



Investigating the Impact of Information Technology on the Growth of Iran's Tourism Industry (Case Study of Perspectives of Travel and Tourism Agency Managers)

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Abstract

The impact of information technology on the growth of the tourism industry in the world has become one of the obvious. Statistics show that in countries where information technology has grown well, the tourism industry has also grown. This article examined the impact of information technology on the growth of Iran's tourism industry from the perspective of managers of travel and tourism agencies. The statistical population of the article was a number of travel and tourism agencies in Iran. A researcher-made questionnaire was used to collect data. Therefore, 384 people were randomly selected as the statistical sample size. The collected data were analyzed using SPSS software in two parts: descriptive and inferential statistics. In the descriptive part, the data were analyzed using mean, standard deviation, variance and skewness coefficient and in the inferential part, the data were analyzed using linear regression test. The results of the hypothesis test indicate that information technology has a positive effect on the growth of Iran's tourism industry from the perspective of managers of tourism agencies, advertising sites and social networks and the performance of tourism organizations, the role of governments in Providing IT infrastructure and Internet penetration in the tourism industry has greatly affected the growth of the tourism industry.

Keywords

Information technology; Internet penetration; Tourism industry growth; Travel and tourism agencies

1. Introduction

The 21st century is a century of taking advantage of valuable business opportunities in the service sector, especially tourism. Tourism activity is considered as one of the most important and dynamic activities in the world and in all areas, both globally, nationally and regionally, has been considered by government planners and private companies and as a tool to generate national income (Majidi Deh

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Sheikh et al., 2016). Many countries are currently developing practical and legal planning plans for the development of this industry. Tourism is the sum of the phenomena and connections resulting from the interaction between tourists, capital, host governments and communities, universities and non-governmental organizations, in the process of attracting, transporting, catering, controlling tourists and other visitors. Nowadays, many countries of the world consider tourism as the best way to promote culture, create international understanding and achieve rich economic incomes, and for this reason, it is given special attention by countries (Taghdisi et al., 2012). In the last 60 years, tourism has been growing steadily and is considered as one of the major sources of income and employment in the world. The tourism industry has completely unique features that distinguish it from other categories and phenomena. The first and most important feature of tourism is that this industry is based on the factor of movement and relies on two factors of travel and accommodation. Hence, although it has lasting effects, it is temporary in nature. On the other hand, it is a combination of trends, relationships and economic and social interactions between tourists and various communities and therefore has major positive and negative effects (Ziari and Mardani, 2015).

The World Tourism Organization in its Manila Declaration has identified tourism as a basic need in the third millennium (Kim et al., 2007). Today, the role and impact of information and communication technology and the tourism industry on the economic growth of countries is not hidden from anyone. With the use of the Internet space and the emergence of e-tourism, information and communication technology has become one of the basic elements of tourism and has increased the efficiency of this industry. The tourism industry refers to a set of economic activities that provide products and services to tourists. The tourism system includes five basic spaces of origin, travel route, destination, tourism industry and outdoor environment. Information and communication technology is one of the basic elements of the external environment in tourism and travel. Information and communication technology is an essential partner that establishes communication between consumers and producers on a global scale. On the other hand, tourism is also an information-based activity. Intangible and tourism variable services cannot be physically inspected before sale and most of its products are naturally purchased before the time of consumption and away from the place of consumption. Therefore, tourism products are highly dependent on introduction, description and display, i.e. information is provided in written, audio and video form. The Internet is rapidly influencing shopping behavior by introducing new market places by offering services such as price comparisons. An important factor that makes the use of the Internet high is that the Internet makes an additional source of income possible through another form of marketing and distribution channels.

Internet marketing opportunities can be used more and better to target markets, new products, by studying the strategic marketing framework. The advent of the Internet provides new assumptions for marketers in diversifying marketing mix elements (Poorfaraj et al., 2008). In this research, the researcher seeks to investigate the impact of information technology on the growth of Iran's tourism industry from the perspective of managers of travel and tourism agencies.

2. Research literature

Tourism around the world is a social and economic phenomenon resulting from the human need for leisure, contact with nature and the desire to visit new places and cultures (Mirzaei Kalar et al., 2012). The tourism and travel industry is the largest and most diverse industry in the world. In many countries, the tourism industry is a dynamic industry and as a source of income, job creation, private sector growth and development infrastructure. The growth of the tourism industry is the result of

various factors such as rising living standards, improving transportation, increasing income and free time, industrialization of tourism, etc. (Ghafouri et al., 2012). In order to develop the tourism industry, tourist satisfaction is a significant goal for many tourism destinations. The development of the tourism industry not only benefits the industry, but also other parts of the industry as a tourist destination (Hui et al., 2007).

