

Survey of the effect web design aspect on effectiveness of E-marketing by E-trust mediator

Mohammad Reza Daneshvar¹, Mohsen Moradi²

¹Department of Management, Electronic Branch, Islamic Azad University, Tehran, Iran

²Assistant professor at Imam Reza University of Mashhad

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ABSTRACT

This study examined the effect of web design aspect on effectiveness of E-marketing by e-trust mediator in selected branches of Bank Melli in the center of the khorasan Razavi Province. The research method was descriptive-survey in year of 2013. The statistical population includes customers of Bank Melli branches of Mashhad which have used Bank Melli websites for banking services at least one time. For selection of statistical sample Morgan's table in unlimited population ($n=10,000$) were used. From the 107 branches based on ratings given by the supervisor classified random sampling method was used. According to Morgan's table and 19 representative branches, in order to increase the credibility of the study, 400 questionnaires were distributed and 336 questionnaires were receive and analyzed. To test the research hypothesis probability value (T-value) were used resulting in fitness of the model in parameters significance mode through structural modeling by use of Smart PLS software. In statistical analysis using path analysis test, the results showed that the Web site design has a significant effect on E-marketing effectiveness. The design aspect of website does not have significant effect on e-trust. E-trust has a significant effect on the effectiveness of E-marketing. there is not a significant relationship between website design and E-marketing effectiveness through E-trust.

KEYWORDS: Effectiveness of E-Marketing, E-Trust, Internet Marketing, Website Design Aspect, Iran

1. INTRODUCTION

Regarding the increasing loss of banks resources in recent years, their inefficiency in meeting the real needs of consumers and their dissatisfaction with provided services and the need to fundamental changes in the mechanisms of different section and the necessity to change approach in providing services and absorbing resources and marketing (customer payment and invoice absorption) through electronic methods (Web site) instead of the traditional methods after conducting the analyses with the organizational studies sector of this bank, this study examines the effect of the website design on E-marketing effectiveness by the E-trusted mediator and its role in improving the operational reliability of electronic databases.

2. LITERATURE REVIEW

The use of information technology, in addition to the effects on the nature of work and the workplace, has changed organizations' competition. IT develops and optimizes internal operations of organizations, reduces costs and accelerates providing products and services. Reducing costs has also made it possible to offer products at lower prices to the market for companies and institutions. On the other hand, information technology has increased the speed of companies and organizations in delivering the product to the market and its faster distribution. Therefore, the information technology has caused dramatic changes in marketing and sales process that which causes the companies that are stronger in the field of IT have faster access to market opportunities and use them [12]. The Internet provides the opportunity for businesses to attend in the global markets, allows customer orientation, reduces marketing costs and establishes stronger business relations with higher coordination among the distribution channels, extends collecting business information, focuses on establishing relationships with various organizations to improve the firm's reputation and ultimately, improves customer service and communication skills. In fact, it seems that the value of the Internet is in its ability to do marketing activities better and more effectively than other traditional marketing communication systems and media [2]. Considering the new trends in modern life styles, we can conclude that technological progress is the driving force for any organization. The use of the Internet and electronic services is rapidly expanding worldwide. The existence of millions of on-line Internet users provides a great opportunity for the development of electronic commerce. Information and communication technologies on the one hand and service industry on the other hand are changing and progressing quickly and frequently [7]. Marketing managers in this period have to care about to all customer contact and relationships and respect their opinions and criticisms and suggestions because in the modern market and marketing space (rather than market place in traditional marketing) customers have additional power and they are just one click away from getting away from the virtual space of a company and join their competitors. In fact, Internet and its related technologies have a great impact on the market. Therefore, many companies through the development and expansion of the Internet and computer networks

have attempted to create a website to attend the web. In this study regarding the problems of public banks in marketing especially in the E-marketing among a vast number of private banks and the necessity of the attendance in the field of internet business, we are after the analysis of the impact of the web design on the E-marketing through the E-trust mediator variable in Bank Melli.

