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## **Grading the Factors Impacting on Tourism Development of Tehran Metropolis Focusing on Cultural Industries Applying Interpretive Structural Modeling (ISM) and MICMAC Analysis**

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### **Abstract**

Diversity of economic activities, agglomeration of educational centers, concentration on technological initiatives and information generation, possession of the most important cultural centers, and arrangement of the most significant artistic and cultural events in Tehran Metropolis have provided a large-scale potential for cultural and educational activities and a special condition for cultural tourism development; however, tourism development plans adopted by Tehran officials are slight proportional to its regional capacities and have thus proved unsuccessful to reach a perceptible and appropriate tourism development. The chief objective borne by this research is, accordingly, identification of the factors and indices impacting on Tehran's cultural tourism development, which, with respect to sundry commonalities of this type of tourism and creative and cultural industries, focuses on these factors, as well. Indices have been extracted through literature reviews and their content analysis. Using Delphi questionnaire, afterwards, experts' and urban planners' opinions and comments were extracted in two stages. Results of the first stage of Delphi questionnaires graded indices in Interpretive Structural Modeling (ISM). Outcomes of the second stage were analyzed by MICMAC software to determine impacts and susceptibilities of the indices on each other. Results of the study show that the index *Rules and Regulations* is graded in the level 10 and the indices *Suitable Institutional Partnership and Labor Division among Different Actors of Industry*, *Political and International Relations*, and *Existence of Cultural Tourism Attractions* are graded in the level 9 aimed at development of Tehran Metropolis's cultural tourism. In fact, indices of the levels 9 and 10 are fundamental ones to which more attention should be paid with regard to results of interpretive-structural analysis in development of Tehran cultural tourism.

**Keywords: Cultural Tourism; Interpretive Structural Modeling (ISM); MICMAC Analysis; Tehran Metropolis**

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### **Introduction**

Presently, tourism—as a vivid economic approach and unique features—is transformed into one of the largest and most profitable industries in the world economy (UNWTO, 2015). It is deemed as a ground for making major socioeconomic changes in many developing countries (Mohammadi Yeganeh, Cheraghi, & Valaei, 2013). One of the species of tourism is cultural tourism (Matei, 2015), which is considered as one of the oldest types of traveling. Even now, cultural tourism is one of the most important classifications of tourism in many places of the world (Hataminejad, Rezaeinia, & Zareei, 2015), as pinpointed by the EU in the 1980s. As reported by Organization for Economic Cooperation and Development (OECD), cultural tourism, with 360 million tourists, allocated to itself around 40 percent of the whole share of international tourism in 2009 (CABE, 2010). What is emphasized in concept and components of cultural tourism, such as cultural heritage, displays an intimate relationship and overlap with components of cultural and creative industries. Introduced in England and other countries of the globe in the late-1980s, cultural industries intended to organize cultural policies that mixed arts and modern communication technologies (Throsby, *The Economics of Cultural Policy*, 2010).

Since adoption of this idea that culture plays a large-scale role in urban economics, heated arguments were witnessed respecting cultural industry. Currently, cultural tourism is pigeonholed under main mechanisms of cultural economics. Presently, many city officials hold events and festivals in an attempt to pocket tax incomes and restore old townships. Increasing growth of tourism is demonstrative of the fact that tourism is not solely specific to historic places, awe-inspiring natural wonders, and other tourist attractions; rather, it generates events, images, traditions, and implications that attract potential tourists to itself.

Findings on cultural tourism capabilities have escalated their role as a strategic factor in development of national and regional economics and job creation (Bunet, 2007). The wide range of technical terminologies derived from international studies has shown that the most significant effect of cultural tourism has been economic growth. In the meantime, our country Iran possesses high tourist potentials

thanks to its numerous national, ancient, historic, and pilgrimage landmarks so that a number of 962 monuments have been inscribed on the UNESCO's World Heritage List thus far, from which 745 monuments are cultural ones, 188 ones natural, and 29 a combination thereof. Iran's tourism industry has a high potential for growth and development especially in the field of cultural tourism so that by 2015 a number of 17 culture-pure monuments had been inscribed on the UNESCO's World Heritage List (Ghasemi, Kamranifar, & Hedayati, 2015). Logically, such capacity could attract a good number of world tourists to Iran. According to World Tourism Organization, 37 percent of international tourism is cultural-driven, the process which is significantly on the rise (UNWTO, 2015). Snowballing share of cultural tourism and Iran's situation in the area of cultural heritage necessitate a particular attention to cultural tourism and a scientific insight into facilities, limitations, opportunities, and threats appertaining thereto.

