The Impact of Selected Internet Commerce Motives (Technological, Informing and Advertising) on the Success of an Online Shop. Case Study of Online Shops with E-Brand Trust

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Abstract	*Regarding the wave of globalization many concepts and definitions associated with social-economic life of today human have changed. Changes caused by the advent of the internet or generally ICT (Information and Communications Technology) in the lives of individual people in different communities led to the significantly increased rapid dissemination of concepts, modern technologies and new services, among them electronic commerce is an issue of much importance. In the present study the impact of selected internet motives on the success of online shops has been addressed. The self-made survey questionnaire was applied included Likert-scale multiple-choice questions and next to the validity and reliability test 360 numbers of them was distributed between directors of online shops. Among them 348 acceptable responds were returned. According to the research findings, Smartphones, according to, 2nd and 3rd generation of the Internet, search engine optimization, banner advertising, email advertising, advertising through search engines found to have effect on the success of online shops. However, the impact of advertising motives through the Games and RSS reader on the success of Internet shops was not confirmed.*
Key words	e-commerce, internet business, online shop, internet business motives

1. Introduction

E-commerce has opened a new area to competition because of its speed, efficiency, costs reducing and exploit of fleeting opportunities as lagging behind this evolution will result nothing but isolation from the global economy area. Presence among global markets through successful and efficient techniques depicts a vision of countries' economic empowerment including the need to adapt to the current international system. In this field, buying and selling the goods over the Internet appeared as a branch of e-commerce in which Internet is as a bridge between buyers and sellers enabling buyers to buy the considered item at any time and place.

Effective motives on Internet commerce are divided into three categories of technological, social and customer demands, and market factors. Technological factors include smart phones, second and third generation broadband wireless. Social factors and customer demands contain under changing customers, personalization systems, context-dependent reactions, intelligent shopping experiences and wide customers' demography. Market factors include new markets and new requirements, increased competition, innovation to gain competitive advantage and absorbing the section is not satisfied (Sanaiey, 2012). In this study, in order to assess the impact of internet motives, the technological motives were selected and information and advertising factors have been evaluated as a new factor. The investigated technological motives in the study

contained smart phones, second and third generation of broadband wireless and a third factor namely optimization for search engines has been added. Informing motive and advertising contain some factors like advertising through search engines, banner ads, email ads, advertising through search engines, advertising through games as well as RSS reader.

2. Literature review

E-commerce means the paperless transaction where innovations such as electronic data interchange, electronic mail, electronic bulletin boards, electronic funds transfer and other network-based technologies are applied based on network (Ghezel Ayagh, 2001). Generally, e-commerce is a new commercial strategy led to improved products and services quality and improvement in services provision rate while link the requirements of organizations, suppliers, and consumers toward reduce expenses (Shaw, 2000). E-commerce is a new approach of business both electronically and using networks and Internet. In this way the process of buying and selling or exchanging products, services and information perform via computer and communication networks including Internet. (Turban *et al.*, 2006). E-commerce is defined as the process of buying, selling, transferring or exchanging the products, services or information via computer networks through the Internet. (Fathi & Molapour, 2008). Internet Commerce: E-commerce is entering a new era that is called the internet business.

Electronic business has already entered a new period called Internet business. It creates additional value for both parties by means of providing further interactivity, sophistication and personalization between both customers and companies and provides access to a wider range of users. The power of internet-related business is caused by wise convergence of smart phone applications, semantic web technologies, software content, new types of user interface, smart shopping and targeted business for an individual. Internet-based business environment is based on many interdependent systems and processes that require dynamic exchange of information. Now, because of the widespread use of smart cell phones and portable computers, access of broadband wireless to Internet, improvement in web technologies and web2 and web 3 standards (Semantic Web) and interrelated data and systems and open standards, the next phase of electronic business has been begun which named Internet business (Sanaiey, 2012).