In recent years, many efforts have been made to increase tourist satisfaction with travel by stakeholders and decision makers in the tourism industry, and this issue has become a subject for study in scientific circles (Wang et al., 2009). One of the most important and prosperous parts of the world, international tourism revenues have increased by more than 87% worldwide during the first decade of the 21st century, from \$ 570 billion in 2000 to more than \$ 1,000 billion in 2010 (World Tourism Organization, 2005). Due to the nature of the tourism industry, despite technological advances in the world, this industry is still based on the significant role of human resources, so that this industry leads to direct employment in sub-sectors of the industry and indirect employment in many activities. These include financial, advertising, technical, legal, transportation, food, office services, sales, medical and health, hotel and so on (Oh, 2005). Despite the progress of some developing countries in enhancing their share of the tourism industry, there is still a deep gap in the enjoyment of international tourist income between developed and developing countries due to their exceptional natural, cultural, historical and ancient contexts. Therefore, if developing countries do not pay serious attention to identifying the causes of this gap and according to scientific findings, proper policy-making and planning is not adopted, the benefits and revenues of this industry in the 21st century as the driving force of the economy are lost (Shahabadi and Sabah, 2012).

One of the points of attention regarding the relationship between information technology and communication and tourism is their two-way relationship. The needs of the tourism industry for information technology are expanding due to the development of consumer needs and new methods of facilitating operations. On the other hand, the development of information technology provides more tools and capabilities to meet the needs of this industry. This process is like a path in which one section leads to the development of other sections, and the movement itself accelerates further forward. The continuous development of information and communication technology over the past two decades has had a profound application for the entire tourism industry. Four important features can be suggested as reasons for prescribing the expansion of the use of information technology for the prosperity of the tourism industry:

The first feature is the low average capital required to create any job in the field related to information technology in this industry. This feature is especially important due to the severe shortage of investment resources in the country on the one hand and the large number of job seekers on the other hand. In fact, the proliferation of Internet-related jobs has led to the creation of a significant number of new jobs in the industry without the need for large investments, especially for countries with a lack of funding to invest in the industry. Facing sections can be considered very important. The second feature is that with the rapid growth of global demand for information technology-related services such as advertising, marketing, programming, network security services and content production for tourism websites, the development of information and communication technology in this sector seems necessary.

Another important feature that has a positive impact on the development of information technology on the tourism industry is: The important role of information and communication technology in

reducing costs by a large number of businesses and government departments in providing services to tourists; For example, through electronic services, the average time required for them to be present at work is reduced. Such a trend leads to savings in ancillary costs due to their presence in the workplace (Poorfaraj et al., 2008). It is necessary to pay more attention to tourism planning in Iran, because a good introduction in a very short time and an effective image in the shortest time in cyberspace can be effective in attracting customers. To better understand the current distance of cyber tourism in Iran with other parts of the world, it is enough to see only a few web pages related to this category in neighboring countries, from the website of hotels to municipalities and companies active in the field of tourism. In the following, we will see what extensive actions others are taking with software facilities equal to ours. The first condition for improving the status of e-tourism in Iran is to have cyber literacy (Khalat, 2012).

The tourism industry in Iran has very high potential for growth and development. According to the World Tourism Organization, Iran ranks tenth in ancient and historical attractions and fifth in the world in terms of natural attractions that can greatly exploit this industry (World Tourism Organization, 2005; WTTC, 2019). According to the annual report of the World Travel and Tourism Council on the economic impact of the tourism industry (Figure 1), taking into account the wider effects of this industry, including its indirect role for economic development, the total share of the tourism and travel industry in the global economy in 2017 is 10.4%. of the total GDP of the world (WTTC, 2019).

