Internet advertising adoption: a structural equation model for Iranian SMEs

Payam Hanafizadeh
Department of Industrial Management, Allameh Tabataba’i University, Tehran, Iran

Mehdi Behboudi
Department of Business Management, Qazvin Branch, Islamic Azad University, Qazvin, Iran, and
Fahimeh Ahadi and Fatemeh Ghaderi Varkani
Management and Productivity Research Center, Qazvin Branch, Islamic Azad University, Qazvin, Iran

Abstract

Purpose – The purpose of this paper is to provide some insights regarding the adoption of internet advertising by Iranian small and medium-sized enterprises. The recent negative trends leading to a lack of competitive advantage in small businesses and the advantages of internet advertising makes it imperative to study various factors affecting this area of marketing.

Design/methodology/approach – This study reviewed 59 previous related studies, resulting in a comprehensive theoretical framework which explains the advantages of internet advertising for small to medium-sized enterprises (SMEs). Via questionnaire, the paper compiles 346 Iranian experts’ opinions in order to test the validity and applicability of variables in Iran. A structural equation model and LISREL software were used to analyze the data.

Findings – A total of seven latent variables of internet advertising adoption were examined: advertising agencies, internet publishers, small and middle-sized enterprises, government role, e-commerce development and user types. The paper found that these constructs successfully explain internet advertising adoption by incorporating readiness and globalization stages. The small and medium-sized enterprises were found to be the most significant for explaining internet advertising adoption.

Research limitations/implications – The sample was restricted to Iranian experts.

Originality/value – This study offers one of the first attempts to build a comprehensive theoretical model explaining internet advertising adoption. Second, this study offers a new scale for internet advertising adoption with higher content validity.

Keywords Internet advertising, Adoption, Product involvement, Internet publishers, Small to medium-sized enterprises, Advertising, Iran

Paper type Research paper

1. Introduction

Recent years have witnessed a growing interest in examining the process and influence of online advertising. With the rapid progress in computer-based business, many firms have made the internet part of their advertising media mix to take advantage of online technologies (Calisir, 2003; Lim et al., 2010). The internet has become a popular advertising platform because marketers found that the internet has greater flexibility and control over advertising content (Ducoffe, 1996). In addition, estimates show that the number of registered web sites reached 200 million in 2011 (itproportal.com, 2011), and the number of internet users throughout the world was about two billion,
800 million of whom are Asian (Internetworldstats.com, 2011). Moreover, the number of Iranian users at the end of the third quarter of 2011 was about 37 million, ranking first in the Middle East and fourth in Asia. These statistics indicate that Iran is an appropriate place for studying the internet and its application as a channel for distributing information, especially for small- and medium-sized companies (SMEs), in the form of advertisements. This becomes more important when realizing that advertising through other channels in Iran, such as governmental TV, costs more than $500 per second.

Considering the above-mentioned issues, and lacking sufficient budgets for publishing their advertisements, SMEs have no choice but to adopt the internet medium as one of the cost-effective channels for their advertising. Hence, this study intends to reveal the factors influencing the adoption of internet advertising for SMEs, including:

1. How can SMEs adopt the internet as a platform for publishing advertisements?
2. What are the critical factors in adopting the internet as a platform for publishing advertisements?

2. Literature review
2.1 Advertising and internet advertising
Definitions abound for advertising, some relatively comprehensive and some concise and simplistic (e.g. see Arens, 1996; Belch and Belch, 1998, O’Guinn et al., 2000). Recently, some researchers attempted to update the definition of advertising. For example, after a series of interchanges with advertising experts, Richards and Curran (2002, p. 74) developed the following definition: “Advertising is a paid, mediated form of communication from an identifiable source, designed to persuade the receiver to take some action now or in the future.” Consequently, the purpose of advertising can be summarized as building an image of a product and persuading potential audiences to buy that product.

In regard to internet advertising, there are different definitions, such as Schlosser et al. (1999), who defined internet advertising as “any form of commercial content available on the Internet that is designed by businesses to inform consumers about a product or service” (p. 36), and Ha (2008), who states “deliberate messages placed on third-party websites including search engines and directories available through Internet access” (p. 31). However, we believe these definitions did not explain the real personalized and customized nature of this medium. For this reason, we use the following definition: “Internet advertising is an Internet-based process by which advertisers communicate, interact with and persuade online users in order to position a brand, which allows a company to promote both consumer awareness and preference in a customized and personalized way, and to decrease the time needed to make a buying decision” (Hanafizadeh and Behboudi, 2012, p. 22).

What makes internet advertising different? Why do SMEs need to adopt internet advertising while they continue to use traditional advertising?

According to McMillan (2004) and Hanafizadeh and Behboudi (2012), internet advertising has four key fundamental differences in comparison to traditional forms of advertising. First, internet advertising compresses the hierarchy of effects. Traditionally, there were different objectives for advertising and marketing. In this way, “advertising works on the communication aspects of the hierarchy
(e.g. awareness, attitude) while marketing works on the higher-level behavioral goals (e.g. purchase, brand loyalty)” (McMillan, 2004, p. 4). But on the internet, all the borders become unclear and compressed. Banner ads might build awareness of a brand and simultaneously navigate users to a web site that sells the products or services advertised on the banner. The second difference is interactivity. The internet is a hypermedia which allows advertisers to get a direct response from customers instantly. It also has formulated a new context in which users are able to create one-to-one communication with a web site, expressing their real needs. Through the use of this model, advertisers can directly interact with their customers and learn about their needs. The third major difference is intrusiveness, or spawning. This advantage caused the creation of Rich Media, a powerful tool that has evolved internet advertising significantly because of its ability to use animating software. Pop-ups and pop-unders are examples of Rich Media advertisements. “Disabling mouse” and “Keeping the user on the main site (farming)” are two major techniques of intrusive or spawning advertising. The fourth key difference is the internet capability of personalized communication. By emerging the concept of “lead generation” (see Hanafizadeh and Behboudi, 2012, Chapter 12) and the companies that provide invaluable leads for marketers, the advertisement’s myth (put the right message at the right time for the right user) is now practicable.

