

E-BUSINESS ADOPTION IN SMALL AND MEDIUM SIZED TOURISM FIRMS IN IRAN: CHALLENGES AND PROSPECTS

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Information technologies play a vital part in managing a tourism firm efficiently. As SMEs form the major share of tourism industry, they are increasingly adopting e-business to benefit from its numerous advantages. However, to adopt e-business, SMEs may encounter a plenty of challenges and find it not a trouble-free path. In Iran, by growing the number of internet users, more and more tourism SMEs are adopting e-business, to enhance their competitive advantage in the market. The paper is aimed to explore the challenges and prospects of e-business adoption by travel and tourism SMEs in Iran, and role of government in facilitating the process. To serve the purpose, mixed method is adopted to identify these barriers and benefits. The results of an in-depth interview with e-tourism experts and tourism SMEs' managers, and a questionnaire containing close-ended questions showed that macro-level challenges are of the major importance, and the benefits fell into to marketing strategies and e-CRM categories.

Keywords: *e-business, SMEs, e-tourism*

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INRODUCTION

In recent years deployment of information technologies (IT), and especially e-business has transformed the way tourism firms are managed. By growing the need for improving customer satisfaction, and facilitating the interaction between suppliers and consumers around the world, more tourism business are adopting the information technologies in their management process (Law, Buhalis & Cobanoglu, 2014; Condratov, 2013). Adopting e-business offers numerous advantages to small and medium tourism enterprises (SMTEs), such as reduction of operational costs; improving customer services; accessing new market shares and new customers (Apulu, 2011). According to the Organization for Economic Co-operation and Development (OECD), e-commerce has a very positive effect on developing countries' economy, and provides opportunities for them to improve the efficiency of tourism industry, as a main success factor to sustain their economies (National Tourism Strategy, 2010). However, SMTEs encounter many challenges in adopting new information technologies. Inadequate telecommunication infrastructure (Murelli & Okot-Uma 2002; Salman 2004; Hawk 2004; Jennex & Amoroso 2002; Karanasios 2008), poor payment systems (Hawk 2004; Payne 2002; Murelli & Okot-Uma 2002; Aljifri, Pons & Collins 2003; UNCTAD, 2004; Ranganathan & Kannabiran 2004) in macro level, and lack of financial resources (Lake 2000; Cloete, Courtney & Fintz 2002; Indjikian & Siegel 2005; Karanasios 2008), lack of skilled and knowledgeable employees (Lopez-Bassols & Vickery 2001; Moodley & Morris 2004; Jennex & Amoroso 2002; Karanasios 2008) in micro level are among the most important challenges of adopting new IT applications by SMTEs.

In Iran, the number of internet users has reached 56,700,000 by 2016 (Internet World Stats, 2017), and according to the latest report of Statistical Center of Iran (2015), internet penetration rate has had

a 35% growth compared to the 2013 report. According to the articles of Iran's Socioeconomic and Cultural Development five-year Plan (especially the 5th and 6th Plan) the development of e-business application is vital to realize e-government services until the end of the 6th plan (Sixth Iran's Socioeconomic and Cultural Development Plan, 2015). Despite this Plan and the growth in internet usage in Iran, many challenges in macro level such as unreliable IT infrastructure and lack of standard payment systems are not solved yet. Apparently, these challenges negatively effect on adopting e-business by travel and tourism firms in Iran, and decrease their efficiency especially to find and cultivate overseas customers. On the other hand, these supportive policies encourage SMEs to adopt e-business and maximize their competitive advantage. In addition, sectors (especially tourism), are increasingly globalized, dominated by larger firms and their performance and structure of value chain create an opportunity to small and medium enterprises (Mohammad and Ismail, 2013).

This study aims to explore the present status of SME travel and tourism firms in e-business environment especially their challenges and prospects in macro and micro level.

E- BUSINESS AND TOURISM

e-business is defined as external communications, through internet which link travel services suppliers to costumers and includes e-marketing, e-commerce and e-logistic, and on the other side it supports internal communications through intranet and enables the organization to use the common systems integrally (WTO, 2001; Vladimirov, 2015). In fact e-commerce is a part of e-business and refers to all types of electronic transactions between organizations and stakeholders, whether they are financial transactions or exchanges of information or other services (Chaffey, 2015, p. 17).

