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Determinants of Medical Tourism Expansion in Iran: Structural Equation Modeling Approach

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Abstract

Health tourism is a profitable and competitive industry, which includes both medical and wellness tourism. This research intends to identify and analyze the determinants of medical tourism expansion in Iran. To this end, first, 384 questionnaires were distributed among medical tourists visiting selected private hospitals in Tehran, and medical tourism experts in both private and public sectors in 2017. The data obtained from the questionnaires were analyzed using Structural Equation Modeling (SEM). The price level had the greatest impact on attracting the medical tourists in 2017. The service and therapeutic capacities, and the characteristics of the destination ranked second and third, respectively. Marketing and public sector policy-making had positive but relatively small effects on attracting medical tourists to Iran. To compete with rival countries in attracting medical tourists, surgical operations should be presented efficiently. Private hospitals have to maintain their equipment and technology at the same level as those in the advanced countries. Furthermore, public and private sectors should spend more on advertising and marketing. Finally, in attracting more medical tourists, the role of public policy should be considered seriously.

1. Introduction

Maintaining and improving health is a common universal trend among all ages, social classes, beliefs, cultures, and continents (Global Wellness Institute, 2014).The issue of health tourism dates back to the 16th century, when mineral water resources were applied to develop health (Gunn & Var, 2002). Vajirakachoren (2004) believes that health tourism must have emerged in the ancient civilizations of Greece and Rome. The term "health tourism" was introduced by Goodrich and Goodrich (1987).

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Health tourism refers to widespread travel of people from their homes for health issues, which is influenced by demographic, economic, and lifestyle factors. Health tourism includes individuals and groups who travel to benefit from a different climate (for medical and curative purposes), use of mineral springs, undergoing recovery, treatment, and so forth (Ebrahimzadeh et al., 2013). According to the World Tourism Organization (WTO), health tourism is to employ services in order to enhance individual's health status through helping them to benefit from the climate, mineral springs or medical interventions, which are available somewhere away from their homes. A health tourist usually receives such services in a span of 24 hours to one year.

The medical travelers arrange their tours from advanced to the developing countries, which supply health services with different standards (Ruggeri et al., 2015). In other words, the destinations of such travelers are not necessarily the developed countries. This new international movement of patients is known as "Medical Tourism", a new marketing strategy adopted by hospitals and governments. As Delgoshaaee et al. (2011) point out, a typical medical tourist aims to receive medical treatments and carry out tourism-related activities.

The purpose of medical tourism is to go to places where one can access medical treatment. Such a journey requires a variety of activities concerned with the health of the traveler. Carrera and Bridge (2006) describe medical tourism as an organized journey taken outside the usual healthcare area by an individual as to improve and regain his/her health through medical interventions. Medical tourism is a series of actions in which individuals cross borders for receiving health care services with participation in recreational, commercial or further travel incentives (Global Spa Summit,2010).

Globally, medical travelling is expanding due to the increasing availability and access to advanced health technology, low travel costs, and the increasing amount of cash spent on the advertisement by tour agencies. Latin American countries, including Mexico, Brazil, and Columbia, have upgraded their medical infrastructure to host the North American patients. In Eastern Europe, Hungary, Czech Republic, and Poland, are known as the host countries for health tourists. A number of the Middle East countries, such as Turkey and the United Arab Emirates, have improved their medical standards to host sick persons from adjacent countries and Europe (Beladi et al., 2017). Asian states are regarded as well-known host countries and they draw more medical tourists due to their low expenses compared to regions such the USA or Europe. Since labor cost is lower in most Asian countries than other countries, medical travelers can save much money when travelling to these countries (Keshetri, 2011). The earnings from world medical tourists have increased nearly 20% per annum (Yu & Ko, 2012). Medical tourism generated nearly US$55 billion in 2014 (Woodman, 2014).

Most medical tourists try to receive various health-related services including plastic surgery, organ transplantation surgeries (kidney, liver, cochlea, etc.), cardiovascular surgery, orthopedic surgery, ophthalmology, dentistry, infertility treatment, skin treatments, traditional and alternative medicine,

periodic diagnosis, and checkups (Lunt et al., 2012). Long waiting lists for surgeries, the high cost of treatment, lack of insurance or insufficient insurance coverage act as push factors and encourage people to receive healthcare abroad whereas natural therapies and medical treatments in spas, health villages, and hospitals act as pull factors and increase medical tourism (Garcia-Altes, 2005). It is estimated that a health tourist provides foreign currency three times as much as a typical tourist (Noori et al., 2012). Medical tourism is of both low cost and high profitability (Kazemi, 2007).