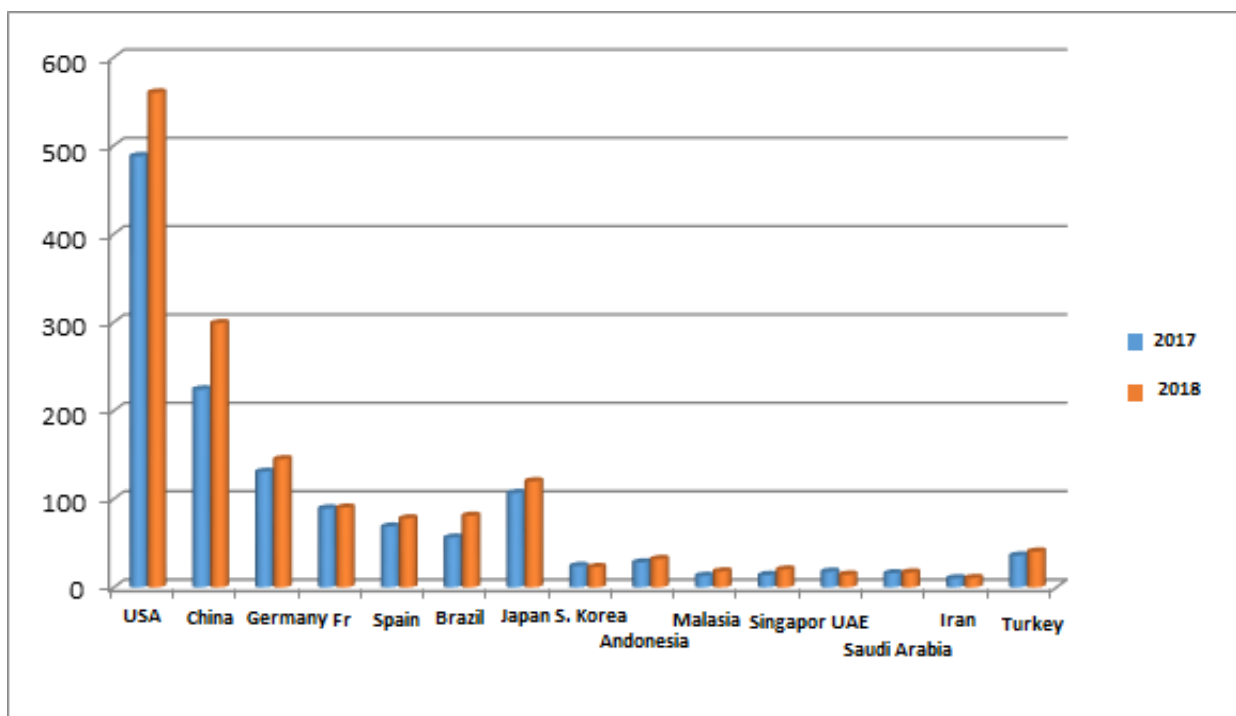


Figure 1. Chart of the share of tourism in the world economy in 2017 and 2018 (WTTC, 2019)

3. What is Iran's position in the 2017 Competitiveness Report?














In the report of the World Economic Forum, Iran was able to rank 93rd out of 136 countries in the 2017 report with four steps up compared to 2015. Iran's score in the scale of 1-7 considered by this organization is 3.4 million tourists, which in 2015 was 3.3. According to the 2017 report of the World Economic Forum, with the arrival of 5.2 million international tourists to Iran and about \$ 3.5 billion in expenses paid by them, Iran's average income per tourist arrival was \$ 665.1. Overall, the value-

added travel and tourism industry accounts for about \$ 10.1 billion, accounting for 2.5 percent of Iran's total GDP, and with 476,000 jobs, accounts for 9.1 percent of the country's total employment.

The Travel and Tourism Competitiveness Report shows that Iran still ranks first in the competitive price index in 2017 as well as in 2015 and is one of the most economical destinations in the world for international tourists. In other indicators, except for the health index, which is ranked 93rd in both recent reports, in three indicators of cultural resources, environmental sustainability and natural resources, Iran's position has declined, and in other indicators, including land and air infrastructure, Air transport infrastructure, human resources and labor market, international access, tourism services infrastructure, business environment, travel and tourism priority, information and communication technology, and safety and security, Iran's ranking has improved.

Iran's worst ranking among the components of the Travel and Tourism Competitiveness Index in 2017 was related to environmental sustainability, followed by travel and tourism priorities and tourism services infrastructure. Also, the best ranking of Iran after price competitiveness is related to cultural resources and land and air infrastructure (Table 1).