#### **Statement of Problem**

As the politico-economic and cultural capital of Iran, Tehran lodges in itself a broad array of facilities and services—the fact which has singularized it from other cities of the country. Included in these facilities is diversity of economic activities, agglomeration of major educational centers, concentration on technological initiatives and information generation, possession of the most important cultural centers like cinemas, music halls, galleries, etc., possession of essential centers for holding scientific, cultural, and technological exhibitions, and arrangement of the most significant artistic and cultural events. Furthermore, most artists, writers, and musicians dwell in Tehran. This creates a powerful cultural and educational potential as well as a special situation for getting access to firsthand scientific and cultural resources and appertaining amenity facilities. Incomparable to other cities is interaction and adoption of cultures in Tehran. Tourism development plans in Tehran have been relatively able to recruit regional natural, historic, and cultural capitals into service of tourism and somewhat contribute to regional tourism development. Compared to its capacities, however, such successes are scant, having failed to appropriately develop this region proportional to its capacities and facilities. One of the reasons could be the fact that

these programs and patterns are mostly derived from quantitative, rational, and economic approaches that have, until this moment, fallen short of identifying cultural tourism issues in Iran and similar communities and accounting for desirable tourism development strategies (Kazemian and Azadi, 2011). During the previous 15 years, Tehran's urban administration has taken a way to commercialize this city. Such trade-centered aspects have ignored recreational services and creative and cultural industries, provoking Tehran to tramp unconventionally. Theorists maintain that the most important factor in tourism development of a region is the manner whereby these activities are meted out (Papli Yazdi and Saghaei, 2013). It is through identification and analysis of elements and ingredients of a tourism system and their interrelations and interactions that an arrangement of and planning for tourism industry could be made possible (Ebrahimzadeh et al., 2012). With respect to socioeconomic and cultural features of Tehran, therefore, a framework should be designated for Tehran to enable it to employ strategies for development of cultural tourism on the basis of creative and cultural industries. Generally, the present research pursues to provide replies for the two following questions:

*What are the factors impacting on development of Tehran's cultural tourism?*

*How the prioritization and grading of the factors impacting on development of Tehran's cultural tourism are rendered?*

### **Theoretical Literature**

According to World Tourism Organization, culture is an intricate generalization of distinguished spiritual, rational, and emotional characteristics that define a social group or community (Richard, 2007). More recent viewpoints suggest that culture signifies collective investment of knowledge, experiences, beliefs, values, tendencies, concepts, hierarchies, religions, time perceptions, roles, spatial relationships, general perceptions of the world and objects therein, and material assets acquired by a group of people over generations through individual and collective efforts (Richards and William, 2010). Consequently, there is no generally-accepted definition of cultural

tourism due to nature of culture whose boundaries cannot be easily demarcated (Cevdet Altunel and Erkut, 2015).

Cultural tourism opens a new window to recognition, development, and stability for societies. This subdivision of tourism, whose chief objective is expansion of knowledge on discovery of artistic heritage and/or architecture of various territories, is considerably different from other types of tourism in terms of its motivation. Therefore, it is safe to say that the differences existing in traditions, attires, handicrafts, foods, music, arts, architecture, and the like have caused cultures and the communities generating them to constitute the main focus of tourists (Stratana, Perciuna, & Gribinceaa, 2015). Cultural tourism is humankind's peregrination to visit cultural attractions with the intention of gleaning new information and experiences to slake cultural needs. There is a definition of culture that refers to art and acquisition of general popular lifestyles (Rouholamini, 2016) that associates culture with the past, history, artistic attractions, lifestyles, traditions, and popular habits.

Cultural tourism is a branch of tourism in which tourists seek for, acquire, and experience the present and past conditions of their own culture and that of others. Cultural tourists bear different incentives: some are in fond of history and culture, some wish to identify moralities and spirits of various nations, some others are researchers and technicians who intend to carry out research in their own field of study using science and culture of other countries, and some others aspire to increase their knowledge level before addressing this objective and visible information in their specialized sessions and conferences and making written and visual reports to be employed in audiovisual and written media (Papli, 2017).