Iran has several features, which make it an attractive destination for medical tourists. In Nasiripour and Salmani's (2011) viewpoint, the relatively low prices of medical services and the high-quality and modern medical operations are the driving forces of medical tourism in Iran. Due to Iran's potential for attracting medical tourists, this research was undertaken to identify the determinants of medical tourism expansion in Iran. It explored the ideas of foreign tourists, managers, and experts of the Ministry of Health and Medical Education, and the Cultural Heritage and Tourism Organization as well as those working in tourism and medicine private sectors regarding the changes that can tap into the Iranian medical potentials. In this regard, the hypotheses of the research were as follows:

- Adopting effective tourism policies in related organizations affects positively the arrival of medical travelers to Iran.
- Proper advertising and marketing in tourism-related institutions have positive effects on the entry of medical tourists to Iran.
- The high capacities of healthcare services in private hospitals of Iran have positive impacts on the attraction of medical tourists.
- The relative price of healthcare provided in Iran affects positively the arrival of medical travelers.
- Domestic tourism attractions have positive effects on the entry of medical tourists to Iran.

The remainder of the article is organized as follows. The literature of research is reviewed in section 2. Research methodology is introduced in section 3 and the results are reported in section 4. Finally, the conclusion is offered in section 5.

2. Literature Review

2.1 Theoretical Background

Medical tourism has roots in human behavior and requires strong motivations and provisions. In the field of tourism, the concept of motivation is used both to comprehend travelers' behaviors and their choices and as a means to learn how to draw travelers and meet their expectations throughout their trip to a specific destination. Motivation in tourism consists of all factors, which induce tourists to buy certain products or services (Swarbrooke & Horner, 2007). One of the influential motivation theories of tourism is the theory of pull

and push factors. Page and Connell (2006) argue that push factors drive people toward traveling while pull factors are those that provide an initial attraction for the selected destination. Push factors are considered social-psychological motivations, which provoke people to travel. Pull factors are generally viewed from a supply-side dimension. The force of attractions in a destination area is considered as exerting a pull response on the individual (Kim & Lee, 2002). Therefore, understanding tourists' motivations is a very important factor, especially in determining the marketing strategies for the field of tourism studies because choosing the destination, which is more likely to be done by the tourists, is a complex decision-making process. Medical tourists are exposed to similar pull and push factors. A country may be attractive for medical tourists because of low prices, qualified healthcare service, proper marketing and advertising, and satisfactory hospitality environment.

In making decisions to buy a product, consumers consider the price of each product or service. This applies to all customers, especially to those who are price-sensitive. Price is an important variable in customers' decision-making. In a competitive environment, prices are given and fixed for a large number of buyers; however, in a monopolistic regime, prices are subject to a downward sloping demand function. In the tourism sector, a region/country can attract travelers if the provision of services is considerably low-cost. This includes certain types of expenses such as accommodation costs, transportation costs, and food and other entertainment expenses. As Crooks et al. (2011) pointed out, the cost of medical services, accommodation costs, food and transportation costs are of great importance in attracting medical tourists to host countries.

The quality of medical services plays a key role in expanding medical tourism (Wendt, 2012). Low quality of medical services impedes the expansion of medical tourism. This business requires quality services. Medical tourism is a growing industry. For guaranteeing sustainable growth, the accreditation methods have been developed to standardize the quality of medical care procedures. Because of the US sanctions, Iran's hospitals have no official relationship with Joint Commission International (JCI). All hospitals in Iran receive quality accreditation from the Ministry of Health and Medical Education. In addition, some Iranian hospitals have received accreditation from Accreditation Canada International (ACI).

Youngman (2011) refers to the effective market research, ending the reverse marketing and customer-related strategy as success factors in developing medical tourism.

In the context of medical tourism, if the marketers persuade medical tourists to visit a country or hospital, they should present a good image through medical health care facilities. This image may indicate the cutting-edge expertise and tools, high-level treatments, and skilled medical practitioners. In other words, medical tourism providers should be equipped with the knowledge as how to handle medical care marketing and offer kindness to potential health

tourists in order to efficiently showcase health services to the medical tourists (Chomvilailuk & Srisomyong, 2015).

Healthcare is a regulated and public-managed sector in the world; thus, laws and regulations in this area could be looked at as the factors that determine the success or failure of the medical tourism business and health services' providers. Planning and formulating strategies to develop infrastructures for medical centers and hospitals, medical equipment and specialized labor, and advertisements for attracting medical tourists are the necessary factors in expanding medical tourism (Alizadehsani et al., 2015).

Based on the literature review, Figure 1 depicts the conceptual model. This model was used to investigate the key determinants in attracting foreign medical travelers to Iran's private hospitals.

