

Designing Cultural Tourism Development Model Using the Social Network Analysis Technique (Case Study: Shiraz)

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Abstract

Iran has a very ancient diverse and historical culture and is one of the richest countries in the world in terms of Antiquities in most historical periods of human civilization and culture even in prehistoric ear. Among different cities of Iran, Shiraz, with having the huge and ancient complex of Persepolis and city of Pārsēh, annually is visited by a large number of domestic and foreign cultural-historical tourists. The purpose of this research was to design and model the factors affecting the development of cultural tourism in the city of Shiraz. The study target population included the elites and experts in the tourism industry. Accordingly, through the study of literature and reviewing the background, a large number of essential concepts in the development of cultural tourism were derived that the most important factors were categorized into 10 general groups. Using Ucinet software, the centrality, network density and the geodesic distance were measured. Finally, the final graph of model of cultural tourism development of Shiraz was designed with the help of Draw Net tool, Ucinet software. Ultimately, we came to the conclusion that in the development of this type of tourism, cultural and economic factors will have the greatest impact. Thus, it is expected that the results would further draw the attention of Shiraz cultural tourism planners. Other effective factors should be considered in planning and resource allocation in order of their priority as follows: Educational, infrastructure, management, marketing, natural, political, positional, competitive and social factors.

Keywords: Tourism, Tourism Development, Cultural Tourism, Social Network Analysis (SNA)

Introduction

In the last decade, the importance of tourism at the international level is on the rise in terms of the number of tourists and the foreign exchange earnings as well (Andueza, 2005: 144). According to the World Tourism Organization (WTO) and the World Travel & Tourism Council (WTTC), tourism will turn into the biggest industry in the world in a not too distant future (Quttrone, 2002: 3). In our country (Iran), the tourism industry has very high capabilities for growth and development. Iran, with having ancient, historical and natural attractions, varied and rare climate, strategic location, ethnic, linguistic and religious diversity associated with provided proper economic and management contexts, could become one of the major tourist destinations in the world (Shams & Amini, 2009: 82). According to the United Nations Educational and Cultural Organization (UNESCO), the basic issue for the twenty-first century tourism phenomenon is the "culture", and there will be no tourism without culture. The experts also believe that tourism is a cultural phenomenon prior to be an industry and economic activity, which is very effective in creating cultural changes (Kazemi: 2006). This clearly shows the need to the development of tourism as a cultural phenomenon to make sufficient opportunity for cultural exchange between tourists and the host community. Therefore, they can better understand each other and show much more respect for each other's cultures (Turner, 95: 1996).

Since the major cities are the most important tourist destinations throughout the world (Law, 1993: 1), the city of Shiraz, as one of Iran's metropolises, and like many parts of the country, has great potentials and can provide a good space to attract domestic and foreign cultural and historical tourists. The attraction of cultural-historical cities such as Shiraz is more dependent on simultaneous recognition of the environment and way of life of their inhabitants during the past periods. Through identifying the factors affecting the development of cultural tourism in the city of Shiraz and using the experts' opinions, we tried in this study to take an essential and effective step in the development of historical and cultural areas of the city.

Research Methodology

This was a surveying and descriptive - analytical study and applied one in terms of type and objective. Parts of the required data and

information were collected by library visits, with referring to documents such as books, articles and research papers and utilizing primary and secondary data, field studies and visits and the use of official statistics of Iran Cultural Heritage, Handcrafts and Tourism Organization as well as the Municipal of City of Shiraz. Other information was obtained through observation, interviews with tourism industry experts and elites, and developing and filling of 18 questionnaires. The data collection tools in this study were semi-structured interviews and questionnaires. Following in-depth interviews and using the experts' opinions on the development of cultural tourism, 10 main factors were identified, and the relationship and the impact of each of these factors were analyzed by Ucinet software. The study population included experts and scholars of Fars Province tourism in order to benefit from their knowledge to extract the important factors affecting tourism development in Fars Province. The snowball sampling method was used to determine the number of experts in the study, and finally, the number of available experts in the field of cultural tourism of city of Shiraz was estimated between 15 and 25 people.

The geographic scope of the study was city of Shiraz, while and the time territory was determined as a 5-year period from 2015 to 2020. The Social network analysis approach was used to analyze data as will be discussed below.