There are several internet business motive factors which can be grouped into technology motives, customer demand, social motives and inhibiting forces.
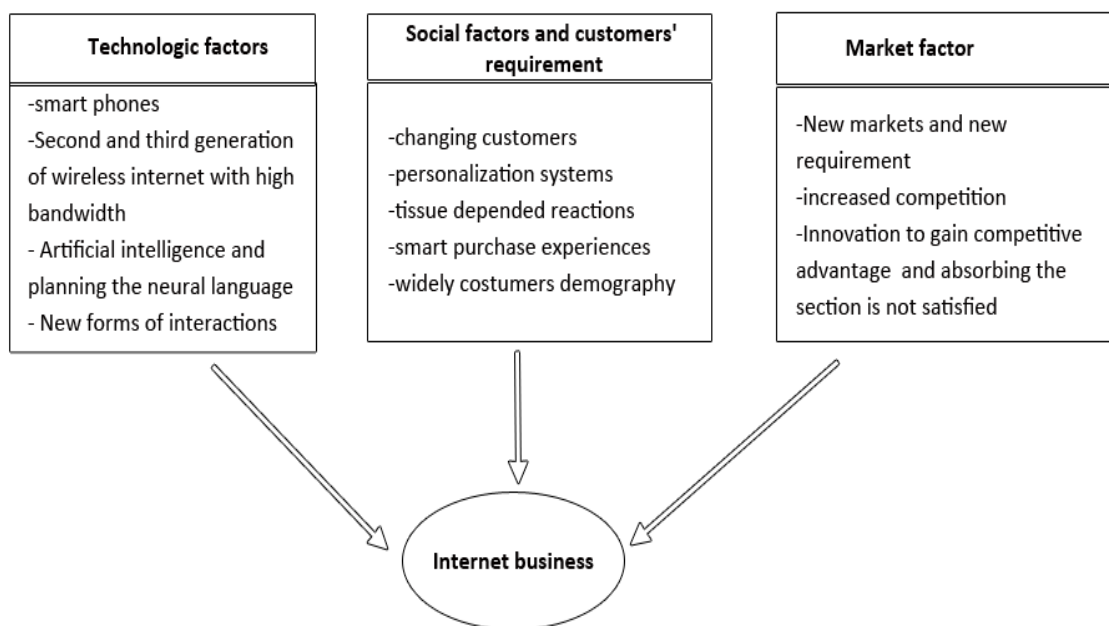

Figure 1. Internet business motives (Sanaiey 2012, 2013)

Along with technological advances in information technology and the Web, e-commerce has evolved through several stages. Traditional e-commerce which is already named e-commerce 1 is formed through traditional Web and the Internet. E-commerce 2 is called Social Commerce is developed by traditional Web and Social Media. E-commerce 3 which is referred to as Internet commerce is developed by the Semantic Web, smart cell phones, and cloud computing.

Table 1. Evolution of internet business (Sanaiey 2012, 2013)

Future	E-commerce 1	E-commerce 2	E-commerce 3
	E-commerce	social commerce	Commerce via Internet
concentration	business	society	personal
information	Read-only	RW	RW, personalization
Power center	business	society	personal
communication	Document related	Among society	Always person related
Network topology	Person to many	Many to many	Person to person
activity	inactive	group active	Individual active
purpose	people	group	Individual

During recent years, we have witnessed the rapid growing and increased use of network tools. The tools known as "Web 2" technologies can be called mass communication tools. In fact "Web 2" is a concept based on the interaction with web content is looked as interacting with existing content in personal computers. The environment where any action will bring a prompt immediately reaction such as clicking on a button or link (Izadpanah, 2005).

The Web as the widest communication medium is increasingly growing. This technology in combination with the latest electronic storage devices will enable us to be aware of a great deal of information in the information society (Shiltinng and Nielsen, 1996). Currently there is a large volume of information on the web and a lot of information and news is accessible by the World Wide Web (WWW). Nowadays information retrieval is considered as the most important aspects of research and awareness. Along with the advent and development of Internet a variety of search tools such as search engines and Meta search engines came into existence to help users in finding the needed information from the Web.