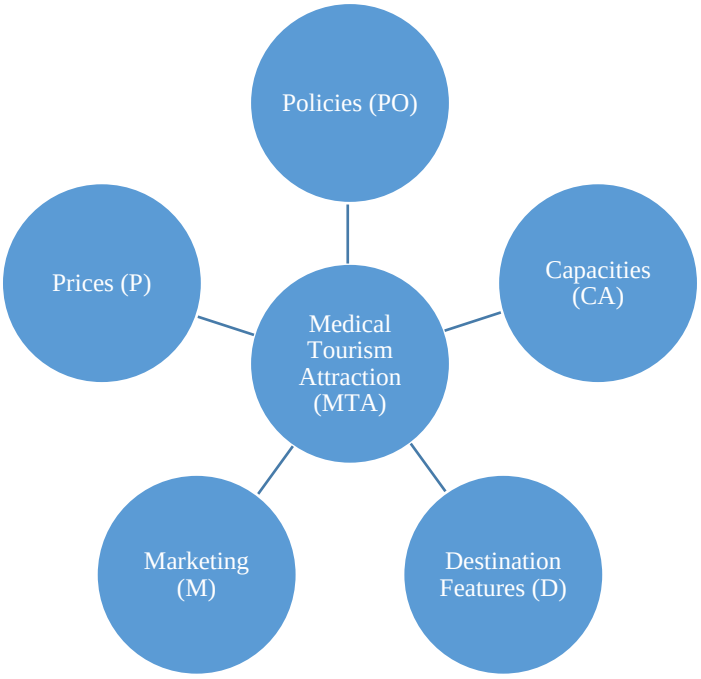

Figure 1. The conceptual model of research

***Source**: Authors' own compilation based on Sultana et al. (2014) and Jadhav et al. (2014)*

This research was aimed to find out whether policy-making, marketing and advertisement, health service capacities, prices and insurance coverage, and the characteristics of the destination could have an impact on attracting medical travelers to Iranian private hospitals.

2.2 Empirical Background

Several researchers have focused on medical tourism. Using SEM, Zailani et al. (2016) investigated the elements influencing the satisfaction of medical travelers. They found that patient satisfaction had a direct relationship with doctors and hospitals. Zuhri et al. (2016) used the SEM to analyze the reasons for the entry of medical tourists to Malaysia and proposed strategies for increasing their attraction and loyalty by analyzing the behavior of tourists. They concluded that the perceived quality of medical services and their perceptual value, trust, mental image, and competitiveness could directly influence the choice of destination and the tourists' loyalty. Ayoubian et al. (2013) reviewed the status of medical tourism in Tehran hospitals. They argued that the number of medical tourists in Tehran hospitals was low and that had resulted in little income gained from these patients.

Using an integrative approach of fuzzy TOPSIS[1] and SEM, Morovati Sharifabadi and Asadian Ardakani (2014) concluded that up-to-date knowledge of the hospital staff and the relevance of the specialty of doctors to their duties were the key determinants of medical tourism expansion.

Mirfakhradini et al. (2013) reviewed the satisfaction rate of medical tourists in Yazd province. By measuring the level of satisfaction of medical travelers, they found that the appropriate equipment and treatment quality had significant effects on attracting medical tourists. Izadi et al. (2012) indicated that Iran had many advantages including well-educated physicians, up-to-date technology, and natural therapeutic areas to attract medical tourists. They, however, added that Iran suffered from insufficient coordination of medical tourism and planning organizations.

Public infrastructure, human resources, information systems, marketing, and product diversification have influenced the growth of Iranian medical tourism (Noori et al., 2012). In a study on medical tourism in Hong Kong, Ye et al. (2008) observed that medical issues were more important for medical tourists than destination features such as the quality of health care, improvements, collaborations, costs, and reputation.

Smith and Forgione (2007) found that the specific characteristics of a country, such as economic status, political conditions, and legislative regulations, are the main factors in selecting a host country, and features such as charges, hospital certification, and the quality of medical services affect the selection of health care centers. In a study conducted by the United Nations (2007), factors such as the access to advanced facilities, and high quality and low cost of treatment were highlighted as the major determinants of attracting patients searching for medical care abroad.

[1] . Technique for Order of Preference by Similarity to Ideal Solution

3. Methodology

This research is a typical survey study. Hence, the operational dimensions of the research are based on empirical studies and expert opinion (interview method). The questionnaires were used to collect data and examine some dimensions including economy, policy-making, marketing, tourism attraction, and healthcare provisions. They were randomly distributed among three groups in 2017. The respondents included 1. foreign medical tourists visiting Tehran's private hospitals and their companions, 2. the private sector practitioners [doctors and the officials in International Patients Department (IPD) of selected private hospitals, members of the Tourism Committees of Iran and Tehran Chamber of Commerce, and other activists of tourism and medical tourism in private sectors] in medical and tourism sectors, and 3. managers and experts in tourism and medicine at the Cultural Heritage and Tourism Organization and Ministry of Health and Medical Education. Appendix represents the questionnaire designed.