Table 1: Iran's ranking in the Competitiveness and Tourism Index based on the reports of 2015, 2017, 2018 (WTTC, 2019)

Row	Index	2015 (141 Countries)	2017 (136 Countries)	2018 (140 Countries)	Rating changes
Environmental empowerment	Business environment	119	79	121	
	safety and security	96	87	74	
	Sanitation and Health	93	93	89	
	Human resources and labor market	114	105	100	
	Infrastructure	98	94	79	
Travel and tourism policies	Prioritize travel and tourism	130	117	115	
	Open international border	116	109	118	
	Competitiveness of prices	1	1	1	-
	Environmental sustainability	115	119	107	
Infrastructure	Aviation infrastructure	93	89	86	
	Ground and air infrastructure	76	75	79	
	Tourism service infrastructure	119	116	108	
Natural and cultural resources	Natural resources	98	100	99	
	Business travel and cultural resources	37	38	33	

In its annual assessment, the World Travel and Tourism Council measured the effects of the travel and tourism sector on the world economy and employment. According to the report, which surveyed 185 countries from 25 regions of the world, the travel and tourism sector accounted for 10.4 percent of the world's gross domestic product in 2018 and more than 319 million jobs, equivalent to 10 percent of total world employment was created this year by this section. Meanwhile, the steady increase in the number of middle-class households and the significant growth in the global consumer spending have once again helped the sector grow to 3.9 percent, surpassing the world's economic growth for the eighth consecutive year.

4. Theoretical foundations

Abdoli and Moradi Asl in a study entitled Information and Communication Technology in the Iranian tourism industry have concluded that the tourism industry is considered as an important factor in creating employment, investment and regional development and a motivating factor in the public economy. The development of this industry in industrialized countries leads to diversification of incomes and reduction of economic imbalances, and in developing countries there is an opportunity for exports, currency production and job creation; therefore, the use of tourism is not possible except by providing a suitable platform for tourism development. Therefore, identifying attractions in the first stage and planning for their development in the next stages seems necessary, and given the tremendous impact of tourism in the economic, social and cultural fields in today's societies, it should be considered and managed wisely, consciously and with the right planning to expand tourism. The value of tourism and related activities is in line with oil revenues and today it has been named as a tourism industry (Abdoli and Moradi Asl, 2015).

In a study entitled The Study of the Impact of E-Tourism on Website Service Satisfaction in the Tourism Industry, it was concluded that the results of customer satisfaction surveys of virtual tourism have shown what is important for customers and leads to customer satisfaction including factors such as Website design suitable for tourism includes high download speeds and easy connection to web pages, and the results of this research are used for marketing of travel agencies. Also, salient factors for customer interest for use in e-tourism websites and e-satisfaction can form the basis of management policy strategies; therefore, the promotion of 24-hour services to users should be considered as a matter of priority (Vila et al., 2021).

Ping, in a study entitled Management Information System with Software in Tourism Management in the Circular Economy, found that information management system has been effective in improving information processing efficiency, improving security, improving tourism customer management relationships and better control of tourism resources (Ping, 2011).

Saab has done research in the tourism industry online and its impact on consumers. In this study, various online advertising tools and their effects on customers were used in specific tourists to the Algarve region in Portugal. The purpose of this study is to investigate the use of the Internet by travelers and tourists and online advertising. The current trend is the most effective method of online advertising. In total, 248 tourists were surveyed at Faro Airport in Portugal. Research has shown that most tourists who travel to the Algarve region use the Internet as a medium to obtain travel information (Saab, 2011).

In addition to increasing the country's income, tourism revenues are widely distributed throughout society and is an important factor in the balanced distribution of income in society. Also, with the expansion of the tourism industry, in addition to improving living standards in tourist areas, their cultural standards will also improve significantly. Tourism for developing countries, especially single-product countries, could potentially play a significant role in helping regional economic development, providing foreign exchange, and solving related problems better than payments. Many countries are planning to generate additional revenue, foreign exchange, employment, and tax revenues for the industry. On the other hand, for developed countries where tourism is a significant source of export earnings, it is important to have a correct understanding of the factors affecting the overall economic situation. However, the success of any country in attracting tourists depends on maintaining competitiveness in attracting tourists (Shahabadi and Sabah, 2012). This feature is especially important

for countries that face the problem of unemployment and have the necessary capabilities (natural, cultural, historical and social) to develop tourism. Therefore, the development of the tourism industry with a focus on creating entertainment and cultural centers and providing welfare facilities in order to attract the required human capital and develop new businesses has become one of the most basic programs for many cities and regions.