Social Network Analysis (SNA) Approach

Social network theory has a structural view that along with mathematics and computer science, it can provide mathematical and graphical analysis of qualitative data in a quantitative approach. It can determine different relationships between the nodes within the studied units in a principled way and make visible the invisible network of communications and interactions between the nodes and provide valuable inputs for analysis (Chalabi, 2006). The codes can be individuals, groups, organizations or even governments.

Based on social network analysis, decision-making is not done independently within the network, but an actor makes a decision with regard to his relations with other actors (Wasserman and Faust, 1994). Accordingly, it is necessary to identify the actors and their relationships.

The network graph and social network congestion index were used to investigate the structure of interactions. Social network data includes a

measured relationship between the total of nodes. Each factor was considered as a node in the network, and the relationships between them were generally examined. To analyze the findings, the concepts and terminology of network congestion index were used. The Ucinet 6 software was applied to analyze data, and finally, the relationships were drawn as a graph (Borgatti et al., 2002).

Research findings

After collecting data and interviews with experts in the tourism industry, the following ten factors were identified as contributing factors in the development of cultural tourism in Shiraz:

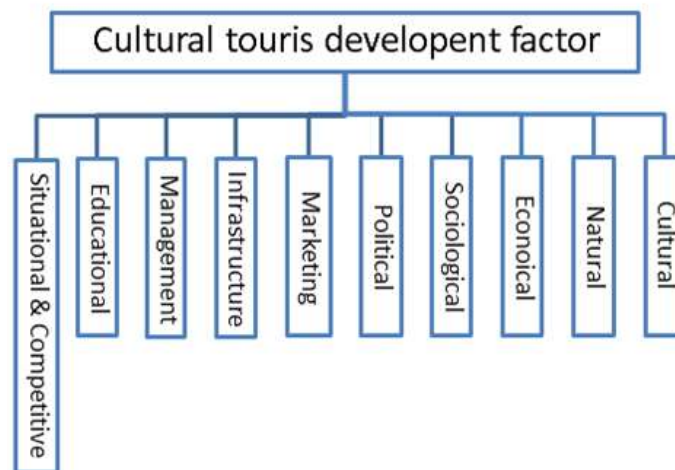


Figure 1: Effective factors in the development of cultural tourism

Network Centrality

Centrality is one of the most important and most widely used measures in the analysis of social networks (Newman, 2005). The centrality of an individual in a social network indicates his prestige and authority on the network. The people at the center of networks are scientifically more effective. In other words, the centrality is a measure that makes the excellence of role-playing of the person embedded in the network quantitative (Liu et al., 2005). The simplest scale of centrality is the number of links that a member of a network has with other members. The measures of degree, closeness and intermediate have been the most commonly used ones to measure the centrality of people in social networks (Freeman, 2004). In the following, we will investigate the rank centrality and closeness centrality of this network of development factors of cultural tourism.

Degree centrality

Degree centrality measure is one of the network measures or indices useful in analyzing the structure of the entire networks and the individuals' positions within the networks. Centrality analysis involves two degrees, including external degree (the number of communications sent out as the main factor) and the internal degree (the number of communications received as sub-main factors). The people on the top of the external degree can be considered as those with high influence and effectiveness in the network, while those with high internal degree rating are considered as persons with reputation or celebrity (Soheili and Osareh, 2013: 96). To explain more, a person with a higher centrality degree can generate institutional skill, experience and memory for the rest of the network members (Parisi, 2007). It is essential to identify such people who can act as a bottleneck for the flow of information in the network (Cruz and Prusak, 2002). The centrality measure also gives the managers an opportunity to identify the people around the network as well (i.e., individuals with low scores). Identifying the peripheral individuals

and factors is essential, since in case they contain valuable knowledge and being put in a better position on the network, they could have share it

with others (Parisi et al., 2006). The centrality degree formula is shown in the following:

Table 1: Centrality Degree Rate

Order	Network Elements	External Degree	Internal Degree
8	Management factors	628	615
9	Educational factors	600	554
6	Marketing factors	594	639
3	Economic factors	588	646
7	Infrastructure factors	587	606
10	Positional and competitive factors	574	466
4	Social factors	571	623
5	Political factors	571	532
1	Cultural factors	570	626
2	Natural factors	531	598