According to the Ministry of Health and Medical Education, the number of medical tourists entering Iran in 2016-2017 was about 100,000 people. However, there is no official data on tourism professionals and physicians involved in medical tourism. For this purpose, Cochran' formula, as follows, was applied to compute the number of respondents:

$$n = \frac{z^2 pq}{e^2} \quad (1)$$

where z denotes the z-statistic for 95% confidence level, p is the estimated fraction of the population under study, $q=1-p$, and e is an error margin. Given the unknown size of the statistical population and replacing z *by 1.96*, p and q by 0.5, and $e=5\%$, the number of respondents was calculated as much as 384.

The validity of the questionnaire was assessed and approved by a number of university professors and tourism specialists. In addition, the reliability of the questionnaire was calculated as 0.981 by the Cronbach's alpha coefficient.

For the first group, letters of request for cooperation were sent by the Ministry of Health and Medical Education to Tehran private hospitals which provided medical tourism services. Totally, out of 30 hospitals, 13 hospitals agreed to cooperate.

In the selected hospitals, the questionnaires were distributed between foreign patients who had a good health status and were able to answer questions. In some cases, patients' companions replied to questions. About 130 questionnaires were answered. In other words, 10 medical tourists per hospital participated in this survey.

The second and third groups of the sample comprised of medical tourism experts in both private and public sectors. For these groups, the questionnaires were distributed in clinics, private hospitals, the Iranian Cultural Heritage and Tourism Organization, Tehran Chamber of Commerce, Industries, Mines and Agriculture, and agencies active in medical tourism. As a result, 254 questionnaires were collected. Totally, 384 questionnaires were completed by different participants.

The designed questionnaire measured the effects of five separate items on the attraction of foreign medical tourists to Iran. These items were 1. policies, 2. advertising and marketing, 3. the capacities of medical and healtcare services, 4. costs, and 5. destination characteristics. Table 1 presents information on each item and the number of respondents.

Table 1. General features of questionnaires

Items	Number of Respondents	Respondents
Q1: effect of policies	R1=254	Medical Tourism Experts
Q2: effect of marketing	R2=254	Medical Tourism Experts
Q3: effect of treatment capacities	R3=130	Medical Tourists
Q4: effect of costs	R4=130	Medical Tourists
Q5: effect of destination characteristics	R5=130	Medical Tourists
Total	R=384	Medical Tourists and Experts

***Source**: Research findings*

The SEM and Partial Least Squares (PLS) technique were used to test the research hypotheses and to estimate the model. SEM is a comprehensive technique of multivariate regressions family. More precisely, an extension of general linear model allows testing a simultaneous equations system. Also, path analysis is a technique that simultaneously shows the relationships among the research variables-independent, intermediary, and dependent (Haenlein & Kaplan, 2004).

4. Results

The findings presented in Table 2 show that there are positive relationships among policies (PO), hospitals service and capacities (CA), destination features (D), marketing and advertisements in medical tourism (M), as well as the prices of tourism services (P) as explanatory variables and the entry of medical tourists to Iran as dependent variable. As a result, some hypotheses of the model are rejected. It should be noted that according to the structural model estimations, the statistically insignificant indicators were eliminated when reporting results. The effects of different constructs on the dependent variable, i.e. the arrival of medical tourists to the country, are different.

