea of loyalty to offline brand to include online consumption behavior (Anderson et al., 2003). In the electronics market, decision support is very important because a customer is able to judge the quality of a product directly. Therefore, the notion that the seller considers the customer in terms of purchase decisions has a vital impact on the customer’s intention to revisit the website (Anderson et al., 2003; Chen, 2008).

The existing literature about the electronic loyalty suggests the existence of a positive relationship between satisfaction and electronic loyalty. Garrity et al (2005) demonstrated that satisfaction with decision support play an important role in the success of web-based information systems. We expand the idea in the following manner: in terms of decision support, high customer satisfaction with a website leads to high loyalty to the website (Garrity et al., 2005). Thus, with respect to the issues discussed before the hypothesis (4) is proposed.

H4: Decision support satisfaction has a significant impact on electronic loyalty.

According to what has been discussed before the following conceptual model is presented.

![Conceptual Model](image)

**Figure 1: conceptual model of the research (Yu et al., 2015)**

**Methodology**

In terms of objectives, the present research is an applied study and in terms of method it is a descriptive-survey research. It is also a correlational study and in terms of duration a single-stage cross-sectional research

**Data collection tools.** To measure the variables the present research used a questionnaire that included two major parts:

1. General information about the respondents: In this section of questionnaire it is tried to gather general and demographic information regarding the respondents, which included three questions (gender, age, education)

2. Specific information: This section includes detailed questions, which contains 27 items (derived from the questionnaire by Yu et al. (2015). To design this part, the study used the 5-point Likert scale.

**Validity and Reliability of Data Collection Tools.**

To examine the validity of the questionnaire the present study used content validity and construct validity. In so doing, to assess the content validity the questionnaire was given to a number of experts and professors of management and
behavioral sciences, including the supervisors and advisors. They were asked to evaluate the questions and hypotheses and at the end they unanimously approved the questionnaire. Also to assess construct validity, confirmatory factor analysis was used to verify the statements of the questionnaire. Considering that the amount of factor loading (beta coefficient) is higher than 0.3 and significant coefficients is also more than 1.96 it can be said that all questions have a good validity. To calculate the reliability, Cronbach’s alpha coefficient was used and for all variables it was more than 0.7 which is the appropriate amount.

-Statistical Population. The study’s statistical population included all online customers who have used the services of Iran Insurance Co. in Tehran province.

-The statistical sample and sampling method. Considering the unlimited number of population and the high dispersion of the statistical population the study used Cochran formula to determine the sample size. The sample size which was based on the Cochran formula is 385 people. Because of the possibility of problems such as faults in some of the questionnaires and the fact that some of them had not been returned, 400 questionnaires were distributed and finally 390 questionnaires were filled and returned to the researchers. To select insurance agencies in Iran the study used cluster and simple random sampling methods, and used convenience nonprobability sampling to distribute questionnaires among customers.

-Data Analysis Method. To test the model, after examining the normality of the data distribution through the Kolmogorov-Smirnov test, the conceptual model was tested through structural equation modeling. For this purpose LISREL 8.8 software has been used.

Research Findings

First, the study used descriptive statistics to determine the characteristics of the statistical sample, and then LISREL software to test the hypotheses. Of the 390 respondents to the research question most respondents were men which included 276 people and make up 71 percent of the sample size. A total of 114 people, that is 29 percent of respondents, were female. A total of 197 persons, which make up 41% of the sample size, have bachelor’s degree. It has the highest frequency among different academic degrees. 52 of the respondents have a discontinuous bachelor’s degree. 141 people have master’s degree. In terms of age range, 32 people are in the age range over 50 years which has the lowest frequency. 185 of the respondents are in the age range between 31 and 40 years. This age range has the most frequency.

-Data Normality Test. Since the studies that are founded on a structural models are based on data normality assumption, first of all normality tests has been conducted. Data normality assumption was tested at a significance level of 5% using Kolmogorov-Smirnov technique. The result of the normality test of the data is presented in Table 1. As shown in Table 1, in all cases the significant amount is larger than 0.05. Therefore, there is no reason for rejecting the null hypothesis based on the normality of the data. In other words, the research data is normal and parametric tests can be performed.

<table>
<thead>
<tr>
<th>La situación</th>
<th>Valores significativos</th>
<th>N</th>
<th>Variables de investigación</th>
</tr>
</thead>
<tbody>
<tr>
<td>normal</td>
<td>0/094</td>
<td>390</td>
<td>reciprocity</td>
</tr>
<tr>
<td>normal</td>
<td>0/093</td>
<td>390</td>
<td>responsiveness</td>
</tr>
<tr>
<td>normal</td>
<td>0/096</td>
<td>390</td>
<td>Verbal information</td>
</tr>
<tr>
<td>normal</td>
<td>0/099</td>
<td>390</td>
<td>Response speed</td>
</tr>
<tr>
<td>normal</td>
<td>0/097</td>
<td>390</td>
<td>Content quality</td>
</tr>
<tr>
<td>normal</td>
<td>0/098</td>
<td>390</td>
<td>Form quality</td>
</tr>
<tr>
<td>normal</td>
<td>0/098</td>
<td>390</td>
<td>Time quality</td>
</tr>
<tr>
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<td>0/097</td>
<td>390</td>
<td>Decision support</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>satisfaction</td>
</tr>
<tr>
<td>normal</td>
<td>0/093</td>
<td>390</td>
<td>Electronic loyalty</td>
</tr>
</tbody>
</table>
- The results of hypotheses testing. To confirm or reject the hypotheses, the study used structural equation modeling approach. For structural equation modeling the standard factor loading and t-statistic are calculated that in general includes the following rule: Power relationship between factors (latent variables) and observable variable is shown by the beta coefficient. Beta coefficient value is between zero and one. If beta coefficient is less than 0.3 there is a poor relationship and it can be discarded. Beta coefficient between 0.3 and 0.6 is acceptable and if greater than 0.6 it is highly desirable (Kline, 2010, 125). When the correlation between variables is identified, the significant test is carried out. The t-value is used to investigate the significance of the relationship between the variables. Because the significant is estimated at an error level of 0.05, if the factor loading observed for t-value is less than 1.96, the relationship is not significant (ibid. 55).