Kim and Niehm (2009) [5] investigated the relationship between website quality, information quality and value and customer loyalty on behalf of the garment industry in China have shown that the quality of the website and the quality and value of information has significant positive impact on the intentions of the customer loyalty. Guo and Salvendy (2009) [4] conducted a study entitled: The content factors of Web sites in business: a survey on 428 employees in China's industry. In their survey they used a 70 item questionnaire which was distributed among 428 white collar employees in the electronic companies of China the purpose of which was to determine the factors and the information that must be included in a business website. Through the data analysis they extracted 15 factors. These factors include: security content, quality content, service content, presentation content, communication information, adaptability, assistive information, search, product features, order guide, price content, detailed description, customer opinions, related products and content records respectively based on their importance. El-Gohary (2012) [3] in a study of the factors influencing the adoption of E-marketing in Egypt's tourist companies indicated factors such as accessibility and ease of use of the Website have significant positive effects on the user's acceptance and adoption of E-marketing.

3. METHODOLOGY

Since the purpose is to examine the effectiveness of the Website Designing on E-marketing effectiveness through the medium variable of E-trust, this research uses the case study method because it specifically focuses on the customers of Bank Melli Iran. This purpose is applicable in terms of its purpose because the results relate to the bank managers' awareness of factors affecting the adoption of the Internet Banking Services by the customer. In terms of location it is considered a field study because the research data are collected through attending the society, using statistical samples and questionnaires.

3.1. Research Hypotheses & Conceptual Model

H1. The Effectiveness of E-marketing through am E-trust mediator receives significant effect from the design aspect.

H2. The website design aspect has a positive significant impact on E-marketing.

H3. The website design aspect E-trust.

H4. E-trust has a positive significant impact on the effectiveness of E-marketing.

Based on the developed hypotheses the conceptual model was formulated as follows in Figure 1:

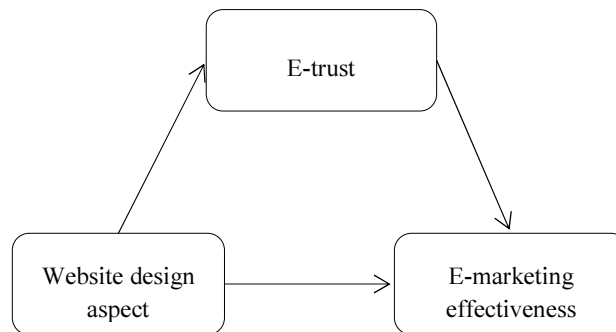


Fig. 1. The conceptual model

E-marketing is the process of creating and maintaining mutual relations with customers through online activities to facilitate the exchange of ideas, goods and services in such a way that the objectives of both parties realize. Smith and Chaffey (2005) [13] state that E-marketing will help the organization to achieve the following objectives: identifying (customers and their needs), predicting (customer needs), Satisfying (obtaining customer satisfaction is easier in the net. Of course the company's website must be suitable). E-marketing, is a term that generally means: meeting corporate goals by exceeding customer needs better than competitors using the Internet digital technology [11]. The effectiveness of E-marketing: E-marketing effectiveness is to increase customer loyalty by mail or Internet, the share of the organization in using customer services, to attract and retain customers [12]. In this study, the effectiveness of E-marketing means the extent that the internet activities have provided the E-marketing consistent with the predetermined objectives in the scope of attracting and maintaining the customer, the market share and services. Berthon et al (2003) [1] presented a framework for website success the purpose of which is to provide customer service based on different stages of the decision making process in using the services. The main criteria include: The website effectiveness in informing customers, web site effectiveness in attracting customers, the effectiveness of the web site in providing communication (communication with the company, other companies, and others), the effectiveness of website to motivate the customers to action and the effectiveness of website in customer retention. Website design aspect: It describes the method by which the customer can

access the information provided through the website. E-trust: It is the strong and deep confidence created through the existing evidence which is classified into the three aspects of ability, integrity and predictability.