Table 2. Estimated structural constructs coefficients

	Constructs / Indicators	coefficients	T-stat
Prices	Patient's companions accommodation costs (P1)	0.926	78.67
	Prices of medical surgeries in Iran (P2)	0.966	212.47
	Prices for subsidiary medical services (P3)	0.937	90.27
	Medical insurances (P4)	0.868	38.103
	Transportation Cost in Iran (P5)	0.931	72.217
Policies	Foreign Ministry policies on introducing Iranian medical capacities (PO1)	0.832	43.962
	Ministry of Health and Medical Education and IRI Medical Council Policy on Medical Tourism (PO2)	0.734	19.706
	Identification of target countries in attracting medical tourism (PO3)	0.728	20.385
	Organization of Cultural heritage and tourism policies on tourism (PO4)	0.754	22.145
Capacities	Medical equipment of hospitals in Iran (CA1)	0.447	7.826
	Iran's status in terms of health indicators (CA2)	0.844	33.461
	Quality of providing healthcare in private sector (CA3)	0.864	41.911
	Availability of specialized doctors in private sector (CA4)	0.944	139.743
	short waiting time for treatment in Iranian hospitals (CA5)	0.902	52.017
Destination	Language and cultural similarities between Iran and other countries in the region (D1)	0.902	60.846
	Tourists' perception of Iran's tourism attraction (D2)	0.898	62.434
	Religious places in Iran (D3)	0.909	61.201
	Iran's attraction as a tourism destination (D4)	0.906	69.139
	Alternative traditional medicine centers (D5)	0.837	37.354
	Natural attractions of Iran (D6)	0.866	47.633
	Medical tourists' perception of medical conditions in Iran (D7)	0.872	41.810
	Iran's situation in terms of safety indicators (D8)	0.905	64.603
Marketing	Marketing of tourism-related organizations in attracting medical tourists (M1)	0.820	42.054
	Active participation of the private sector in international tourism exhibitions (M2)	0.817	34.159
	Advertising and marketing of the private sector and chambers of commerce (M3)	0.833	42.204
	Use of potential capacity of Iranian embassies in foreign countries to attract medical tourists (M4)	0.836	42.862
	Promotion and marketing of tourism organization in attracting medical tourist (M5)	0.743	23.295
	Advertisements by the IRIB to introduce Iran's tourism (M6)	0.763	26.863
	Internationally recognized sites to introduce the tourism capabilities of Iran (M7)	0.731	20.951
	The presence of Iranian active agents in foreign countries to attract medical tourists (M8)	0.710	20.309
Medical Tourism Attraction	Iran's success in attracting medical tourists so far (MTA1)	0.958	146.882
	Chance of Iran in becoming a medical tourism hub in the region (MTA2)	0.957	140.956
R^2		0.987	
Redundancy index		0.9	
GOF (General Goodness of Fit)		0.853	

***Source**: Research findings*

As Figure 2 shows, the variable of the host country prices with a coefficient of 0.522 had the biggest impact on the medical tourist attraction to the country. This variable included indicators such as the prices for surgery operations, the cost of accommodation, the medical subsidiary services prices, hospital tariffs, and domestic transportation costs. Considering the theoretical foundations of medical tourism and numerous studies done about the determinants of medical tourists' attraction, this study also confirmed the results of the previous studies on the fundamental impact of prices on the entry of medical tourists. According to the international statistics, 80% of the variation in medical tourists' trips to different destinations is due to the price differences (Medical Tourism Association, 2013).

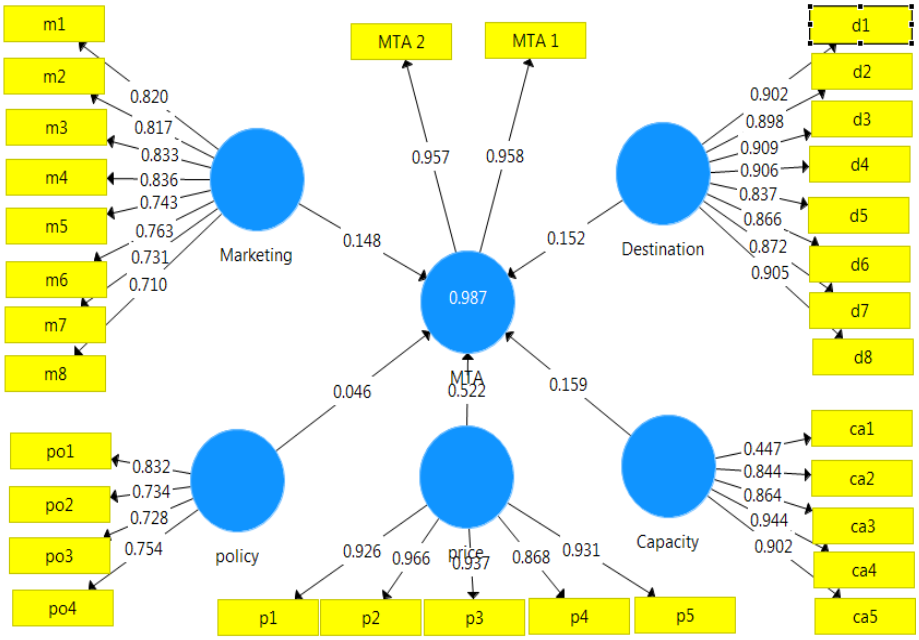

Figure 2. Path diagram and factor loadings
***Source**: Research Findings*

Based on Figure 2, the coefficients of paths and factor loadings can be interpreted for policies, capacities, destination, marketing, and medical tourism attractions, too. In medical tourists' and their companions' opinions, the capacity of medical and healthcare services attracted them to the target country with a coefficient of 0.159. This variable consisted of indicators such as the medical equipment in Iran's private hospitals, the status of Iran in terms of health indicators, the quality of healthcare in private hospitals, the availability of high-skilled and qualified physicians and doctors in private hospitals, and low-waiting list for treatment. During the last three decades, the health of Iranian

people has improved greatly. This achievement was mainly due to the training and availability of health workers, well-organized public health networks, and medical science and research improvement (Akhondzadeh et al., 2017). Therefore, Iran has the capability to attract medical tourists as far as services and healthcare capacities are concerned.