Closeness centrality

Power is generated by becoming the focus of attention by people whose views are heard by a large number of players. The closeness centrality measures the distance of a person other people on a network. The closer a member of a network to others, the more chosen and famous would be that

member. The people with a high closeness centrality may receive information much faster than others, since there are fewer intermediaries between them. In fact, this kind of centrality is measured through the paths or steps required for an actor (member) to reach to other players in the network (Cheng, 76: 2006). Closeness centrality is shown in the following formula:

Table 2: Closeness centrality rate

Distance	Closeness	
9	100	For all effective factors in the development of cultural tourism

Network centrality analysis

According to the tables derived from UCINET software and review of concepts mentioned in relation with centrality, one can conclude that in the network of effective factors in the development of cultural tourism of Shiraz, in relation to the degree centrality, as seen in Table 1, the management factors have the highest external degree (the number of communications sent out as the main factor) and the natural factors have the highest internal degree. To put it simply, management factors have the greatest impact on the network and transfer more information is to other agents within the network. Vice versa, the least impact on the development of cultural tourism belongs to natural factors such as weather and natural attractions.

At internal degree centrality (the number of communication received as sub-factors), economic

factors have the highest rating, which indicates its greatest interactivity. However, situational and competitive factors have the lowest internal degree, which means they have the least interactivity.

In closeness centrality, as mentioned in Table 2, all the elements are equally distant (9) and close (100) to each other, and each member will quickly receive information from other members.

Network density

Density is defined as the number of direct relations between players or members of a network, and includes the highest share among the possible relationships within the network (Novi et al., 2005). Density is the ratio of the actual number of relations or lines labeled by letter "L", to the number of possible relationships. As each factor can be related to other factors other than itself, the (n- 1) factor is used, where "n" is the number of

nodes in the network. Also, if the relationships between agents are in pairs and couples, the formula must be divided by 2, as follows:

$$\text{Formula: } D = L / (n(n - 1) / 2)$$

Network congestion is a fraction occurring in the range from zero (no correlation between network members) up to 1 (existence of all possible communications between network members) (Rachrla and Ho, 12: 2010).