As a highly information-intensive industry, tourism is highly influenced by IT applications. The rapid development in IT in general, and internet in particular, has transformed tourism industry (ho & Li, 2007). Internet is a valuable tool for suppliers and consumers to access information, easier communication and online purchase. Moreover, it is recognized as an effective marketing tool for tourism businesses (Buhalis & Law, 2008). According to Allied Market Research report (2016) the online travel market is estimated to reach 1,091 billion by 2022. Direct travel suppliers accounted for approximately 57% of the overall online travel market revenue in 2015. On the other side, online travel agencies (OTAs) are expanding their offerings rapidly to attract travelers and increase their customer base.

Small and medium-sized enterprises (SMEs) are the most common type of firms in tourism sector (Buhalis, 1998; Liu, 2000; Gammack, Molinar, Chanpayom, 2004). Particularly, these firms are the main part of tourism body in developing countries and are recognized as the backbone of tourism destinations (Purcell, Toland & Huff 2004; Gartner 2013; Gammack, 2004). Adoption of new technologies especially internet offers new opportunities to SMTEs to access new markets and customers (OECD, 2000) and conduct their business in a cost effective way (WTO, 2001). Moreover, adopting e-business by SMTEs will increase productivity, increase efficiency of internal process, and facilitate to enter global markets (Chyau, 2005). Abou-Shouk, Mejicks and Lim (2015) divided the benefits of e-business in three factors: essential (a strategic future-oriented perspective), marketing and competition (travel businesses' ability to compete effectively and gain advantage in the market place through meeting the needs of customers), and internal business efficiency (infrastructure influences that support the delivery of an effective strategy).

However, the SMTEs are facing serious impediments for adopting new information technology, in particular, e-business (Kim, 2004). These barriers are in both macro and micro levels (Karanasios, 2008). Barriers in macro level include insufficient IT infrastructure, and small e-commerce market size, lack of confidence among customers for online shopping, and in micro level it includes limited knowledge about IT among employees, and lack of financial resources and resistance to adoption of e-commerce (Kim, 2004). Governmental organizations and policy makers are the key players to remove macro-level barriers. Chyau (2005) declared that the best measure by governments is to create an enabling environment. Simplifying the legal processes, developing educational programs, and providing financial supports for SMEs (Chyau, 2005), moving government procurement on line, and finally facilitating e-transformation in industry sectors (Kim, 2004), are among the policies which encourage the growth of SMEs.

E-BUSINESS AND TOURISM IN IRAN

Iran is the second country (after Bahrain) in Middle East in terms of number of the percent of internet users (Internet World Stats, 2017). In June 2017, this number reached 68.5% of the population in comparison to 3.8% in December 2000. Statistics show that Internet penetration rate in Iran has been 30% in 2013, 45.3% in 2015 (Statistical Center of Iran, 2015), and has grown about 70% in 2017 (Internet World Stats, 2017). Despite this growth, internet infrastructure is growing slowly compared to the countries with lower rate of internet penetration. In terms of Average Connection Speed (Table 1) and Average Peak Connection Speed (Table 2), Iran ranked 111 and 123 respectively, among 146 qualified countries in 2016 (Akamai State of Internet Report, 2016).

Table 1: Iran's Average Connection Speed (IPv4) Ranking among 146 Qualified Countries

Global Rank	Country/ Region	Q1 2016 Avg. Mbps	YoY Change
28	Israel	13.5	16%
49	United Arab Emirates	8.8	40%
53	Qatar	8.4	21%
63	Kenya	7.3	298%
64	Turkey	7.2	12%
72	Kuwait	6.6	27%
73	South Africa	6.5	96%
91	Saudi Arabia	4.7	23%
101	Morocco	4.3	47%
111	Iran	3.5	88%
116	Nigeria	3.3	14%
130	Egypt	2.4	44%
133	Namibia	2.3	4.8%

Table 2: Iran's Average Peak Connection Speed (IPv4) Ranking among 146 Qualified Countries

Global Rank	Country/ Region	Q1 2016 Avg. Mbps	YoY Change
5	Qatar	89.2	27%
23	Israel	65.8	-3.4%
31	United Arab Emirates	60.6	42%
53	Kuwait	47.8	-46%
64	Turkey	40.7	5.7%
79	Saudi Arabia	33.4	31%
87	South Africa	30.1	82%
106	Kenya	24.2	234%
110	Nigeria	23.3	1.0%
111	Morocco	22.8	40%
123	Iran	17.8	44%
129	Egypt	16.0	36%