Advertising on the internet has other advantages, such as personalization and customization, rapid update (Turban et al., 2006), decreased cost, high flexibility (Heiligtag and Xu, 2007; Heiligtag et al., 2010), acquisition of traffic, user tracing (IAB.net, 2007), measuring and tracing the results of advertising, and providing the appropriate ability to manage access and frequency (Hanafizadeh and Behboudi, 2012).

Considering these advantages, it is necessary to conduct a study to find the variables that define internet advertising adoption as a promotional strategy.

The present study focuses on SMEs for two reasons. First, they play a considerable role in the economy of developing countries. According to the United Nations Conference on Trade and Development (UNCTAD) (2002), 60-70 percent of employment in developing countries has been created by SMEs. Second, there is no rigid bureaucracy in these enterprises, and recruitment rarely takes place, so new technologies grow rapidly (Arbore and Ordanini, 2006; Stockdale and Standing, 2004; Simmons et al., 2008). These enterprises are faced with exclusive challenges (e.g. budget) for the adoption of new technologies (Auger and Gallaugher, 1997), and intend to use virtual technology, especially in non-productive costs. One of the high non-productive costs that SMEs must pay in order to survive in the market is for advertising. Internet advertising lets them decrease this cost, not only by providing brand awareness (Gordon and De Lima-Turner, 1997) for relatively low expense, but also allowing them to globalize from an online platform.

2.2 The internet and the adoption of internet advertising

There are only two published studies regarding the adoption of internet advertising, and we mention them at the end of this section. In this study, we first review the internet adoption literature, and then focus on the adoption of internet advertising and the development of a theoretical framework.

One of the earliest studies, Mehrtens et al. (2001), argued that three factors affect internet adoption for SMEs: awareness of benefits, organizational readiness (financial and technical readiness) and external pressure (from rivals and commercial firms). Then Haynes et al. (1998) considered SMEs in terms of internet adoption and usage,
stating, “SMEs perceive ‘finding necessary capital’ and ‘education on computers and technology’ as more important needs than large companies” (Riquelme, 2002). Teo and Tan (1998), classified internet adoption into non-adopters (those without internet accounts), adopters without web sites but with an internet account, and adopters with web sites. Aligned with them, Rao et al. (2003) pointed out that web site adoption happens through the following stages:

1. creation of a static web site;
2. portal web site;
3. integration of transactions; and
4. enterprise integration (a complete web site).

Walczuch et al. (2000) explored different factors influencing small businesses in their choice of internet use (benefits and barriers). They reported, “The main barriers to internet adoption and to developing a Web presence are simply the concern that the internet or the Website would not lead to more efficiency or lower costs” (p. 561).

Forman (2002) tried to show how organizational, technical and environmental factors affected a firm’s decision to adopt internet technologies during the early years of the commercialization of the internet. He believed the internet was used primarily as a basic communications technology during the early years, and organizations that had made prior investments in client/server networks had a higher likelihood of internet adoption; however, investments in proprietary or platform-specific client/server technologies raised the cost of switching from legacy systems. He found that the low adaptation costs characterized the rapid diffusion of early internet technologies. Riquelme (2002) conducted an empirical study on 248 SMEs and large companies in order to determine if there were any differences between these companies in adopting the internet. Results indicated that there were significant differences between large companies and SMEs in adopting and using the internet. Large companies benefited considerably more from use of the internet than SMEs in terms of increased sales and cost savings.

Levy and Powell (2003) consider internet adoption from a non-stage-based spectrum, suggesting that owners’ recognition of the business value of the internet combined with their attitude toward business growth are key factors in determining internet adoption strategies. Thus, they concluded that if SMEs want to adopt a specific technology, they must meet some requirements instead of following a stage-based model. Doherty et al. (1999) addressed the empirical studies which were conducted in the UK, and reported that operating in an appropriate market sector and having a positive view of the viability of the internet are of particular significance. They also highlighted the importance of developing a coherent and integrated internet strategy, the need for senior management commitment, and the presence of an appropriate infrastructure and development capability.

Dholakia and Kshetri (2004) conducted an empirical study to identify the factors that affect SMEs’ involvement with the internet. Their study considered internal and external variables such as firm size, self-efficacy and prior technology use for predicting the level of internet involvement. They suggested that specific factors like prior technology use and the customer service subscale of perceived competitive pressure influence both stages of internet adoption and contribute to the SMEs’ involvement with the internet. Lee and Cheung (2004) developed a theoretical
framework for analyzing the adoption of internet retailing for SMEs in Hong Kong. They found that organizational readiness (IT sophistication, financial resources and customer readiness), perceived benefits of internet retailing and environmental factors are the key variables affecting adoption of internet retailing. Aligned with this study, Estache et al. (2002) provided a comprehensive report on internet adoption in Latin America.