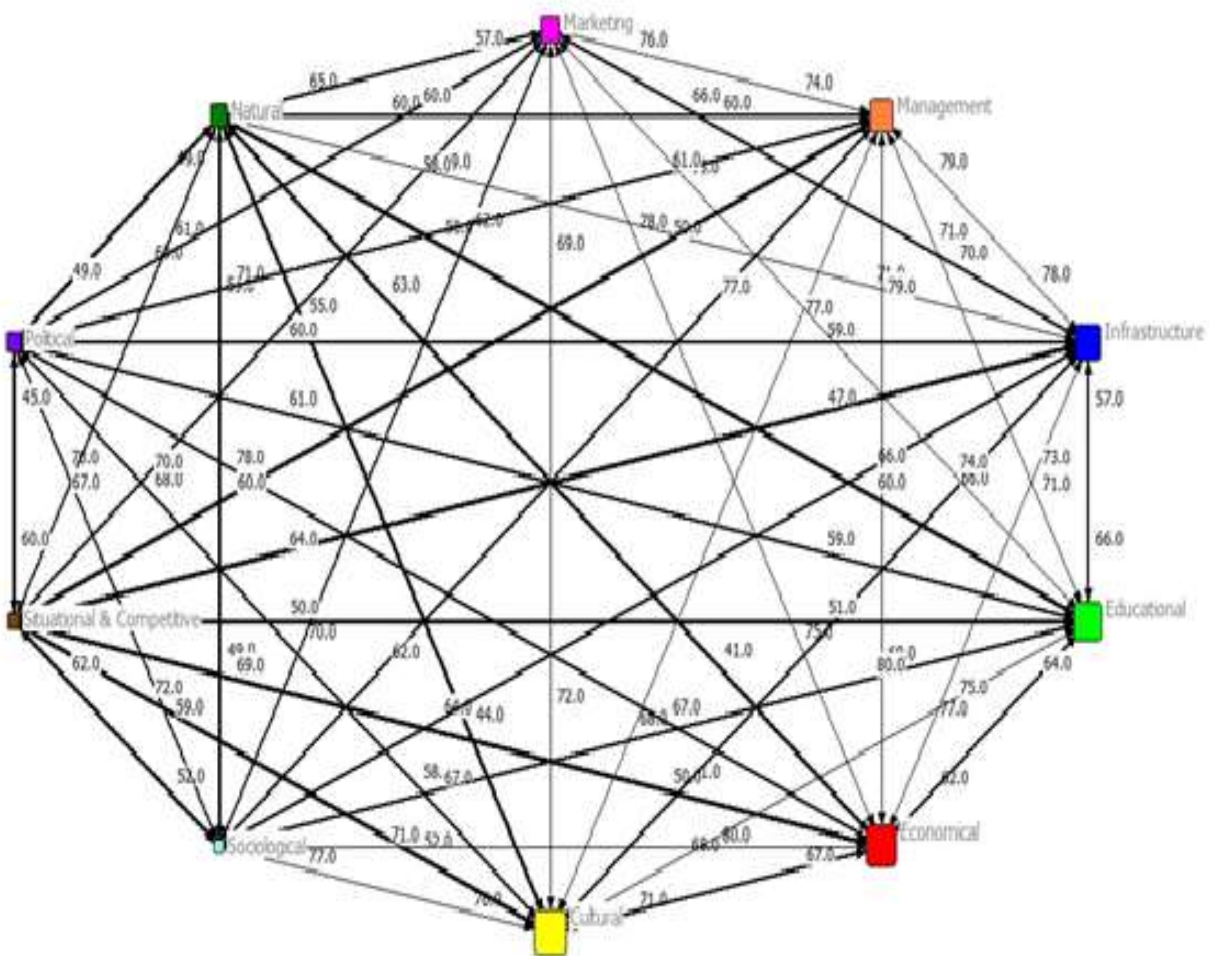
Density and cohesion are two network measurement methods that describe the entire network rather than individual nodes. In a simpler

definition of density concept, it is the assessment of the level of communication of nodes within a network.

Density analysis

In this study, due to the full relationship between all effective factors in the development of cultural tourism, after doing the test related to network congestion rate, the figure 1 was extracted. One can expect that in the final graph, all nodes will be connected together, which represents a perfect correlation between the factors in the network.

Graph Drawing (Shiraz cultural tourism development model)



1. Cultural Factors
2. Economic Factors
3. Educational Factors
4. Structural Factors
5. Management Factors
6. Marketing Factors
7. Natural Factors
8. Political Factors
9. Situational & Competitive Factors
10. Social Factors

The extracted model also suggests the intensity of relationships between the factors. With thinner relevant lines, the communication is weaker, while thicker lines shows the connection would be stronger, which indicates stronger links to those two factors.

Cultural factors include art, music, literature, poetry and language, festivals and exhibitions, ethnic traditions and historical attractions. Most tourists traveling to Shiraz aim to visit the cultural and historical monuments of the city. That's why in the eyes of experts, tourism has the greatest importance in planning for the development of cultural tourism in Shiraz. The second important factor involves economic factors, including the public and private sector investments, creating jobs and earnings and income from tourism. Then, the necessity of planning and attention to the role of education and research factors represent themselves. In the infrastructure factors the focus would be on tourism facilities and services, including construction of residential centers and hotels, roads, facilities, organization of agencies and tourism and related items. In the present study, the management factors are in the fifth place of significance. Then, there is a necessity to devote to the development of marketing and promotional factors in the field of tourism, like electronic notifications through social networks and trying to make a perfect image of Shiraz in the minds of tourists and tourist relations management.

Natural factors such as weather and natural attractions of Shiraz and political factors, including sanctions and regional micro and macro policies are respectively in the seventh and eighth importance ranking of tourism development model in Shiraz.

From the perspective of Shiraz tourism experts, the locational and competitive factors, the same factors that have made Shiraz a cultural-historical tourism destination in Iran and created a competitive advantage for the city compared to other cities in Iran, are in the ninth ranking of development necessity. Finally, it is planning for the development of social factors that due to the high level of social culture in Shiraz, according to the experts, less attention need to be focused on the issue.

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