Search engines are utilities that inform us about available information in different sites through profiling name and service provider's specifications and the information involved in (Mehdi Gholikhan and Tamini, 2001). Search engine is a computer program that allows access to an Internet resources database, search for information or specific keywords or reporting results. For example, the customers tend to request information (request for product information or prices). This type of requests is repeated and is costly when responding to such a request is performed by a human being. Search engines provide responds through questions links with Template Frequently Asked Questions (FAQ) including standard questions and specific answers and stereotypes economically efficiently (Maniyan, 2008). Search engine is known to be a tool for finding information on the Internet. Software programs search Internet information resources using keywords and provide a list of documents associated with Keywords (Montazer, 2003).

Search engine optimization (SEO) it refers to the all processes and practices performed for each type of web page (a page from a website, weblog or portal) so that promotes the rank of the related web page in the Internet search engines (Seo Export, 1392).

Today, Internet connection is performed in two ways of wired and wireless connection; wired connection includes ADSL, cable, and optical fiber. This type of Internet connection is both cheap and fast and often is used in places where the wired electrical equipment connected to the Internet Service Providers, such as homes.

Types of wireless connections: Where there is no wired connection satellite internet can be used. Wireless Internet utilizes mobile phone signals to connect to the Internet and is used in portable devices. Several technologies are used in such connection known as the third and fourth generation or G3 and G4. This type of Internet connection is more expensive than wired one.

Wireless is refers to the communication technology in which radio waves, infrared microwave are used instead of wires and cables to transmit signals between two devices. Wireless technology enables users to use different mobile devices without the need for wires or cables. (Cell PC site). Wi-Fi is a wireless network technology used for connecting computers and digital devices.

Smart phone is referred to a cell phone offers more advanced capabilities and greater computing power than "feature Phone". Smartphones are advanced mobile phones with specific features and applications such as personal computers. One important feature of this phone is the possibility to install advanced processing and connectivity applications on them (Wikipedia, 2013).

Advertising is a relationship and impersonal introduction of a product or service through multiple carriers in the profit of payment for non-profit organizations or individuals who somehow have been identified in the message. Commercial advertisement is a dynamic science that reshapes every day with social, political and economic developments in the different environments and finds certain content according to the beliefs, customs, culture and religion. Advertisement means delivering a message, introducing an issue to others or pretending that something is good or bad as well as visual and verbal messages which is transmitted to certain groups or to the entire community in order to promote the idea or product from a supplier through advertising channels and money is paid for it (Abbasi and Mohammadiyan, 2007).

One the important motive in internet business is the website to being seen, because till the site is not available, users can not get customers to buy products from the website and information. Therefore, informing factors and advertising receive much important. The other advertising factors include optimization for search engines, banner ads, email ads, click advertising and advertising in the other media. The effect and analysis of these issues is essential and necessary for an online shop to be succeeded. Considering the virtual nature of online shops, online advertising can be very effective, so that the site owners try to use various methods for Internet advertising.

With the exponential increase of information in the internet, finding helpful information on the Internet seems not to be very easy. As a result the search engines appeared to meet the new needs of consumers. One of the popular ways of internet advertising is advertising through search engines. Advertising search engine helps the advertisers to reach their target audience. This type of advertisement on the web is done using search keywords. In other words, when a viewer attempts to search for information on the Internet, the used Keywords to search causes him/her to lead to the advertiser websites among other search results (Sanaiet, 2011).