Regarding the explanation of internet technologies’ adoption in small businesses, Lee (2004) examined the relationships of the relative advantages of using IT: compatibility, ease of use, computer self-efficacy, financial slacks of the firm, innovativeness of the firm, image of IT and competitive pressure against adoption of four different internet technologies – e-mail, business homepage, e-sales and e-procurement.

Ifinedo (2011) studied Canadian SMEs in order to find what causes them to be reticent about accepting internet and e-business technologies (IEBT) in their operations. The study’s findings indicated that perceived benefits, management commitment/support and external pressure are significant predictors of IEBT acceptance. They also found that factors like “organizational IT competence,” “IS vendor support” and “availability of financial support” positively influence IEBT acceptance by the SMEs.

These factors aligned with some scholars like Dholakia and Kshetri (2004), who believed that internet adoption, which has three stages (pre-adoption, adoption and routinization), is a primary prerequisite to adopting e-commerce. Because this study focusses on the adoption of internet advertising, and considering internet adoption stages, it looks to be at the second stage of internet adoption.

As mentioned, many studies from different viewpoints have been conducted to find a proper model. Hence, it is difficult to accurately determine which approach is more important than another. One of the methods through which a more appropriate answer can be found is investigating the commonalities of the approaches; i.e. variables emphasized by all scholars. In this respect, as noted in this study, the critical factors and indicators of each factor are carefully extracted from previous literature and have been considered in order to provide the decision makers and researchers with a comprehensive package of internet advertising adoption. Generally, by reviewing related literature, factors affecting the process of internet advertising adoption in SMEs were identified and classified.

By considering the study of Dholakia and Kshetri (2004) and others, when SMEs adopt internet advertising, the question is raised whether they should be in a specific internet adoption stage when using internet advertising as a channel to deliver a message to an audience.

Internet advertising as the second part of this study’s review of literature attempts to influence consumers’ shopping habits and changing consumption patterns toward advertised goods and services (Heiligtag and Xu, 2007). Cartellieri et al. (1997) reported five potential goals of internet advertising:

1. delivering content or direct response;
2. enabling transaction;
3. shaping attitude;
4. soliciting response; and
5. encouraging retention.
The first study conducted on the adoption of internet advertising is the study of Heiligtag and Xu (2007) in Australia. In this study, eight variables were identified as factors affecting the adoption of internet advertising, namely: relative advantage, compatibility, operation expenses, complexity, organization size, top management support, organization innovativeness and customer interaction. These authors conducted that study again in 2010 and found that in comparison to 2007, there was little difference among Australian SMEs' behavior. In a recent study, Heiligtag et al. (2010) investigated the status and factors influencing the adoption of online advertising in Australian SMEs, and in this trial, they found that seven factors including were significant: “relative advantage,” “cost effectiveness,” “complexity,” “compatibility,” “top management support,” “organization innovativeness” and “customer interaction.”

In comparison to Heiligtag and Xu (2007) and Heiligtag et al. (2010), in which internet adoption factors related to organizations have been studied, this is the first study in the area of internet advertising adoption, which not only examines organization-based factors but also takes into account other factors. Specifically in Iran, internet advertising is a new concept, with as yet no studies about adoption, use and application being offered. Accordingly, except for reviewing the 59 previous studies (see the Appendix), this study provides a comprehensive theoretical framework. Since the present study is the first attempt to examine internet advertising adoption, we have reviewed literature with the purpose of verifying adoption-based factors (see the Appendix), and have developed a theoretical framework in order to test these factors.

3. Theoretical framework
3.1 Advertising agencies
Several studies report that the number of requests for publishing online advertisements has decreased. The possible reason for this problem may relate to the low effect of banners on visitors (Fittkau and Maaß, 1996) which stems from agencies’ lack of technical knowledge. In Iran, the unfamiliarity of these agencies with concepts like lead generation, behavioral targeting, behavioral tracing and behavioral marketing has prevented internet advertising from being fully used to its unique advantage. Interactive agencies use virtual communities in order to collect consumer leads and trace the behaviors to acquire knowledge. The ability to trace consumer behavior in virtual communities removes the need for focus groups, which are expensive to conduct. Activities like “strategic placement,” “digital planning,” “performance-based marketing” and “affiliated networks” are other aspects of agencies’ capabilities, which are covered by SMEs in Iran. The only capability used for internet advertising on Iranian web sites is “permanent animation” or flickering of the advertisement to attract consumer attention. According to Cho and Cheon (2004), this practice not only is unproductive, but also creates a negative reaction in a consumer’s mind. Hence, the following hypothesis is developed:

H1. Knowledgeable advertising agencies with a web-oriented approach increase the desire of SMEs to adopt internet advertising.

3.2 Publishers
Publishers play a critical role in developing online marketing and advertising in Iran. In order to discover why online advertising is not used by marketers, Hanafizadahe and
Behboudi (2012) found that publishers and the advertising broadcast style they utilize is a determinant in developing online advertising. Aligned with this study, other scholars (James and Kover, 1992; Speck and Elliott, 1997; Cho and Cheon, 2004) have mentioned the variable of “ad clutter” as a barrier to online advertising. According to Marcolin et al. (2005), the extent to which a publisher has marketing performance determines the extent to which that publisher is expected to be successful in the online world. It is a fact that high marketing performance and marketing ability (Carson and Gilmore, 2000; Simmons et al., 2008) will lead a publisher to finding more targeted customers and preventing ad clutter. In this case, Chaffey et al. (2000) reported that a web site will be successful when it possesses strategic development. Strategic development consists of requirements such as reach and frequency (Dahlen, 2002; Payne, 2003) and target audiences (Quinton and Harridge-March, 2003; Chen et al., 2003). Hence, the following hypothesis is developed in order to examine the role of the online publisher in internet advertising adoption:

**H2.** The presence of market-oriented internet publishers (web sites) is a key variable in internet advertising adoption.