From the perspective of foreign medical tourists, the features of the destination (the attractiveness of Iran as a tourist destination), with a coefficient of 0.152, was another factor affecting the entry of medical tourists. This component included the language and cultural similarities with some countries in the region, Iran's religious sites, alternative traditional medicine, historical and environmental attractions, Iran's medical status, and high security and safety in Iran. As IMTJ (2014) reported, the geographical location, realistic prices, and developed health care devices are among the advantages that draw medical tourists to Iran.

A summary of the opinions of the medical tourism specialists in private sector shows that marketing and advertising strategy, with the coefficient of 0.148, ranked fourth in attracting medical tourists. This indicates that tourism experts believed that medical tourists were still persuaded to trip to Iran in a traditional fashion, and systematic and scientific marketing and advertising had relatively a low effect on the entry of medical tourists, mainly from Iraq, Azerbaijan, Armenia, and the Persian Gulf nations (IMTJ, 2017). It should be noted that the low effect of marketing does not mean that this variable is not effective. Indeed, medical tourists have become familiar with Iran mostly via traditional ways, word of mouth advertisements, as well as by recommendations from relatives, acquaintances, and others.

Finally, according to the views expressed by the managers and experts of the Iranian Cultural Heritage and Tourism Organization and the Ministry of Health and Medical Education, as well as the estimations of structural equations, the policy-making construct, with a coefficient of 0.046, had the lowest impact on attracting medical tourists. This construct comprised the policies made by 1. the Ministry of Foreign Affairs in introducing Iranian medical capabilities, 2. the Ministry of Health and Medical Education of Iran, and 3. the Iranian Cultural Heritage and Tourism Organization. Because of the low effectiveness of public policies in attracting medical tourists to Iran, it seems that other factors were more effective in attracting medical tourists to Iran. Among these variables, the relative low price of medical services in Iran was found to be marked by the participants as the most important factor, from the origins of which could be attributed to the devaluation of the Iranian Rial.

The significance of coefficients is of great importance in statistical inference. As shown in Figure 3, all path coefficients and factor loadings were considered statistically significant at 5% level of significance. Thus, the results would be interpretable.

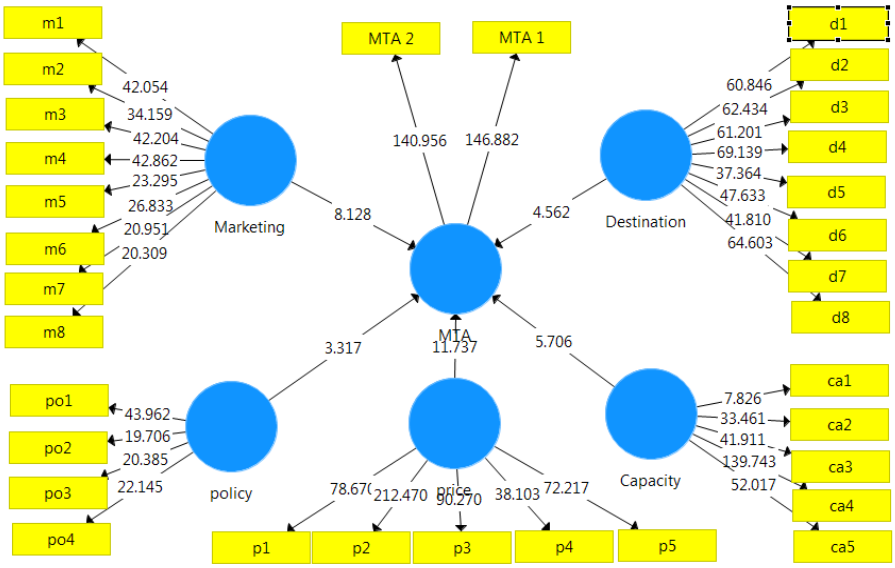

Figure 3. The significance of path coefficients and factor loadings (The values of t-statistic)

***Source**: Research Findings*

After the questionnaires are completed, the reliability of the questionnaire should be tested. The composite reliability index is used to assess the internal consistency of the questionnaire items. Numerical values higher than 0.7 indicate the presence of internal consistency among the items under study. Moreover, Cronbach's alpha measures the consistency among observable variables of each latent variable. The acceptable value for this index is also 0.7. According to Table 3, the internal consistency was confirmed for all items.