To analyze the structural model, before confirming the structural relationships, the suitability and fit of the structural model should be ensured. To determine the fit of the research model the study has considered different "fit index" which are shown in Table 2. Table 2 also shows the permissible limits for each indicator. As can be seen in Table 2, all indicators are within their limits and it can be concluded that the model has a good fit.

The final model for examination of the relationship between variables is presented in Figure 2 and 3. It should be noted that each of the variables in the structural model is abbreviated.

The Table 3 shows the abbreviated symbol for each of the variables.

Table 2: fitting model indicators

<table>
<thead>
<tr>
<th>IFI</th>
<th>NNFI</th>
<th>NFI</th>
<th>AGFI</th>
<th>GFI</th>
<th>RMSEA</th>
<th>$\chi^2/df$</th>
<th>Fitting</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 1</td>
<td>&gt;0.9</td>
<td>&gt;0.9</td>
<td>&gt;0.9</td>
<td>&gt;0.9</td>
<td>&lt;0.1</td>
<td>&lt;5</td>
<td>Acceptable</td>
</tr>
<tr>
<td>0.97</td>
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<td>0.98</td>
<td>0.97</td>
<td>0.99</td>
<td>0.061</td>
<td>2.46</td>
<td>Calculated</td>
</tr>
</tbody>
</table>

The final model for examination of the relationship between variables is presented in Figure 2 and 3. It should be noted that each of the variables in the structural model is abbreviated.

The Table 3 shows the abbreviated symbol for each of the variables.

Table 3 - Description of abbreviated symbols
Interactivity of electronic word of mouth advertising systems  
Electronic quality  
Decision support satisfaction  
Electronic loyalty

Figure 2: The Conceptual Model of the Research in Beta Coefficient Mode

Figure 3: The conceptual model of the research in t-value mode

Discussion and Conclusion

The present study aimed to investigate the effect of interactivity of electronic word of mouth advertising system on the electronic loyalty with the mediating role of decision support satisfaction among customers of Iran Insurance Co. in Tehran province. Considering the results of the analysis of the relationships among internal latent variables (dependent variable), external variables (independent variable) and mediator variable of research in the structural model, all assumed relationships were confirmed. The results of the structural model and the relations between the variables are as follows.

The results of the first hypothesis: interactivity of the electronic word of mouth advertising system has a significant and positive impact on decision support satisfaction.

The factor loading (beta coefficient) of the impact of interactivity of electronic word of mouth advertising systems on the decision support satisfaction is 0.50. This shows a high and appropriate correlation between these two variables. This value indicates that if there is a one-unit increase in the value of the variable of interactivity of word of mouth advertising systems, there is a 95 percent chance that decision support satisfaction increases by 0.50 of unit. The t-statistic is 7.09 which is larger than 1.96; it shows that the observed correlation is significant. Therefore, it can be claimed with 95% confidence that interactivity of electronic word of mouth advertising systems positively affect the decision support satisfaction. As a result this hypothesis is confirmed. This hypothesis is consistent with the results of various researches such as: Yu et al. (2015) and Garrity et al. (2005).

The results of the second hypothesis: the interactivity of electronic word of mouth advertising system has a significant and positive effect on the electronic quality.

The strength of the relationship between the variable of interactivity of electronic word of mouth advertising systems and electronic quality is 0.70 which shows there is a high and appropriate correlation between these two variables. This value indicates that if there is a one-unit increase in the value of variable of interactivity of word of mouth advertising systems, there is a 95% chance that the
As verified in previous studies, in the present study carried out in Iran all hypotheses were confirmed. This suggests that managers should pay special attention to the relationships between the variables examined in the research. The Section 6 provides practical recommendations based on the verified hypotheses.

**Practical Suggestions**

With respect to the verified hypotheses, this section provides suggestions regarding each hypothesis. Given the positive impact of interactivity of electronic word of mouth advertising systems on electronic quality and decision support satisfaction it is suggested that Iran Insurance Company create a space on its website for communication and interaction with the operator of the website and other customers. The space should provide a section for the customers to give feedback on the services. In so doing, the users are allowed to gain the information they need. On another section the customers should be allowed to leave comments, share suggestions and reviews regarding the services, and interact with each other. This keeps the customers enthusiastic about pursuing their purchase and prevents them from losing connection with the company. It is also recommended that the customers that don’t have enough time to search and find information about the customer’s reviews and read the textual advertisements of the Iran Insurance use the visual advertisements such as short videos that include comprehensive information. Considering the positive impact of electronic quality on the decision support satisfaction it is suggested that Iran Insurance Company redesign the website to make it easy to access and less confusing for the users who want to find the desired content. It is also recommended to identify their customers' demands to increase the quality of content so that it can provide and share appropriate information. Given that data analysis indicated that decision support satisfaction has a positive and significant effect on the electronic loyalty, the following suggestions are put forward.

1. Focusing on providing advisory services to the customers

2. Creating a system that enables the customers to enter the value of their insured item with the risk of lack of insurance, the premiums payment...
etc. After that, the system automatically gives the result. This allows customers to view the result of a specific service before purchase and makes the decision making easier.

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