Banners are actually advertising electronic billboards. A banner usually contains a short text or a graphic message that will introduce a product or a vendor. A banner can even include a video or a sound clip. When clicking on a banner it is redirected to the advertiser's website through the link defined for (Makvandi, 2007). Banners are the most widely used form of Internet advertising. Banner ads play an important role in enhancing the projective potential of the names and trademarks. The key to success of people their activities are closely linked to the Internet network is to incorporating banners on websites that are associated in some way with their advertisement. The advertisement of a company is being observed (whether by clicking or without it) will be well-known easily with a low cost. In general, the banners are used both as fixed banners with pictorial form in a fixed size and mobile banners namely the types that animation technology is utilized in designing and making them. Another form of banners is interactive banners which allow providing a two-way communication between users and advertisers. Banners are counted as the most popular forms of Internet advertising due to the low cost of designing and mailing (Sanaiey, 2012).

Letter has always been one of the marketing and advertising tools. With the increasing use of email, it has become an effective tool for Internet advertising. Advertising via email is an economize tool with high response rate too (Saadat and Mozaffari, 2009).

Game-based advertising: over the past years, the entertainment has been one of the methods used in advertising. Accordingly, internet games can provide an appropriate opportunity to advertise. Providers of game-based advertisements are internet games' sellers. These types of advertising are sent to people who are playing based on two ways. In the first method, which is widely popular the advertising images are replaced with internet games images. As a result, individuals who are playing games should see certain ads before moving to the next stage of the game or do certain interactions. In this way advertisers voter receives more interactive responses because people are playing will want to continue their game. Since the game-based

advertisements often use multimedia technology spend more money to establish and run them. Despite these advertisements are very successful in attracting the attention of the audience, but the audience is limited only to those who play games. Another limitation of this type of advertisement referred to the lack of dissatisfaction with some of the commercials during the game. (Soleimani Bashly, Talebi, 2011).

Now many websites around the world use the possibility of RSS reader (enriched Summary of Site). RSS system enables the Internet users to be notified about the latest updates without touching their favorite website or weblog. This system let to save the time of Internet users in addition to being wandered and confused in the web sites. (Saadat and Mozaffari, 2009).
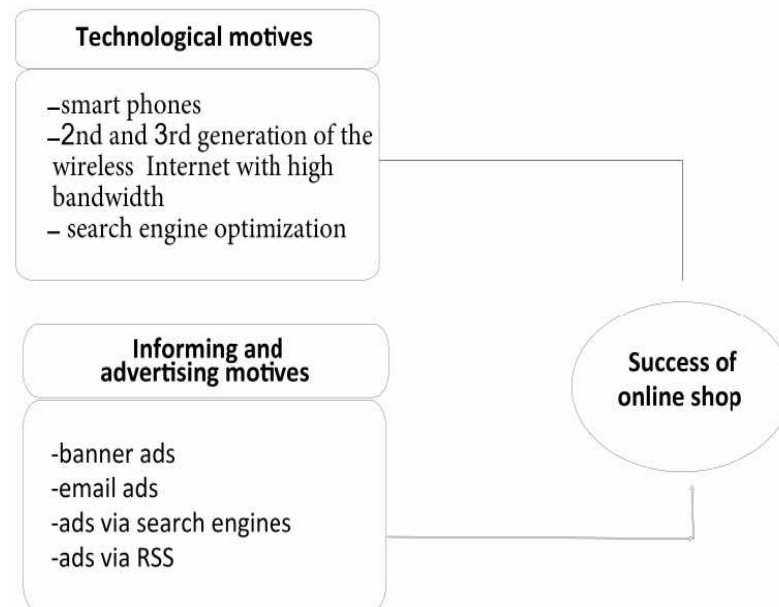
3. Methodology of research

Figure 2. Conceptual model of research

Primary and secondary hypotheses of this study are as followings:

The primary *hypothesis 1*: technological factors affect an online shop.

The secondary hypotheses of primary hypothesis 1 are as followings:

1. The smart phone has an impact on the success of online shops.

2. The second and third generation broadband wireless internet can have impact on the success of online shops.

3. Website optimization for search engines has impact on the success of online shops.

Primary *hypothesis 2*: informing and advertising factors has impact on the success of online shop.