### 3.3 SME readiness

Private ownership, entrepreneurial spirit, flexibility and adaptability, as well as the potential to react to challenges and changing environments (Simmons et al., 2008), make SMEs one of the sustainable growth tools and a source of employment generation in Middle East countries. Many researchers have reported how SMEs are critical to a country’s growth (Rogers, 1995; Jones et al., 2003). Nevertheless, regardless of the different advantages that these scholars mentioned for SMEs in using new technologies (Payne, 2003; Sadowski et al., 2002; Varadarajan and Yadav, 2002; Quinton and Harridge-March, 2003; Downie, 2003; Jones et al., 2004; Cho and Cheon, 2004; Macgregore and Varazalic, 2005), it still seems that there is a kind of unwillingness to become involved in adopting new practices like internet advertising. Sutanonpaiboon and Pearson (2006) believed that being unable to recognize the benefits of innovation have reduced the SMEs’ desire to adopt new practices. According to Simmons et al. (2008), awareness (perception of costs and perception of benefits) is an influencing variable in increasing SMEs’ motivation to adopt a new technology. Other variables include: profitability (Wolin and Korgaonkar, 2003; Cho and Cheon, 2004; Olatokun and Kebonye, 2010); organizational culture (Payne, 2003; Purcell And Toland, 2004) and lack of motivation (Cho and Cheon, 2004). Heiligtag and Xu (2007) found that competitiveness pays a motivating role in adopting online advertising. In this regard, once SMEs enter an industry that has high competitiveness, they attempt to find new competitive advantages. But, in a competitively low industry, this behavior cannot be observable. By scrutinizing the literature (see the Appendix), it can be concluded that using online advertising as a new competitive advantage may be related to an SME’s commitment. The extent to which SMEs have more commitment to using new technology, the more likely they are to adopt internet advertising as a channel for promoting their products. This leads us to the following hypothesis:

**H3.** Lack of commitment on the part of SMEs to use the internet is considered as a barrier to internet advertising adoption.
3.4 Product involvement


1. superior and differentiated service;
2. reduced cycle time;
3. user education;
4. rapid diffusion; and
5. long-term relations.

The level of involvement influences people's wants (Fogg, 2003) and is an appropriate variable in the evaluation of individuals' trust (Ferebee, 2007).

When the amount of product involvement is low, consumers are less likely to consider a brand's written message (Chattopadhyay, 1998). This is due to the fact that brand written messages require more cognitive efforts to be processed compared to the advertisement clues (Chattopadhyay, 1998), and consumers are not motivated to devote much cognitive effort to low-involvement products, specifically those on the internet (Warring and Shim, 2000). Consumers are more willing to devote their cognitive effort to high-involvement products and are then more likely to process the brand claims of these advertisements (Dahleñ et al., 2004). Involvement of the customer with a web site is divided into two types, rational involvement and emotional involvement (Vaughn, 1986). Rational involvement relates to rational behaviors and is represented by profit making and rational motives. On the other hand, emotional involvement is based on emotions and enjoyment. Thus, the following hypothesis was formed:

\[ H4. \] The level of product involvement (product type) to be advertised affects the adoption of internet advertising.

3.5 Government role

Government policies and regulations will influence the SMEs’ survival. For example, energy and tariff policies for imported goods have a significant effect on SMEs’ competition success and profitability (Awuah and Amal, 2011). By setting clear goals (Sellitto et al., 2003), governments can build an identified orientation for SMEs, especially in Middle East countries where the government’s role in the development of businesses is more prevalent. According to Purcell and Toland (2004), governments should develop legal systems to help SMEs in order that all have an equal chance competitively. In this regard, Todd and Jivalgi (2007) investigated the determinants of India’s SMEs’ internationalization and found that these firms are largely supported by governmental measures to encourage entrepreneurship and innovation and to enhance finances to improve the global presence of Indian SMEs. Government assistance was also considered relevant with Bangladesh’s SMEs’ (Shamsuddoha, 2008) exports, which helped build a positive attitude from managers and entrepreneurs. The enabling
environment and active support of governments to SMEs seems essential for adopting new technology. In this regard, other scholars have reported variables like financing (Purcell and Toland, 2004), education and development (Purcell and Toland, 2004; Kurnia, 2006; Kapurubandara, 2009) and commitment of the government (Purcell and Toland, 2004; Heiligtag and Xu, 2007; Kurnia, 2006; Kapurubandara, 2009; Olatokun and Kebonye, 2010), leading to the hypothesis below:

**H5.** Direct presence and commitment of the government is a key factor for internet advertising adoption.

### 3.6 E-commerce development


It can be considered that e-commerce development has a significant relationship with advertising adoption. One of the variables that differentiates online advertising from traditional advertising is the ability to become a kind of purchase (Hanafizadeh and Behboudi, 2012). When a customer is motivated to follow an advertisement, it is supposed to lead to a complete buying process. However, the customer who is just redirected to a marketer’s web site cannot finalize an online transaction and must switch to offline media. In that situation, where there are no comprehensive infrastructures, it is natural for SMEs to prefer to use other communication channels. Hence, a hypothesis is developed to examine the relationship between e-commerce development and the desire of SMEs to adopt internet advertising:

**H6.** The development level of e-commerce in Iran is a key variable in SMEs’ desire for adopting internet advertising.

### 3.7 User type

The way the internet is used has a considerable effect on the users’ interest and motivation to follow online ads and subsequently purchase. Internet users are divided into three groups: heavy users, medium users and light users (Korgaonkar and Wolin, 2002). A heavy user spends up to five hours per day on the web and usually visits three web sites in an hour. The heavy users believe web advertising to be entertaining, enjoyable, informative, trustworthy and helpful. They also feel that internet advertising decreases expenses and is necessary. They have a very positive attitude toward internet advertisements.