Table 3. Composite reliability index of research items

Items	Composite Reliability Index	Cronbach's Alpha Index
Policies	0.848	0.776
Advertising and marketing	0.927	0.910
Service and Healthcare Capacities	0.907	0.867
Costs and insurance cover	0.968	0.958
Destination Features	0.967	0.961

***Source**: Research findings*

The quality of the structural model was calculated by the Redundancy index. By this index, a closer value to 1 implies the better fit of the structural part of the model. According to Table (2), the value of Redundancy index for the

dependent variable (Medical Tourism Attraction) was about 0.9. This figure indicates the lack of redundancy of variables under consideration.

The general goodness of fit (GOF), which relates to the general part of SEM, was computed as follows and is reported in Table 2.

$$GOF = \sqrt{R^2 * Communalities} = \sqrt{0.987 * 0.738} = \sqrt{0.728} = 0.853$$

The calculated GOF shows that the model was of a strong general goodness of fit.

5. Concluding Remarks

Traveling with the purpose of receiving medical services has created a well-established business phenomenon in the target destinations. It has a relatively long history. What is important in today's industrial world is to use this phenomenon as a valuable service industry. According to the Health Tourism Strategic Council, Iran had 105,000 medical tourists in the Iranian year ending March 2017. The sixth national economic development plan (2017-22) has forecasted that the annual entry of medical tourists to Iran should increase from 500,000 to 600,000 people. This target, however, is thought to be unrealistic since Iran is unavailable to [Persian] Gulf, European, and US medical tourists for political reasons (IMTJ, 2017).

According to the responses collected from the medical tourists entering Iran, experts of the public sector of tourism and medicine, and private sector activists, five important factors had contributed to the arrival of medical tourists, though a small number, to the country during several years. If these factors were to improve and be strengthened, it is expected that they would expand the domestic medical tourism business in Iran. Fees, insurance coverage, medical capacities, hospitals services, destination characteristics, advertising and marketing by public and private institutions, and policies made by tourism- and medical-related organizations had influenced the attraction of medical tourists to the country over the period under consideration. According to the SEM and medical tourists' responses, the cost factor (i.e., fees of surgical and medical services) was the most important factor in persuading tourists to travel to Iran. In other words, low prices of Iran's medical services, due to the Rial devaluation, was regarded as an advantage, which attracted medical tourists from other countries to Iran. Given the presence of strong competitors in the medical tourism industry, including Turkey, India, and Jordan, efficient pricing of medical services is a necessity. The prices charged should be competitive with those levied by rival countries. If the private sector, especially physicians and private hospitals, do not take into account long-term benefits in pricing their services and do not consider the prices of competitors, Iran may lose the advantage of its main strength factor in medical tourism and experience a decreased number of medical tourists travelling to it.

The other determinants of medical tourism expansion were the medical capabilities and services provided by the hospitals in the country. The private

hospitals should adopt modern medical technologies to benefit from the growing opportunities in the medical tourism business.

The characteristics of the destination (Iran) had an important impact on the attraction of medical tourists. These included linguistic and cultural similarities with some countries in the region, the existence of religious sites in Iran, traditional medicine centers, historical and environmental attractions of Iran, and the status of Iran in terms of security indicators. Accordingly, medical and tourism authorities are recommended to pay more attention to maintain and strengthen these items capable of attracting more medical tourists.

The coefficient of advertising and marketing variable in the structural equations model indicated that this variable had not played a significant role in drawing medical tourists to Iran. This means that the medical tourists must have been encouraged by oral advertising. If the marketing segment is strengthened by public and private participation in the host country, that could increase the frequency of medical tourists arriving at the host country. In addition, the main stakeholders in tourism and medical sectors have to agree on the importance of the tourism industry in creating jobs and fostering economic development. Finally, the Ministry of Health and Medical Education, the Iranian Cultural Heritage and Tourism Organization, and the Medical Council of the Ministry of Foreign Affairs should make appropriate policies to stimulate the entry of foreign medical tourists to the country.

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Appendix

Questionnaire

Dear Respondents:

*With respect and the warmest greeting, you are kindly informed that the present questionnaire is a part of a PhD dissertation at Tarbiat Modares University of Tehran (Iran), titled "**Investigating and Analyzing the Key Factors Influencing the Attraction of Medical Tourists to Iran**". Your scholarly responses would enhance the precision of the findings of the present research. Your contribution and cooperation is highly appreciated.*

Personal Information:

Sex: Male ☐ Female ☐.
Education: Diploma ☐ Bachelor ☐ Master ☐ PhD ☐.
Position: Job experience ☐ Affiliation ☐.
Email Address: ……@…….