The secondary hypotheses of primary hypothesis 2 are as followings:

1. Banner ads have impact on the success of internet shops.

2. Email ads have impact on the success of internet shops.

3. RSS reader has impact on the success of online shops.

4. Game-based advertising has impact on the success of online shops.

5. Advertising on search engines has impact on the success of online shops.

Variables identified during the present study were categorized into two class of the dependent variable (success of the online shop) and independent variables (including smart phones, wireless internet, advertising, and search engine optimization). In order to assess the impact of Internet Commerce motives on the success of online shop self-made questionnaires were selected. The nominal validity was applied to evaluate the validity. For this purpose 10 questionnaires were given to the professors and other experts who specialized in the field of e-commerce, particularly the subject of this study. The questionnaires were revised based on their recommendations, returned back to them again and eventually after exerting their final opinions final

questionnaire was developed. Accordingly, nominal validity of the questionnaire was confirmed. In order to determine the reliability the Cronbach's Alpha test was adopted. According to the variance of each question as well as the total variance of the test the Cronbach's Alpha coefficient was calculated using SPSS software. It was found to be 0.97 for whole questionnaires. Given that alpha coefficient above 0.75 is acceptable in the human science research (Cronbach, 1951) so the reliability of the mentioned questionnaire was well evaluated with regard to the up to 0.75 values of both total alpha and separate variables.

Table 2. Cronbach's alpha coefficients

Variable	Cronbach's Alpha coefficients
Technological factors: smart phones	0.83
The second and third generation of wireless internet	0.84
search engine optimization	0.80
informing and advertising factors	0.94
the success of internet shops	0.87

Statistical population and sample

Webmasters who own e-shops with electronic symbol make the statistical population of this study. The sampling method employed in the present study was random sampling.

Several questionnaires were administered to a number of shops in each city to provide experts with their comments. Given that the study population was infinite therefore the following equation was used to determine sample size.

$$n = \frac{s^2 \; t_{\alpha/2}^2}{d^2}$$ (1)

With initial sample of 30 numbers between specialists, primary sample variance was obtained 0.55 that after replacement in the equation the required samples with reality of 0.95 gained at least 330 numbers.

$$n = \frac{\frac{0}{55} \times \frac{1}{96}^2}{\frac{0}{08}^2} = 330$$ (2)

The number of questionnaires can be equal to or greater than this number (n=330). To further ensure the numbers of 360 questionnaires were distributed. Among them 348 acceptable questionnaires was considered as the basis for conducting research.

Methods and tools of data collection

Library survey: in order to gather information about the theoretical principles and research literature associated with the topic several resources including library resources, articles, required books and Internet sources were used.

Field Research: among various scales associated with providing questionnaires a five-category Likert scale (1-5) was adopted in which 1 and 5 indicate the least and the highest score respectively. In the present study a standard questionnaire has been set based on literature and theoretical foundations, as well as experts' comments and suggestions.

Table 3. Likert scale

Selected option	I strongly agree	I agree	medium	I disagree	I strongly disagree
score	5	4	3	2	1

Table 4. Variables and the number of questions of each variables

Studied variable	The number of questions	Questions associated with this motive in the questionnaire
Technological factors: smart phones	4	1-2-3-4

The second and third generation of wireless internet	6	5-6-7-8-910
search engine optimization	5	11-12-13-14-15
informing and advertising factors	15	16-17-18-19-20-21-22-23-24-25-26-27-28-29-30
the success of internet shops	4	31-32-33-34

Validity of questionnaire

In this study, the nominal validity was used to assess the validity of the questionnaire. So that 10 questionnaire were given to the professors and other experts who specialized in the field of e-commerce, particularly the subject of this study. The questionnaires were revised based on their recommendations, returned back to them again and eventually after exerting their final opinions final questionnaire was developed. Accordingly, nominal validity of the questionnaire was confirmed.