The medium users are among the most educated and the highest income users of the internet. Compared to the heavy users, they are less likely to believe that web advertising is informative, entertaining, enjoyable, informative, trustworthy and helpful; rather, they believe that it is boring. Medium users spend up to three hours per day on the web, mostly visiting web sites of their own interest, and visit two or three web sites in an hour (Korgaonkar and Wolin, 2002; Doubleclick.com, 2006). The time spent by light users on the web is about an hour, and no clear-cut usage pattern exists.
for this group in terms of the time they spend each day on the web (Korgaonkar and Wolin, 2002).

When SMEs publish an online advertisement, they should be mindful of the users’ motivations of going online, because users have distinctive motivations in surfing a given web site. In fact, people use the internet not only to get information, but also to entertain themselves (Korgaonkar and Wolin, 2002; Ko et al., 2005). The marketers’ task is to recognize the right audience, because each audience has a unique behavioral reaction about internet advertising (Ko et al., 2005). Therefore, SMEs must not develop a similar banner for all types of users. Different users react differently when confronted with online advertisements. The response to the question, “Why don’t users click SMEs’ or other companies’ banners?” can be found here. A hypothesis was developed on this basis as follows:

\[ H7. \text{The type of internet users and the task of designing different advertising formats for them is a key variable in adopting internet advertising.} \]

4. Causal model
Based on the literature and hypotheses proposed, a theoretical causal model of internet advertising adoption in Iran is developed which involves seven exogenous latent variables (advertising agency, internet publishers, SMEs, type of product or service advertised, government, development of e-commerce and user type) and one endogenous latent variable (internet advertising adoption) (see Figure 1).

5. Research methodology
A self-administered questionnaire was used to collect the needed data. From among 456 questionnaires, 346 were completed and returned with a response rate of 76 percent. The gathering of questionnaires began in early September 2010 and finished in late December 2010.

In order to identify variables affecting internet advertising adoption, we reviewed 59 previous studies in the areas of internet advertising, e-commerce, online marketing, e-business and adoption of new technologies by SMEs. From this review, 36 indicators confirmed by most researchers were identified and categorized in seven constructs on the basis of confirmatory factor analysis (CFA).

![Figure 1. Internet advertising adoption, conceptual model](image)
5.1 Sample
In order to gain a wider perspective (from both theoretical and practical viewpoints), an operational definition of experts was proposed as: first, to be an instructor, assistant professor, associate professor or professor in one of the majors related to IT, business management, e-commerce and computers; second, to have at least one published research paper in the area of internet marketing, e-business and internet advertising; third, to be one of the owners of a successful e-SME (electronic small and medium-sized enterprises) in Iran; and finally, to be active in internet advertising agencies. An expert in this study is one who has at least one of the above-mentioned competencies. In this study, most participants were selected from two large Iranian universities: “Allameh Tabataba’i” and “Qazvin Branch, Islamic Azad University” (which have a total of more than 50,000 students). These universities were selected because of authors who were researching at those universities made it easier to gather experts’ opinions. In addition, participating academic experts were selected for the present study because they have worked many years for SMEs as scientific project managers or advisers in order to apply new technologies. Therefore, except for their field of study, the academic participants have appropriate knowledge about adopting new technologies for SMEs. In addition, we focussed on SMEs that are listed on the web site http://sme.ir/?lang=en, which is a governmental reference for SME information in Iran. We tried to use sme.ir experts and those who are more familiar with this organization.

5.2 Instrument construction
Eight latent constructs are examined in this study: advertising agencies, internet publishers, SMEs, government role, e-commerce development, user type and internet advertising adoption. All are represented by composite indicators with multiple items. All indicators were measured using five-point Likert scales ranging from strongly disagree to strongly agree. All factors on scale items were taken from previously validated measures in the literature. As an example, the ad agencies scale items of “knowledge of advertising agencies,” “lead generation,” “measurability” and “identifiability of the users” were taken from Darley and Smith (1995), Houghton and Winklhofer (2002), Wolin and Korgaonkar (2003), Downie (2003), Heiligtag and Xu (2007), Hanafizadeh and Behboudi (2012), and were modified to fit the context of internet advertising. Other scale items are reported in the Appendix.

6. Data analysis
This study tested the hypotheses, using a structural equation analysis, by the method of maximum likelihood. LISREL 8.54 was used for performing data analysis. Generally, LISREL is used in three main ways: first, CFA, second, path analysis and finally, testing goodness of fit for the hypothesized research model. Since there was only one endogenous latent variable in this study, the first and third uses were employed.