3.2. Statistical Population, Sample, and Sampling Method

The research population included Bank Melli Iran branches in Mashhad city that have used the Bank Melli Iran website for bank affairs at least one time. To determine the number of samples the Morgan's unlimite population ($n = 10,000$) table was used. In this study in order to select the sample among the existing branches based on the ratings received from the Bank Melli Iran Khorasan Razavi branch (excellent, grade one, grade two, grade three, grade four and grade five) the stratified random method was used. In order to select the branches the name of each branch was written on a piece of paper and through ranking them based on the obtained ranking 19 branches were selected through random selective model. Due to the unlimited volume of bank customer, the Morgan table and the selected branches in this study in order to increase the validity 400 questionnaires were distributed among which 31 questionnaire were not received and 33 questionnaire were not analyzed due to deficiency thus 336 analyzable questionnaires were received. The questionnaire return rate was about 84 percent.

4. Instrument

To collect data to test the hypothesis the questionnaire based on a 5 point Likert scale was used. In the part of content aspects the Guo and Salvendy (2009) [4] standard questionnaire is used. In order to examine the E-trust the McKnight and Chervany (2002) [9] questionnaire was used and in the part of the effectiveness of E-trust the researcher's questionnaire was used. The method of the study is descriptive survey because using the improved model of diffused innovation it investigates the bank customers and describes the research variables and the correlation between them in a specific framework.

In this paper in order to investigate the apparent validity based on the academic experts (the supervisor and the advisor) and institutional experts (specialists and experts in the Bank Melli Iran under study) was used. Also in the present study in order to determine the construct validity the factor analysis is used. Factor analysis can be done in the forms of exploratory and confirmative. Exploratory factor analysis was done by the SPSS application the results of which are presented in Table 1. Also the description of the results of performed factor analysis through the Smart PLS application is represented in Table 3. Bartlett's and KMO test results as the indicators of the adequacy of sampling show that the values of both indices are desirable. The amount of standard KMO is greater than 0.5 for all variables and the significance of the Bartlett test value is less than 0.05. After ensuring the adequacy of the sample size the common values of the items were examined and the items with the value less than 0.3 were detected and these items did not correspond to other items and did not explain them appropriately so they were excluded from the analysis and marked by hatch.

Table 1. Exploratory factor analysis of the items in the questionnaire					
Variables	The Items	The first stage Loadings	The second stage Loadings	Significant Bartlett test	KMO
Website design aspect	DES 1	0.131	-	0.000	0.625
	DES 2	0.168	-		
	DES 3	0.660	0.725		
	DES 4	0.530	0.625		
	DES 5	0.341	0.465		
E-trust	TRU 1	0.133	-	0.000	0.731
	TRU 2	0.520	0.512		
	TRU 3	0.469	0.560		
	TRU 4	0.715	0.793		
	TRU 5	0.663	0.869		
E-marketing effectiveness	INT 1	0.061	-	0.000	0.564
	INT 2	0.455	0.435		
	INT 3	0.639	0.636		
	INT 4	0.570	0.606		
	INT 5	0.495	0.532		
	INT 6	0.582	0.605		

Convergence validity in the PLS model is analyzed by the extracted mean variance. This index indicates the variance that a construct (latent variable) achieves from its markers. For this criterion the values above 0.5 because this value guarantees that at least 50% of a variance of a construct is described by the indices. The results obtained from the convergence validity of the study have been presented.

Table 2. Convergent validity of the research constructs (latent variables)			
Convergent Validity	Latent Variable		
	Website design aspect	E-trust	E-marketing effectiveness
Average Variance Extracted	0.524	0.574	0.697

As can be seen in Table 2, all the mean variance values are higher than 0.5 thus the model has convergence validity. A measure of reliability indicates the consistency of the concept and helps the good evaluation or fitting of the measure. The

ability of a measure to maintain stability over time is an indicator of its stability and low vulnerability to change. The internal consistency of the measures is an index of the congruence of the terms that reflect a unique concept. Cronbach's alpha was used to measure the reliability of the test. The results of the test and its interpretations are presented after the analysis of the validity of each index. The reliability of each indicators of the latent variable is the PLS model is represented by the factor loadings of each indicator. The value of each factor loadings of the variables must be greater than or equal to 0.5. The following table indicates the factor loadings for the latent variables of the research.

Table 3. The factor loadings of the indicator variables.