The development and availability of information and communication technology seems necessary for the growth and development of the country's economy for several reasons. Because first of all, this technology (technology) increases the speed of information transfer and thus information is spread among more people. Second, information and communication technology reduces the cost of production, because access to the knowledge produced is available at the lowest possible cost. Reducing transaction costs also reduces the degree of inefficiency and uncertainty. Third, information and communication technology overcomes time and space constraints, resulting in increased information transfer between buyers and sellers, and the production process goes through national sanction. This technology enables everyone to assert their superiority over others in a market economy, which leads to a wider market and an increase in the level of access to the global supply of goods. Fourth, it makes the market more transparent and increases demand. Information and communication technology strengthens the power of people to access information (Pourfaraj et al., 2008).

The development and access to information technology seems necessary for several reasons to promote the tourism industry. Tourism must be promoted both culturally and socially and economically. In this research, economic, cultural and social approach has been done. First, information technology increases the speed of information transfer, and thus, information is disseminated among countless people. Second, this technology reduces production costs; because it makes it possible to access the knowledge produced at the lowest cost. Also, reducing transaction costs reduces the degree of inefficiency and uncertainty. Third, it overcomes time and space constraints, and as a result, information transfer between buyers and sellers increases and the production process transcends national boundaries. This technology enables everyone to realize their superiority over others in a market economy, which leads to a wider market and increased access to the global supply of goods. Fourth, it makes the market more transparent and increases demand. Information technology enhances the power of individuals to access information. Theoretically, information technology affects economic growth in three ways. Direct approach to the production of goods and services, information technology contributes to GDP growth. In other words, the production of goods and services in information technology are part of the economic added value. Utilizing IT capital as a skill in producing goods and services through capital deepening promotes economic growth. Increases economic growth by contributing to technological advances. If the rapid growth of information technology is based on the benefits of efficiency and productivity in these activities, it will increase economic growth in the tourism industry.

The use of information technology leads to the correct and accurate recognition and introduction of cultures and customs of tourist destinations, as well as tourist attractions and the recognition of challenges and limitations in the development of tourism and can provide satisfaction with clear, accurate and timely information for the sake of tourists and make the region have a good ranking among the countries of the world. Also, it creates the best conditions for peace, convergence and unity (Pourahmad et al., 2018). Among these, one of the industries and occupations in which information technology is used is tourism. The tourism industry with abundant capacities for the development of

any country can expand its fields of development by using information technology. The stated cases indicate the high importance of the subject under study.

5. Research Objectives

5-1. Determining the impact of information technology on the growth of Iran's tourism industry from the perspective of managers of travel and tourism agencies in Iran

5-2. Determining the effect of advertising sites and social networks and the performance of organizations in charge of tourism on the growth of Iran's tourism industry from the perspective of managers of travel and tourism agencies in Iran

5-3. Determining the impact of the role of governments in providing information technology infrastructure on the growth of Iran's tourism industry from the perspective of managers of travel and tourism agencies in Iran

5-4. Determining the effect of information technology for transport in tourism industry on the growth of Iran's tourism industry from the perspective of managers of travel and tourism agencies in Iran.

5-5. Determining the effect of Internet penetration in tourism industry on the growth of Iran's tourism industry from the perspective of managers of travel and tourism agencies in Iran

6. Research hypotheses

6-1. Information technology has a positive effect on the growth of Iran's tourism industry from the perspective of managers of travel and tourism agencies in Iran.

6-2. Advertising of sites and social networks and the performance of tourism organizations have a positive effect on the growth of Iran's tourism industry from the perspective of managers of travel and tourism agencies in Iran.

6-3. The role of governments in providing information technology infrastructure has a positive effect on the growth of Iran's tourism industry from the perspective of managers of travel and tourism agencies in Iran.

6-4. The role of information technology for transport in the tourism industry has a positive effect on the growth of Iran's tourism industry from the perspective of managers of travel and tourism agencies in Iran.

6-5. Internet penetration rate in tourism industry has a positive effect on the growth of Iran's tourism industry from the perspective of managers of travel and tourism agencies in Iran.

7. Research method and statistical population

This research was a descriptive correlational research and has been applied in terms of purpose. The statistical population of this research was all travel and tourism agencies in Iran. A researcher-made questionnaire was used to collect data from this study. The statistical population of this study was all managers of travel and tourism agencies in Iran. Therefore, 384 people were selected as the sample size. The sampling method used in this research is cluster sampling method. The collected data were analyzed using SPSS software in two sections of descriptive and inferential statistics. In the descriptive statistics section, the data were analyzed using mean, standard deviation, variance and skewness coefficient, and in the inferential statistics section, the data were analyzed using linear regression test.