7. Results
7.1 Measurement model
The key statistics (item means, standard deviations, confirmatory factor loadings) for all research variables are presented in Table I. Validation of research instrument was performed through CFA via LISREL’s measurement model. Each scale was evaluated for construct validity by examining the standard CFA factor loadings of its hypothesized items. It is suggested that each item should, for acceptable construct
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<td>Knowledge of advertising agencies</td>
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(continued)
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<th>Mean</th>
<th>SD</th>
<th>Confirmatory factor loading</th>
<th>Cronbach α</th>
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<td>Demographic factors</td>
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<td>0.716</td>
<td>0.82</td>
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<td>Globalization</td>
<td>344</td>
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<td>0.711</td>
<td>0.69</td>
<td></td>
</tr>
</tbody>
</table>
validity, have a minimum factor loading of “0.60” for its hypothesized construct (Nunally, 1978). A total 30 out of 36 items met this norm for the eight constructs. Items that did not have a loading of 0.60 were: “identifiability of users,” “marketing ability of web sites,” “advantages of innovation,” “profitability,” “determination of clear goals” and “communication infrastructure,” but since the marginal significance value is 0.55 (Cho and Cheon, 2004), the “advantages of innovation,” “determination of clear goals” and “communication infrastructure” were considered as significant \( p \)-values and were therefore retained in the measurement model; the rest were removed. Scale reliabilities were estimated using Cronbach’s \( \alpha \). In all eight constructs, Cronbach’s \( \alpha \) exceeded the standard acceptance norm of 0.70. According to Nunally (1978) and Alam (2009), a minimum \( \alpha \) (Cronbach’s \( \alpha \)) of 0.7 is sufficient for the early stage of research (Table II).

### 7.2 Structural equation model

The first step in examining the hypothesized model is the estimation of goodness of fit (Figure 2). In this study, \( \chi^2 \) test was significant, and according to Cho and Cheon (2004), we found that the estimated model does not fit well with the gathered date. Cho and Cheon (2004) believed that the \( \chi^2 \) test is sensitive to sample size and does not usually yield a good statistic in structural tests, and for this reason, they suggest increasing the sample size. Instead, researchers like Byrne (2001) and Voorveld et al. (2011) believe that if the result (\( \chi^2 \) test/degree of freedom) is lower than 3, the model has a goodness of fit. It is necessary to mention that, although we tried to gather more (in comparison to Cho and Cheon (2004) who gathered 266 opinions), we gathered 346 opinions, but this work did not have any effect on \( \chi^2 \) sensitivity. In this study, a probability value of \( p < 0.05 \) was used in analyses, but because of the relatively small sample size, we also refer to some results that were only marginally significant (\( p < 0.10 \)).

The statistic obtained in this study was 2.03 (\( \chi^2 = 989.7, \text{df} = 487 \)). As indicated in Figure 2, the Normed Fit Index (NFI) was 0.92, the Comparative Fit Index (CFI) was 0.93 and the Root Mean Square Error of Approximation (RMSEA) was 0.05. Finally, on the basis of the \( \chi^2 \) statistic, we can conclude that the model is quite satisfactory.

### 7.3 Casual model analysis

The second step in measuring the model is examining the hypotheses. As was anticipated, all hypotheses (advertising agencies \( H_1 \), internet publishes \( H_2 \), SMEs \( H_3 \), product or service \( H_4 \), development of e-commerce \( H_6 \) and user type \( H_7 \)) had a significant effect on internet advertising adoption. In terms of relative importance of the predictive variables on the response variable, SMEs (with a path significance of 0.53) exhibited the strongest predicting power of internet advertising adoption. Other

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Path</th>
<th>Standard coefficient</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>( H_1 )</td>
<td>Advertising agencies</td>
<td>Internet advertising adoption</td>
<td>0.37</td>
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<tr>
<td>( H_2 )</td>
<td>Publishers (web sites)</td>
<td>Internet advertising adoption</td>
<td>0.11</td>
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<td>( H_3 )</td>
<td>SMEs</td>
<td>Internet advertising adoption</td>
<td>0.53</td>
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<td>( H_4 )</td>
<td>Product involvement</td>
<td>Internet advertising adoption</td>
<td>0.26</td>
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<td>( H_5 )</td>
<td>Government role</td>
<td>Internet advertising Adoption</td>
<td>0.19</td>
</tr>
<tr>
<td>( H_6 )</td>
<td>E-commerce development</td>
<td>Internet advertising adoption</td>
<td>0.14</td>
</tr>
<tr>
<td>( H_7 )</td>
<td>User type</td>
<td>Internet advertising adoption</td>
<td>0.32</td>
</tr>
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</table>

Table II. Standard coefficient and significance values for seven research hypotheses
variables included: advertising agencies (0.37), user type (0.32), product involvement (0.26), government role (0.19), e-commerce development (0.14) and internet publishers (0.11).

8. Discussion
The purpose of this study was to provide some insights into antecedents influencing internet advertising adoption. In pursuing that goal, a theoretical model was synthesized based on content analysis and theoretical traditions of a representative body of diverse referent disciplines (see Figure 2). A questionnaire was employed to validate much of the hypothesized model and to suggest additional implications.
Possible contributions of the present study are fivefold. First, this study offers the first attempt to build a comprehensive theoretical model explaining the adoption of internet advertising in Iran. Second, it employs seven antecedents of internet advertising adoption, whereas previous studies have used three or four antecedents. This yielded a significantly higher explained variance than previous adoption studies. It is determined from this point that the theoretical background of this study is based on both examining content analysis and developing a theoretical framework when previous studies, like Heiligtag and Xu (2007), have used only one of them. Third, this study not only introduces the critical factors (latent variables) affecting internet advertising adoption, it also reveals the indicators (observer variables) of each factor. Fourth, this study provides a new valid measurement of internet advertising adoption with higher content validity; that is, it covers two aspects of internet advertising adoption (readiness stage and globalization stage). It also addresses the indicators like “lack of lead generation” for the first time in the area of internet advertising.