Questions: To what extent are the following factors effective in flourishing the Medical Tourism in Iran?

Q1: Policies on the attraction of Medical tourists from foreign countries to Iran

Policies	Effect				
Items	Very much	much	average	little	Too little
Identifying target countries and improving political relations with them					
Policies of tourism and cultural legacy organizations					
Policies of the Ministry of Health and Medical Education on medical tourism					
Policies of the Ministry of Foreign Affairs on facilitating visas for tourists					
Legislating transparent and comprehensive laws on exporting medical services					

**The respondents to this part of questionnaire are medical and Tourism experts in public and private sectors.*

Q2: Advertisement and marketing on attracting health tourists from foreign countries

Advertisement and marketing	Effect				
Items	Very much	much	average	little	Too little
Advertisements by the Ministry of Health and Medical Education on medical capabilities					
Advertisements by broadcasting organizations on medical capabilities and tourism facilities					
Proper advertisements on tourism by tourism organizations					
Using the potential capacities of the Iranian embassies in introducing medical capabilities and tourism facilities					
Proper advertisements by private sector and chambers of commerce					
Attending actively in tourism exhibitions of foreign countries					
Active representations and agencies for attracting Medical tourists in source countries					
Portals and information websites on Medical tourism facilities					

**The respondents to this part of questionnaire are medical and Tourism experts in public and private sectors.*

Q3: Conditions of service and treatment capacities on attracting Medical tourists from foreign countries

Health services capacities	Effect				
Items	Very much	much	average	little	Too little
Training hospital personnel in terms of respecting ethical principles including hospitality					
Language proficiency of the hospital personnel					
Existence of specialist doctors with prestigious international qualifications					
The situation of countries in terms of medical indicators					
Existence of international standards for hospitals such as the qualifying JCI, ACI					
Shorter waiting times for surgery operations					
The quality of treatment services in hospitals possessing IPDs (International Patients Departments)					
Quality of medical services in accordance with international standards					
The medical equipment of hospitals and clinics					
Continuous supervision of Ministry of Health and Medical Education on the condition of the hospitals possessing IPDs (International Patients Departments) in terms of quality and the manner of supplying services to foreign patients					

**The respondents to this part of questionnaire are foreign medical tourists.*

Q4: Costs and insurance coverage on attracting Medical tourists from foreign countries

Costs and insurance coverage	Effect				
Items	Very much	much	average	little	Too little
Costs of surgery operations					
Transparency of medical services fees for foreign patients before their arrival					
Costs of peripheral medical services (hoteling, X-rays, etc.)					
Sensible fees for foreign patients with a view to the facilities and equipment of the hospital and type of the rooms					
Insurance agreements with international medical insurance companies					
Costs of accommodation in hotels for the families of the foreign patients					
Domestic transportation costs for foreign tourists					
The formula of payment for medical costs by foreign patients					

**The respondents to this part of questionnaire are foreign medical tourists.*

Q5: Destination characteristics on attracting Medical tourists from foreign countries

Destination characteristics (tourist attractions, facilities…)	Effect				
Items	Very much	much	average	little	Too little
Ease of travel to Iran in terms of entry/exit (obtaining a visa, the variety of arrival flights…)					
Rapid issuance of medical visa with a view to the duration of treatment					
Attractive features of the destination (touristic, historical, cultural, medical and so forth)					
Existence of religious sites and attractions in the host countries					
The security status of the host countries					
Natural medical attractions (spas and hot springs, hydrotherapy clinics…)					
Alternative traditional medicine (cupping therapy, leech therapy, etc.)					
Linguistic and cultural similarities with source countries					
Possibility of counseling with doctors before arrival and after leaving Iran					
A positive mentality among foreign tourists about Iran					
A positive mentality among foreign tourists about the medical quality of Iran					

**The respondents to this part of questionnaire are foreign medical tourists.*

1. In your opinion, has Iran been successful in attracting medical tourists to its potential capacities (competitive prices and medical level)?
   a. Very little b. Little c. average d. high e. very high

2. How much do you think that Iran can be hub of medical tourism in Middle East?
   a. Very little b. Little c. average d. high e. very high

3. What are the barriers hindering the flourishing of Medical tourism in Iran?

4. What is your suggestion hampering the flourishing of Medical Tourism in Iran?

You are highly appreciated for spending your valuable time to complete this questionnaire and contribute to the development of tourism industry which creates peace and jobs.

Sincerely Yours.