134	Namibia	13.3	15%
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Launching an online business in Iran, and taking the full advantage of information technologies in the business environment, is not a very straight forward path. According to the digital economy rankings (2010) which assess the quality of a country's ICT infrastructure and the ability of its consumers, businesses and governments to use ICT to their benefit, Iran ranked 69th among 70 countries (Economist, 2010). In another report released by Iran Information Technology Organization in 2012 (Table 3), Iran's current position in terms of IT infrastructures has been assessed. In the index of "condition of developing a business", Iran is in a "poor" position compared to Denmark, Turkey and Egypt (Iran Information Technology Organization, 2012).

Table 3: Iran's Position in IT Infrastructure Compared to Four Countries

Criterion	Iran	South Korea	Denmark	Turkey	Egypt
Supply and Demand Condition	Very Poor	Good	Middle to High	Middle to Low	Poor
Developing a Business in the Market	Poor	Poor	Excellent	Middle to Low	
Technology	Very Poor	Excellent	Excellent	Middle to High	Poor
Government Performance, Policies and Programs	Poor	Good	Excellent	Middle to Low	Very Poor
e-business Efficiency in Society	Very Poor	Excellent	Excellent	Middle to Low	Poor
Total	Very Poor	Good	Excellent	Middle to Low	Poor

In the context of tourism, there is few researches about the conditions of tourism online businesses. Findings of Travel and Tourism Competitive Report 2015 shows no progress in two sub-indexes of "ICT use for B-to-B transactions" and "ICT use for B-to-C transactions" compared to the 2013 report. Moreover, the total ranking of Iran has reached 98th from 93rd in the previous report. The last report shows the rank of 94th for ICT readiness (Travel and Tourism Competitive Report 2017) with 4 steps progress. Table 4 provided a comparison of Iran's ICT infrastructure sub-indexes in the 2013, 2015 and 2017 Travel and Tourism Competitive Report.

Table 4: Comparison of Iran's ICT infrastructure Rankings in the 2013 and 2015 Travel and Tourism Competitive Report

ICT Index	Iran's Ranking in 2013 Report	Iran's Ranking in 2015 Report	Iran's Ranking in 2017 Report
Total rank of ICT Infrastructure/ Readiness	93	98	94
ICT use in B2B transactions	131	131	116
ICT use in B2C transactions	115	115	106
Individuals using internet	96	93	86
Broadband internet subs. per 100 pop.	90	78	68
Mobile telephone subs. per 100 pop.	111	110	103
Mobile broadband subs. per 100 pop.	128	123	109

Mobile network coverage (% pop.)	n/a	94	112
Quality of electricity supply	n/a	61	62

METHODOLOGY

The mixed method (Qualitative and quantitative) is adopted to identify the challenges and the prospects of e-business adoption by travel and tourism firms in Iran. The mixing of the two types of data might occur at several stages: the data collection, the data analysis, interpretation, or at all three phases (Creswell, 2013). To do this, a questionnaire including close-ended questions (five points Likert scale) (quantitative approach), and semi-structured in-depth interviews (qualitative approach) were done with Iranian e-tourism experts and academics and the managers of travel and tourism firms located in four main cities of Iran, to assess the barriers and benefits of e-business adoption by these firms. Each close-ended question has a value of 5 if it is strongly agreed with and the value of 1 if it is strongly disagreed with by managers of the firms and e-tourism experts.

Data collection method for selecting the managers is deliberate sampling: *"this sampling method involves purposive or deliberate selection of particular units of the universe for constituting a sample which represents the universe"* (Kothari, 2013). To select the travel firms involved in e-commerce context, the key words of "online booking of travel services", "online booking of hotel", "online booking of flight" in Persian (Farsi) language searched individually

and in combination, from September to the end of January 2016 . After observing the travel websites appeared in the search results, 61 firms that provided these services online were selected. Finally 35 firms located in four cities of Tehran, Isfahan, Shiraz and Mashhad participated in this study.