Aligned with Walczuch et al. (2000), who stated that the key concern is whether or not the internet or a web site would lead to more efficiency or lower costs, we found a variable of SMEs (0.53) as a key factor. Lack of awareness of the advantages of using internet advertising, and insufficient attention to the fact that being successful in global markets through the internet is inevitable, are congruent with each other. The most important indicator that SMEs must possess in internet advertising adoption is “needed motivation” (0.96). Motivation to employ internet advertising can form as a result of different stimuli. First, the provision of an appropriate educational program for promoting awareness of an advertising department or the individuals directly involved in idea making, designing, developing and informing promotional messages is necessary. It is reported that increasing the awareness of the advantages of a phenomenon directly increases the willingness to experience and employ that phenomenon (Rao et al., 2003). Besides, SMEs can increase the desire to adopt internet advertising among involved individuals by building an innovative organizational culture that is sensitive to modern technologies. Finally, according to the findings of this study, it is expected that the more SMEs are active or enter in the markets with high competitiveness, the more they have the willingness to adopt internet advertising. This results from the low advertising budget they have to compete in those markets.

“Advertising agencies” were identified as the second influential factor in internet advertising adoption. The variable “lead generation companies” is the most basic activity before publishing an advertisement or any other promotional activity on the internet (Hanafizadeh and Behboudi, 2012). An advertisement designed and published which is based on considering target customers and their wants, motivations and reasons for shopping is more efficient. This is exactly the point that SMEs with low advertising budgets need – the right message for the right user at the right time. The “measurability” and “knowledge of advertising agencies” leads them to offer sales and pricing strategies on the basis of primary customer leads by collecting information on the surfing trends of various customers.

Advertising agencies are able to offer some services to SMEs: identifying the products which are closer to customer preferences, selection of an appropriate target market on the basis of areas in which the company acts and supervision of the amount and type of leads an organization receives at any period (Hanafizadeh and Behboudi, 2012). After doing so, by tracing and getting SME leads, agencies will be able to provide a more appropriate online advertising campaign. Considering the huge
expenses of other advertising activities, such as direct mail, yellow pages and flyers, we can conclude that SMEs can significantly reduce advertising costs and increase advertising efficiency by garnering an insured lead. In this regard, SMEs will be able to evaluate their internet advertising campaigns through investigating the amount of expenses of buying online leads and the number of people subsequently added to their customer base.

“User type” as a third influential variable is mostly related to those SMEs intending to develop new products. When advertisers publish an online ad, they must pay attention to the primary motives of users for entering the web site, because users visit web sites for a variety of primary motives. Research, entertainment, social interaction and convenience are the motivations leading individuals to the internet (Korgaonkar and Wolin, 2002; Ko et al., 2005). When people are highly motivated to search for information, they will seek web sites and advertisements meeting their information needs, and they might repeat their searching activities. These people only respond to information signs and pay less attention to appeals and cues of the ad, which are designed to persuade the users. On the other hand, individuals with a high entertainment motivation, are more likely to respond to advertisements that are more fascinating among other elements of the web site (Ko et al., 2005). Therefore, SMEs must avoid designing and publishing identical advertising formats with the same appears for all users. Employing internet advertising in this manner will reveal more advantages of adoption of internet advertising and create other motivations for utilizing internet advertising in more deeply involved levels.

The fourth variable affecting internet advertising adoption is “product involvement.” The nature of a product plays an important role in internet advertising adoption. According to Chaffey et al. (2000), products with more virtual process, environment and physical attributes are more congruent with the internet and have more success probability. The less a product needs taste, smell and touch senses in the process of shopping, the more likely it is to be accepted by customers (Hanafizadeh and Behboudi, 2012). Products with high primary searching motivation are more prone to be advertised over the internet. Before 2000, it was generally believed that the internet was a rational media, and most researchers suggested that internet advertising was only appropriate for popular products about which consumers are actively seeking information (Dahlen, 2002).

However, in 2002, Dahlen showed that advertising products on the internet with low involvement are more successful. It is proposed that internet advertising designed for low- and high-involvement products must have different design and publication strategies (Hanafizadeh and Behboudi, 2012, p. 50). According to Cacioppo and Petty (1984), the way and path of information processing of advertisements of low-involvement products are different from those of high-involvement products. Hence, SMEs must use internet advertising or begin the process of its adoption only when they produce a product or offer a service with these characteristics:

1. it can be advertised on the internet and is a product or service which has the capability to sell virtually;
2. it is possible to get its price over the internet; and
3. it can be distributed or delivered to consumers via the internet.

“Government role” is identified as the fifth variable affecting internet advertising adoption. Since in developing countries SMEs benefit from government support
(Behboudi et al., 2011), the government is required to focus deeper attention on the new tools of sales promotion. However, developing SMEs becomes possible through a low-cost, high-speed channel. This study suggests that a government can speed up the process of internet advertising adoption by SMEs by performing an obligation and encouragement policy. In pursuing this goal, the government must consider using internet advertising and online marketing as an obligation when business owners are developing their business plans. Furthermore, when offering loans to SMEs, more premiums must be devoted to firms having effective and efficient internet advertising campaigns. Of course, this requires establishing a new, specialized committee in the area of internet advertising and online marketing at the “office of SMEs” in Iran. Establishing this committee and providing educational-consultative programs will have a significant effect on internet advertising adoption by SMEs in Iran.