8. Research findings

Descriptive findings of each of the research variables are shown in Table 2-6. The results obtained from descriptive statistics show that the highest value obtained for all research variables is 5 and the lowest value is 1. On the other hand, it can be said that the average value obtained for all research variables is above average. The average value obtained for the information technology variable is equal to (3.703), the average value obtained for the variable of advertising sites and social networks and the performance of tourism organizations is equal to (3.3974), the average value obtained for the variable of the role of governments in providing information technology infrastructure equal (3.4651), the average value obtained for the variable of the role of information technology for transportation in the tourism industry is equal (3.4594), the average value obtained for the variable of Internet penetration in the tourism industry is equal (3.5078), and the average value obtained for the growth variable of Iran's tourism industry is equal to (3.6010). The results of Kolmogorov-Smirnov test indicate that the significance level obtained for all research variables is higher than 5%, so with a 95% probability we can say that all research variables are normal.

9. Analysis of findings from testing hypotheses

Since the value of the Watson camera obtained is in the range of 1.5 to 2.5, it indicates no linear correlation between the remaining sentences of the model. According to the obtained coefficients of determination, it can be said that independent variables at the rate of 85.8% have been able to explain the dependent variable. The results obtained from the first hypothesis test show that the first hypothesis of the research has been confirmed, i.e. since the value of the significant level obtained is less than 0.05, so with 95% probability we can say that information technology on the growth of Iran's tourism industry. From the perspective of managers of travel and tourism agencies in Iran, it has a positive effect and the rate of this effect is 42.7%.

The results obtained from the test of the second hypothesis show that the second hypothesis of the research has been confirmed, that is, since the value of the significant level obtained is less than 0.05, so with 95% probability we can say that advertising sites and social networks and the performance of tourism organizations has a positive effect on the growth of Iran's tourism industry from the perspective of managers of travel and tourism agencies in Iran, and the rate of this impact has been 18.4%.

The results obtained from testing the third hypothesis show that the third hypothesis of the research has been confirmed, i.e. since the value of the significant level obtained is less than 0.05, so with 95% probability, we can say that the role of governments in providing infrastructure Information technology has a positive effect on the growth of Iran's tourism industry from the perspective of managers of travel and tourism agencies in Iran, and the rate of this impact has been 40.2%.

The results of testing the fourth hypothesis indicate the rejection of this hypothesis because the level of significance obtained is greater than 0.05, so with 95% probability we can show no effect of the role of information technology for transport in the tourism industry on the growth of Iran's tourism industry from the perspective of IAEA managers.

Table 2. Descriptive Statistics Results (First hypothesis)

	N	min	Max	Mean	SD	Variance	Skewness	Standard error
	Statistics	Statistics	Statistics	Statistics	Statistics	Statistics	Statistics	
Information Technology	384	1.00	5.00	3.7703	0.93965	0.883	-0.825	0.125
Advertising sites and social networks and the performance of tourism agencies	384	1.00	5.00	3.3974	0.9525	0.911	-0.463	0.125
The role of governments in providing information technology infrastructure	384	1.00	5.00	3.4651	0.82950	0.688	-0.448	0.125
The role of information technology for transportation in the tourism industry	384	1.00	5.00	3.4594	0.76149	0.580	-0.455	0.125
Internet penetration rate in the tourism industry	384	1.00	5.00	3.5078	0.87336	0.763	-0.558	0.125
The growth of Iran's tourism industry	384	1.00	5.00	3.6010	0.75320	0.567	-0.464	0.125

Table 3. Results of data normality test (second hypothesis)

	Information Technology	Advertising sites and social networks and the performance of tourism agencies	The role of governments in providing information technology infrastructure	The role of information technology for transport in the tourism industry	Internet penetration rate in the tourism industry	The growth of Iran's tourism industry
Kolmogorov-Smirnov test	2/799	1/915	2/439	1/895	2/150	2/347
Asymp. Sig. (2-tailed)	0/076	0/081	0/090	0/062	0/059	0/077

Table 4. Results of research hypotheses (third hypothesis)

Model	The correlation coefficient	The coefficient of determination	Modified determination coefficient	Standard estimation error	Durbin-Watson
1	0.926	0.858	0.856	0.28578	1.976