Determining the reliability of the questionnaire

In the present study in order to determine the reliability the Cronbach's Alpha test was adopted. According to the variance of each question as well as the total variance of the test the Cronbach's Alpha coefficient was calculated using SPSS software. It was found to be 0.97 for whole questionnaires. Given that alpha coefficient above 0.75 is acceptable in the human science research (Cronbach, 1951) so the reliability of the mentioned questionnaire was well evaluated with regard to the up to 0.75 values of both total alpha and separate variables. Table 3 represents the Cronbach's Alpha coefficient for each of the variables separately.

Table 5. Cronbach's Alpha coefficients

Variable	Cronbach's Alpha coefficients
Technological factors: smart phones	0.83
The second and third generation of wireless internet	0.84
search engine optimization	0.80
informing and advertising factors	0.94
the success of internet shops	0.87

4. Data analysis

In the present study the managers of online shops were selected randomly. The analysis of demographics of respondents is as followings:

Table 6. Demographics of respondents

Variables		Frequently
Sex	male	131
	female	207
	unknown	10
Education	bachelor	133
	Associate's degree	87
	Diploma	92
	M.A.	14
	Ph.D.	4
	unknown	18
Marriage	single	106
	married	231
	unknown	11
The level of familiarity with the e-commerce	Very high	39
	high	62
	moderate	178
	low	41

Variables		Frequently
	unknown	28
Age	10-20	11
	20-30	116
	30-40	108
	40-50	65
	50-60	21
	60-70	3
	Unknown	24

In the present study Kolmogorov–Smirnov test was used to investigate if questions used in questionnaire are normal or not so that statistical parametric tests and also the method of maximum likelihood can be used in structural equations if this term is satisfied. Results of this test are presented in table 7.

Table 7. Results of Kolmogorov–Smirnov test in sample of customers

Test result	Significant level	Standard deviation	Mean	Number of data
Lack of eject H_0	0/693	0/781	3/255	**348**

Regarding that significant level of test is more than 0.05, the claim that questions are normal is accepted and parametric tests and ML method can be used in structural equations. After that measurement patterns are studied and approved in the first stage, structural equations are used in the second stage to test hypotheses.

Table 8. General fit indices of structural equations model analysis of the main hypothesis

CMIN	CMIN/DF	P	GFI	RMR	CFI	RMSEA
46/36	2/20	0/001	0/97	0/02	0/99	**0/05**

Results obtained from information presented in tables of General fit indices of structural equations model analysis areas bellow in previous stages:

- Regarding above contents it can be concluded that general indices indicate good fit of patterns by data or in the other word it can be said that collected data support patterns well.
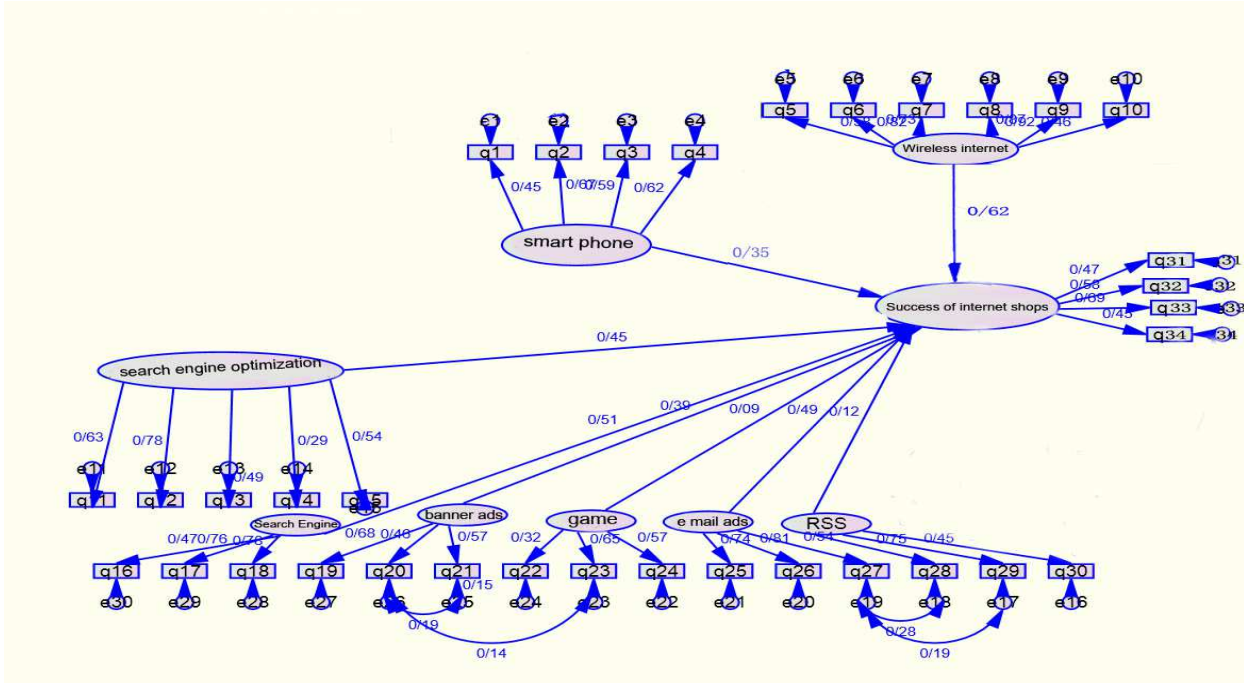

Figure 3. Pattern of structural equations

Table 9. Test table of research hypotheses

Hypotheses			Factor load	Critical ratio	Significant level
Success of internet shops	<---	Smartphone	0/35	4/45	***
Success of internet shops	<---	Wireless internet	0/62	7/45	***
Success of internet shops	<---	Site optimizing for research engines	0/45	6/25	***
Success of internet shops	<---	Banner advertisement	0/39	4/22	***
Success of internet shops	<---	Research engine	0/51	6/27	***
Success of internet shops	<---	games	0/09	1/12	0/06
Success of internet shops	<---	Email advertisement	0/49	6/68	***
Success of internet shops	<---	RSS Reader	0/12	1/14	0/07

5. Conclusions

5.1 Research results

Factors of Smartphones, 2 and 3 generations of wireless internet with high bandwidth, optimizing site for research engines, Banner advertisement, email advertisement, advertisement through research engines affect on success of internet shops while RSS reader factors, advertisement through games do not affect on success of internet shops.

5.2. Research constraints

Usually performing any research is accompanied by some barriers, problems and constraints but it does not mean that results of that research cannot be used or that problems have significant effect on value of that research. Since it is necessary to familiarize addresses and users with research problems and constraints, some cases are pointed below:

1. Research findings are only limited to time duration of collecting data and its credit is limited to short term period and time passage may affect on studied variables in this research and change results.

2. Usually there are some differences between what is demonstrated and what is believed by peoples and in some cases people avoid to state their real opinion and this can lead to decrease in accuracy of research results.

3. With regard to extension of subjects that can be presented about factors affecting success of internet shops like trust that are not investigated in the present study. Research results can be deviated if all variables affecting success of internet shops are not regarded due to imposing high costs and also making time of performing research too long.

5.3. Research recommendations for future researchers

1. Studying factors affecting on success of internet shops from customers' point of view and comparing it with results of this research

2. Determining other factors affecting like education, publicity, self-efficacy etc. in success of internet shops

3. Using model used in this research for other services like mobile banking in order to study credit of this model.

4. Determining factors that are recognized as barriers from perspectives of customers and users.

5. Studying some factors that are very effective in understanding simplicity of using mobile internet shops like simplifying purchase programs or having strong protectors

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