To access the e-tourism experts in this study, the snowball sampling method was utilized. Snowball sampling is a purposive sampling technique that is used when members of the population are not easily accessed. Therefore the researcher identifies a number of them and they recruit the other subjects (Latham, 2008). In this study, every e-tourism expert has introduced another one, and finally 36 individual contributed to this study.

In this study two primary research questions, and one secondary question have been investigated:

Q1: what are the challenges of travel and tourism firms in the context of e-business

Q2: what are the prospects of these firms in the context of e-business?

Q3: what is the role of government in facilitating e-business adoption by travel firms?

DISCUSSION AND FINDINGS

Challenges

To answer the first question (challenges), 16 close-ended questions containing micro and macro level challenges were asked from two groups of participants. The answers provide by the experts shows that "lack of standard payment system" in Iran is the prime challenge for tourism firms. "Cost of Internet" and "lack of government support from tourism firms" are of the least importance among macro-level challenges. In the micro-level they believed that

"lack of knowledge among the employees to solve technical problems" is the most challengeable one.

However, the managers perceived the "lack of skillful work force in the market", the most important challenge in the micro-level, and similarly, the most important one refers to "lack of standard payment system" in Iran. Table 5 and 6 provided the answers to the open-ended questions about the challenges faced by tourism firms in adoption of e-business. The e-tourism experts mainly mentioned the challenges categorized in political dimension. On the contrary, the managers' answers cover the legal dimensions.

Table 5. Additional challenges of small and medium sized tourism firms in e-business adoption (e-tourism experts' perspective)

Micro level/ macro level	dimension	The answers provided by experts in the interviews
Macro-level	political	International sanctions and limitations imposed on overseas transactions in Iran
		Instability in political conditions, and changing macro-level policies periodically
		Lack of supporting policies and regulations to foster private section
		Lack of awareness among policymakers about tourism trends in the country
	Legal	The lack of an official union dedicated to the electronic tourism businesses

	Technological	Low speed of Internet
	Social	A Failure to regular update of official tourism portals of the country
		the absence of familiarity with online shopping among the customers of tourism services
		Cultural constraints resulted from fear of change in the society (the majority of customers with the buying power of travel services are among middle aged and up)
	Technical	Lack of employees expertized in both fields of tourism and e-commerce
Micro-level		Mismatches between the purchased product/ service and the promised product/ service
		Lack of internet usage in all levels of the organization inclusively

Table 6. Additional challenges of small and medium sized tourism firms in e-business adoption (managers' perspective)

Micro level/ macro level	dimension	The answers provided by managers in the interviews
Macro level	Political	International sanctions and limited relations with developed countries
		Lack of awareness among policymakers about tourism trends in the country
	Legal	The absence of exclusive regulations for electronic tourism businesses

		Interfering governmental regulations
		Lack of monitoring regulations for delinquent companies
		Lack of codified laws for imposing a fine on cases such as flight delays
		Secret lobbies between state-owned airlines and several specific companies
		Centralizing the services and selling government services to the specific companies in the capital
		Lack of government support of startups or low-budget companies
		Lack of contribution among the authorities to comply the obligation to perform all the processes online (for example, to cancel their ticket, customers need to hand it personally with the related authorities. The process is not performed online)
	Technological	Low speed of Internet
		Frequent internet network interruptions
	Social	lack of trust among customers in electronic businesses due to cybercrimes

Prospects

To investigate the second research question, 19 variables were asked the interviewees. The findings showed that the variables "access to the new customers" and "adoption of optimal marketing methods" were the most motivating factors for adoption of e-business in small and medium sized tourism firms in e-tourism experts' perspective. While the less important factor in their opinion was "easy interaction with other businesses". However, on the other side, research statistics revealed that "easy and low-cost communication" and "time saving" are most important factors respectively, for the

mangers to adopt e-business, and the less encouraging factor for them was "easy interaction with other businesses". Both group of interviewees added more factors which are listed in table 7 and 8.