Indicators	Variable			T-VALUE
	Website design aspect	E-trust	E-marketing effectiveness	
DES 3	0.594			5.806
DES 4	0.817			11.039
DES 5	0.502			4.631
TRU 2		0.357		4.788
TRU 3		0.718		9.163
TRU 4		0.426		3.006
TRU 5		0.604		4.031
INT 2			0.686	9.835
INT 3			0.808	13.633
INT 4			0.855	16.575
INT 5			0.636	10.395
INT 6			0.782	11.682

Construct reliability provides the possibility of analyzing the internal consistency of the indicators that measure a concept. In other words the construct reliability shows how accurate do the observed variables measure the latent variable. To measure the reliability the composite reliability index in PLS model is represented. This index is measured based on Cronbach's alpha coefficient. The value of this index must be greater than or equal to 0.7.

Table 4. Cronbach's alpha coefficient and composite reliability

Variable	Number of items	Cronbach's alpha	Composite reliability
Website design aspect	3	0.779	0.855
E-trust	4	0.735	0.768
E-marketing effectiveness	5	0.804	0.868

As can be seen the value of Cronbach's alpha coefficient and composite reliability are shown in the above table and it can be seen that these coefficients are higher than 0.6. So the model has appropriate construct reliability. The as the reliability of appropriate construct.

5. DATA ANALYSIS METHOD

In this study, the structural equation modeling and the least partial squares were used to test the hypotheses and fitting. For the hypotheses testing the T-value obtained from the fitness in terms of significance of the parameters is used. Since the desired level of reliability is 95% thus the significance number at 95% level is 1.96 so the values in (-1.96 , 1.96) are rejected and the values out of this interval are acceptable.

In this study, structural equation modeling and partial least squares (PLS) model was used to test the hypothesis and fitness. PLS is variance-based approach that in comparing with similar techniques of structural equation such as LISREL and AMOS requires fewer conditions [8]. For example, unlike LISREL, PLS path modeling is more suitable for real applications, especially when the models are more complex or distribution of data is abnormal, the use of this approach would be more appropriate [14]. The main advantage of PLS modeling over LISREL is that it requires a smaller number of samples [15], although relatively large sample size used in this study. The PLS will consider two models simultaneously, the external model (measure model) that reveals the relationship between hidden and obvious variables and internal model (structural model), that measure the relationship between hidden variables with the other hidden variables [14].

6. RESULTS

In investigating the first hypothesis, the results showed that the path coefficient for the relationship between Website design and E-trust is equal 0.134 and for the relationship between E-trust and E-marketing is 0.345. Based on the T-Value=1.25 in the first relation which is within the interval (-1.96,1.96) and T-Value=6.440 in the second relation which is out of the interval it can be concluded that the path coefficient in the first relation was not significant at 0.05 error while the second path coefficient is significant at 0.05 error, which means that there is no significant relationship between the website design and the effectiveness of E-marketing through the E-trust. Thus the first hypothesis is rejected.

In evaluating the effectiveness of the website design on the effectiveness of E-marketing (second hypothesis), the path coefficient is 0.228. The T-Value is 6.592 (For a ratio to be significant it must be out of (-1.96,1.96)), which in this case is smaller than the significance level 0.05). It can be concluded that this path coefficient is significant at 0.05 error

which means that the website design aspect has a significant effect on the E-marketing. So the second hypothesis is approved.

In evaluating the effect of the website design on E-marketing the path coefficient is 0.134. The T-Value is 1.250 which is smaller than the significance level of 0.05. It can be concluded that this path coefficient is insignificant at 0.05 error which means that the website design aspect does not have a significant effect on the E-marketing. So the third hypothesis is rejected.

In evaluating the effect of the E-marketing on E-marketing the path coefficient is 0.345. The T-Value is 6.440 so it can be concluded that this path coefficient is insignificant at 0.05 error which means that the E-trust has a significant effect on the effectiveness of E-marketing. So the fourth hypothesis is approved.