Table 5. The results of testing the fourth hypothesis

Model		Sum of squares	df	Mean of squares	F Statistics	Sig.
1	Regression model	186.409	5	37.282	456.502	0.000 ^a
	Error share	30.871	378	0.082		
	Total	217.280	383			

Table 6. The results obtained for the fifth hypothesis

Model	Not standardized coefficients		Standardized coefficients		The significance level
	B coefficient	Deviation is standard	Beta	t	
Fixed value	0/410	0/081		5/035	0/000
Information Technology	0/427	0/025	0/533	17/308	0/000
Advertising sites and social networks and the performance of tourism agencies	0/184	0/040	0/233	4/601	0/000
1 The role of governments in providing information technology infrastructure	0/402	0/028	0/443	14/190	0/000
The role of information technology for transport in the tourism industry	0/022	0/027	0/022	0/812	0/418
Internet penetration rate in the tourism industry	0/209	0/038	0/243	5/526	0/000

According to the results obtained for the fifth hypothesis, it can be inferred that the Internet penetration rate in the tourism industry has a positive effect on the growth of Iran's tourism industry from the perspective of managers of Iranian travel and tourism agencies and the extent of this effect according to the results was 9/20 percent.

10. Conclusions and suggestions

Today, we are witnessing the growth and flourishing of technologies that have been able to dominate and influence our daily lives more than ever before. Because the environment is constantly changing and innovating, human lives will inevitably change under the influence of innovation in information technology. Meanwhile, the tourism industry has been able to grow and flourish to a large extent by using this technology tool. Humans today, wherever they are in the world, can connect to the Internet to see the natural and spectacular attractions around the world and travel virtually. Today, the number of sites and social networks active in the field of tourism has increased day by day, and they have kept this industry alive and well, and by addressing tourism issues and natural attractions, they have been able to pay more attention to the importance of this industry. Meanwhile, the leading governments in this industry have also played a significant role in the development of the tourism industry by strengthening the technological infrastructure, especially tourism. Looking at the statistics of leading countries in the tourism industry, we find that governments have paid more attention to tourist attraction infrastructure in order to achieve a superior position in the field of tourism, and by investing in this field, they have been able to benefit their country a lot.

On the other hand, in countries where the Internet penetration rate has been high, the public awareness has been strengthened in proportion to the same level, and finally, the behavior appropriate to foreign tourists has also improved, so that people have a great desire to enter a country, re-use the services of the same country and finally like to visit those countries many times.

In this research, the results obtained from the first hypothesis test (with an impact rate of 42.7%), the second hypothesis test (with an impact rate of 18.4%), the third hypothesis test (with an impact rate of 40.2%), the fourth hypothesis test (Rejecting this hypothesis) and the fifth hypothesis of the test (with an impact of 20.9%) showed that information technology, advertising sites and social networks and the performance of tourism agencies, the role of governments in providing information technology infrastructure and Internet penetration rate in the tourism industry have been able to greatly affect the growth of the tourism industry and, on the other hand, it can be said that the role of information technology for transport in the tourism industry in Iran has not affected the growth of the tourism industry. Finally, in line with the results, the suggestions that can be effective to reduce the challenges of virtual tourism in the country are as follows:

(a) Development of information and communication technology infrastructures for the growth of tourism industry in Iran; (b) increase the speed of the Internet in the country and keep the cost of Internet tariffs low accordingly; (c) support for virtual social networks as well as startups active in this field; (d) facilitate the entry of foreign tourists into the country and, accordingly, hold cultural events based on attracting foreign tourists; (e) creating a comprehensive IT plan in Iranian tourism; (f) providing the management center of Iran's official tourism sites on the web; (g) advertising of Iranian digital information sites and centers in the field of tourism in 1000 Iranian government sites; (h) advertising and introduction of digital tourism sites in Iran (such as museums, etc.) in the national media; (i) establishment of IT courses in tourism by Iran Tourism Organization; (j) allocating a special budget from the country's foreign exchange reserve fund to expand tourism in the direction of IT orientation; (k) establishment of undergraduate and postgraduate training courses in higher education institutions and centers of the country; (l) definition and awarding of special virtual tourism badges to active and effective centers of the country in this field; (m) establishment of a council or virtual tourism center in the Iran Tourism Organization; and (n) allocating appropriate computers to centers that are directly or indirectly effective in IT tourism in Iran.

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