Table 7. Other benefits of e-business adoption from experts' perspective

Category	Additional benefits from experts' perspective
Marketing	Presenting the business in an international platform
	Using the potentials of social media for B2B and B2C marketing
Customer Relationship Management	Easy communication with the customers in pre, post trip and in-trip services
	Time saving maximizes customer satisfaction

Table 8. Other benefits of e-business adoption from managers' perspective

Category	Additional benefits from managers' perspective
Marketing and Identification of target customers	Accelerating the introduction of product/service to the market
	Accelerating the process of taste identification
Customer Relationship Management	Service/ product diversification
	Promoting competition in the market to provide the best services to customers
Economic	Reducing human resource costs

Role Of Government

The role of government in facilitating e-business adoption by small and medium sized tourism firms was examined through an open-ended question. Both groups provided answers to the question

which are listed in tables 9 and 10. Answers are divided into 5 categories.

Table 9. Role of government in facilitating e-business adoption by small and medium sized tourism firms (experts' perspective)

Dimension	e-tourism experts' perspective
Political	Reducing political tensions
	Facilitating international relationship
	Changing the attitude of macro-level authorities about online business
Economic	Providing low interest rate funds for SMEs
	Providing tax deductions
Technological	Reducing the limitations such as low speed of Internet
	Promoting free information flow in cyberspace
Legal	Adoption of credible macro policies and monitoring the implementation of these policies
	Monitoring the market to assure fair competition
	Reducing bureaucracy
	Legislation of specific and clear-cut laws for tourism electronic businesses
	Organizing the issuance license for online businesses
	Eliminating exclusive rights and equal distributing of government tourism services among e-businesses
	Strengthening the private sector
Social	Promoting online shopping culture in the society

Table 10. Role of government in facilitating e-business adoption by small and medium sized tourism firms (managers' perspective)

Dimension	Managers' perspective
Political	Changing attitude toward foreign tourists
	Removing barriers to supply the basic infrastructures such as the barriers in the Airline industry

Economic	Reducing the cost of internet
Technological	Improving internet infrastructures, for example increasing internet bandwidth
	Securing payment gateways
Legal	Reducing bureaucracy, and Legislation of specific and clear-cut laws for tourism electronic businesses
	Issuing license only for qualified online travel business
Social	Promoting online shopping culture in the society

CONCLUSION

The findings show that challenges in macro-level are more significant than in micro-level. Responses provided by the both groups about macro-level challenges are classified into political, Technological, legal and social dimensions. Obviously two dimensions of "environmental" and "economical" in macro-level received less attention by the experts and managers. Although, the "Lack of standard payment system" is a technological issue, it is overlapped with political dimension, since the international sanctions imposed on Iran's banking system is related to the political decisions made in macro-level. In social perspective, disinclination toward online shopping, especially among middle aged citizens who are the major customers of tourism services, has caused online businesses not to be flourished. Comparing the perspective of the both group, e-tourism experts and academics emphasized more on political dimension, while the managers of SMEs mentioned the legal dimension as the most important. This implies on a difference of opinion between those who are theoretically expert and those who are practically active in this field. Secret lobbies between state-owned airlines and several specific companies which held public-privately to receive exclusive services, and interfering governmental policies, and centralization of travel services in Tehran (the capital city) are chief among the challenges in the macro environment. Lack of developed infrastructure which leads to the problems like frequent

interruption in internet network and low speed of internet has caused the businesses not to be able to provide the best services for their customers. Overall conclusion of the challenges opposes to the findings of a research which claimed the most important challenges in this context are internet availability, digital gap, lack of education in e-tourism field, and lack of electronic infrastructure (Bavarsad and Safari, 2014).

The benefits of e-business adoption by travel SMEs in Iran, it can be perceived that the new canal for marketing and introducing the services more widely in the market is the most encouraging benefit for the tourism businesses. Easy access to new customers, meeting their constant changing needs, and last but not the least, saving time, push more travel SMEs to adoption of e-business.

The most significant role of government in facilitating e-business adoption, falls into legal dimension. Since the most part of decision making process occur in the body of government and public sector, instead the private one, success and failure of businesses remains in the hand of central government, and greatly depends on government's decisions and executing the approved ones. According to the research findings role of government must to be shifted to monitoring, and private sector should gain the power to be involved in decision making process. Lack of practical will in executing Sixth Iran's Socioeconomic and Cultural Development Plan about involvement of private sector, and e-government development is obvious. Financial supports by the government is not a major problem for tourism SMEs, instead the legislation of specific and clear-cut laws for tourism electronic businesses and providing facilities like legal and secure payment system can be more effective. This is corresponded to the research of Rajabi (2011) noted financial supports has no effect on e-business adoption by SMEs.

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