Development of e-commerce is the sixth variable affecting internet advertising adoption. The main difference between internet advertising and advertising through other media is that when users are willing to buy the product or service being advertised, the design of internet advertising allows them to order online with no need to find another media for communicating with the seller (Hanafizadeh and Behboudi, 2012, pp. 35-7). In this regard, and considering the study of Dholakia and Kshetri (2004) and the present study’s question of whether SMEs should be in a specific internet adoption stage when they are adopting the use of internet advertising as an audience-communication channel, the response is “Yes.” Aligned with Dholakia and Kshetri (2004), this study indicates that an SME must primarily convey all sales-based activities within a web site (routinization), and then try to use internet advertising. Otherwise, users will have no choice but to find other routes to communicate, order or receive the product or service.

On the other hand, there is the possibility of online payment and delivery (on the basis of product type). When these three unique features are missing in internet advertising, the willingness to use it will decrease. Development of e-commerce is also dependent upon intra-organizational issues like trained and capable human forces, appropriate servers and the IT-based nature of an organization. Thus, SMEs must enhance their IT sector in order to form a new orientation in their profitability model.

Publishers were identified as the seventh variable affecting internet advertising. Internet web sites publishing information play a major part in avoidance of internet advertising due to lack of a proper business model (Heidarzadeh et al., 2011). Lack of an appropriate business model among internet publishers on the one hand, and high costs of collecting and publishing proper information on the other, lead internet publishers to excessively use advertising; this leads to the phenomenon entitled “ad clutter.” The presence of ad clutter on web sites creates a kind of avoidance of internet advertising. In addition, the lack of a professional marketer among managers of internet publishers is another weakness that must be addressed. Having a professional marketer allows web sites to possess a personalized, customized and targeted plan for publishing advertisements.

In internet adoption constructs, the indicator of a “readiness stage” (0.92) was the key item. It draws upon previous studies which have stated that internet adoption must be performed in different stages. In Iran, sme.ir (the governmental web site for handling SME affairs) accepts and registers only those SMEs that have at least a web site. In other words, the pre-requirement of being listed on that web site is to create a web site. By taking these SMEs into account, they must try to attract specialized users.
That is to say, they should create some direct routes, ports and channels by using banners and other forms of internet advertising in order to pull internet users into their web sites. The strategy of adopting internet advertising must primarily focus on Iranian users, and then try to address a second variable, the “globalization stage” (0.82) by changing the web site’s structure and design into an international theme to attract more users who are global.

The present study offers a structural equation model on internet advertising adoption by SMEs. We found that SMEs themselves play the most effective role in this process. The variable of “SMEs” is an intra-organization, and the other factors are considered out-organizational, so it is necessary to attempt to find intra-organizational factors of internet advertising adoption in this area. We can conclude that finding intra-organization variables explaining internet advertising adoption can further be examined by other researchers.

Although this study offers deep insights into internet advertising adoption, and is the first study addressing this issue for SMEs in the Middle East, it has its own limitations. One of these limitations is related to sampling which is limited to Iran. Generalization of results for other countries in this region must be done with care. Another limitation of this study is that we did not empirically test internet advertising adoption in SMEs, so it must be kept in mind and can be done in subsequent studies.

References
Byrne, B.M. (2001), Structural Equation Modeling with Amos: Basic Concepts, Applications and Programming, Lawrence Erlbaum, Mahwah, NJ.


Further reading


### Appendix

**Advertising agencies construct**
- **Knowledge of advertising agencies**
- **Lead-generation companies**
  - Hanafizadeh and Behboudi (2012)
- **Measurability**
- **Identifiability of the users**

**Publishers (web sites) construct**
- **Marketing performance of web sites**
- **Marketing ability of web sites**
- **Strategic development of web sites**
- **Ad clutter**
- **Reach and frequency**
- **Target audiences**
  - Quinton and Harridge-March (2003), Chen et al. (2003), Simmons et al. (2008)

**SMEs construct**
- **Advantages of innovation**
- **Awareness of benefits and expenses**
- **Profitability**
- **Organizational culture**
  - Payne (2003), Purcell and Toland (2004)
- **Needed motivation**
- **Competitiveness**
  - Payne (2003), Heiligtag and Xu (2007)

**Type of product construct**
- **Product type**
  - Dahlen (2002), Heiligtag and Xu (2007)
- **Market size**
  - Purcell and Toland (2004)
- **Attitude toward the product**
  - Heiligtag and Xu (2007)
- **Criteria of purchase (emotional/rational)**
  - Vaughn (1986); Warring and Shim (2000), Chattopadhyay (1998); Dahlén et al. (2004)

Table AI. Construct development by reviewing 59 international studies (continued)
Government role construct

Determination of clear goals  
Nath et al. (1998), Sellitto et al. (2003), Cho and Cheon (2004), Simmons et al. (2008)

Legal system  
Payne (2003), Purcell and Toland (2004)

Financing  
Purcell and Toland (2004)

Education  

Commitment of the government  

E-commerce construct

E-commerce infrastructure  
Payne (2003), Purcell and Toland (2004), Kapurubandara (2009)

Communication infrastructure  

Financial infrastructure  

Pricing and payment structure  

Technology infrastructure  

User type construct

Demographical factors  

Emotional factors  

Consumer behavioral factors  

Users’ access to internet  

Construct of internet advertising adoption

Readiness stage  
Hanafizadeh and Behboudi (2012)

Globalization  
Hanafizadeh and Behboudi (2012)

Table AI.

**Corresponding author**
Payam Hanafizadeh can be contacted at: hanafizadeh@gmail.com

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