6.1. Evaluation of the model fitting

To check the quality or validity of the model, we use cross-validation which includes CV-Communality and CV-Redundancy. Communality Index, measure quality of model for each block of indicator. The CV-Redundancy index that also named Q2 Ston-Gaser, with regard to the measurement model, measures the quality of structural model for each endogenous block. Positive values of this indicators showed the appropriate quality and acceptable measurement and structural model. In Table 5 values for each of the indicators of independent and dependent variables is given. As you can see the indicators are positive and greater than zero.

Table 5. Communality Indexes (CV Com , Redundancy indicator (CV Red)		
Variable	CV Com	CV Red
Website design aspect	0.403	0.403
E-trust	0.186	0.213
E-marketing effectiveness	0.570	0.189

7. DISCUSSION & CONCLUSION

The results indicated that 65.7% of the respondents were male and 27.9% of the respondents were female. Also 6.4 did not answer this question. As it can be observed 43.7% of the customers are below 30 years old which indicates the youth of the bank customers and clients. 13.6% have diploma or lower education, 11.6% have associate's degree, 41.3% have bachelor's degree and 25.7% have graduates or higher degree. Also, 7.7 percent of the respondents did not answer this item. The results reflect the high level of education of the bank customers. The characteristics of sample respondents were observed based on using the website, 24.7% of the respondents use the website services 1-3 times a month, 34.5% of the respondents use the website services 3-6 times a month, 20.6 of the respondents use the website services 3-6 times a month and 9.7% of the respondents use the website services above 9 times a month. Also 4.6% of the respondents did not answer this item. The results show that more than 50 percent of the clients used the website services 3-9 times a month to do their banking transactions.

In investigating the first hypothesis, the results showed that there is no significant relationship between website design and E-marketing effectiveness. In evaluating the effectiveness of the Website design aspect on the E-marketing effectiveness, results showed that Website design aspect has a significant effect on the effectiveness of the E-marketing. So the second hypothesis is approved. The results of this hypothesis are consistent with Ranganathan and Ganapathy (2002) [10]. In fact website design has a positive effect on the creating a positive image for customers regarding the bank and its services. Successful websites have attractive design and appropriate arrangement in such a way that a user can easily access the information he needs without being confused. In fact, website design along with the content and security are very effective in creating the customers' intention to use the services. It can be concluded that the accuracy in website design of the Bank Melli Iran can be effective in improving E-marketing activities of this bank.

In investigating the website design aspect effect on the E-trust, the results showed that the website design aspect does not have a significant effect on the E-trust. So the third hypothesis was rejected. The results showed that the structure of the web site of the Bank Melli Iran due to providing the quick access to the information on the website does not have a significant relationship with E-trust of the customers. The results are inconsistent with Kim et al (2004) [6]. In investigating the effects of on the effectiveness of E-marketing the results showed that the E-trust has a significant effect on the effectiveness of E-marketing. So the fourth hypothesis is approved. In other words, gaining the trust of the customers of the Bank Melli Iran through its website can be relevant with the effectiveness of E-marketing (attracting customers, keeping customers). In fact, when the bank can establish trust in customers they will use the website in the E-commerce.

Every scientific research is affected by the limitations and this study is not an exception. The most important limitations of this study were:

1. A mixed standard questionnaire to measure the effectiveness of E-marketing was not available thus the researcher questions based on literature was used.
2. Normally the sampling period should be wide enough to encompass all the factors that influence the behavior of the respondents. On the other hand the targeted customers must use the internet at least 1-3 times a month. This had created problems in the distribution of the questionnaires.

8. Suggestions

1. Standardizing the design of the website pages including the font size of the titles, texts and the icons;

2. Using tools to remind religious, national and international events throughout the year;
3. Designing a simple, comprehensive website that the regular people of the community could use it;
4. Using relevant images and illustrative tutorials;
5. Using the international credentials to develop organizational activities in other countries;
6. Obtaining a license from the regulatory authorities for the implementation and operation of the business site.

8.1. Suggestions for future research

1. 1.The analysis of the effect of design on the mental image of the customers about Bank Melli Iran and the related services based on the customers' culture.
2. 2.The impact of the design aspect on the customer E-loyalty, E-satisfaction, using the online bank services, website traffic.
3. The impact of information quality and system structure on the success of e-business at Bank Melli Iran.

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