Further to performed studies, Casapo classified cultural tourism types, as depicted in Table 1.

**Table 1: Classification of Cultural Tourism**

Type of Cultural Tourism	Tourism Products and Activities
<b>Heritage Tourism</b>	<ul style="list-style-type: none"> <li>× Natural and cultural heritage (related to ecotourism or nature-based);</li> <li>× Materials                             <ul style="list-style-type: none"> <li>- Monumental heritage</li> <li>- Architectural landscapes</li> <li>- World heritage landscapes</li> <li>- National and historic memorials</li> </ul> </li> <li>× Non-materials                             <ul style="list-style-type: none"> <li>- Literature</li> <li>- Arts</li> <li>- Folklores</li> </ul> </li> <li>× Cultural heritage landscapes                             <ul style="list-style-type: none"> <li>- Museums and collections</li> <li>- Libraries</li> <li>- Theatres</li> <li>- Event locations</li> <li>- Memories of historically-prominent persons</li> </ul> </li> </ul>
<b>Cultural-Urban Tourism, Cultural Tours</b>	<ul style="list-style-type: none"> <li>× Classical urban tourism, watching sceneries</li> <li>× Cultural capitals</li> <li>× Cities as creative places for cultural tourism</li> </ul>
<b>National-Ethnic Traditions Tourism</b>	<ul style="list-style-type: none"> <li>× Traditions of indigenous cultures</li> <li>× Ethnical diversity</li> </ul>
<b>Tourism of Events and Festivals</b>	<ul style="list-style-type: none"> <li>× Cultural events and festivals                             <ul style="list-style-type: none"> <li>- Musical events and festivals (classic or pop)</li> <li>- Fine-arts events and festivals</li> </ul> </li> </ul>
<b>Religious and Pilgrimage Tourism</b>	<ul style="list-style-type: none"> <li>× Visiting religious locations and landscapes bearing religious motivations</li> <li>× Visiting religious locations and landscapes without religious incentives (desirable for architectural and cultural significance of sceneries)</li> <li>× Pilgrimage routes</li> </ul>
<b>Creative Culture, Creative Tourism</b>	<ul style="list-style-type: none"> <li>× Traditional artistic and cultural activities                             <ul style="list-style-type: none"> <li>- Performing arts</li> <li>- Visual arts</li> <li>- Literature and cultural heritage</li> </ul> </li> <li>× Cultural industries                             <ul style="list-style-type: none"> <li>- Printed works</li> <li>- Multimedia works</li> <li>- Press</li> <li>- Cinema</li> <li>- Audiovisual and gramophone products</li> <li>- Handicrafts</li> <li>- Cultural design and tourism</li> </ul> </li> </ul>

Source: Casapo, 2011: 29

Socioeconomic and cultural transformations make changes in cultural tourism. As suggested by Richards (2009), such transformations include: (a) changes in consumption process from basic needs to

creative ones; (b) changes in production process from collection of goods to acquisition of experience; and, (c) changes in tourism procedures: transition from mass-tourism to cultural tourism, and tourism as a creative industry (Richards & Greg, 2009).

As delineated in above table, therefore, cultural tourism has a wide variety of functional commonalities with creative and cultural industries. Creative industries found higher degrees of acceptance after being approved by the UK Ministry of Culture, Arts, and Sports. This Ministry established its Creative Industries Unit in 1997. Richard Caves defines creative industries as ‘Production and supply of goods and services which have cultural, artistic, or sole recreational values’ (Caves, 2000). While the term ‘creative industries’ is still in use in the UK and some other European countries, the term ‘cultural industries’ is more common in other regions of the world. UNESCO, for instance, defines ‘cultural industries’ as the industries that create, produce, and commercialize works which are essentially immaterial and cultural. According to UNESCO, an important aspect of cultural industries is that they maintain and promote cultural diversity and guarantee a universal access to culture (UNESCO, 2012). Generally speaking, cultural industries could be categorized under a broader group of creative industries (Throsby, *The Economics of Cultural Policy*, 2010). Throsby holds that cultural industry includes music, dance, theatre, visual arts, skills, and several other new procedures like arts of video, performance, computer, and multimedia (Taji, 2012). Scott adds some other items to Throsby’s list, including high-level fashions, furniture, news media, jewelries, promotions, and architecture. Athletic industries, professional sports, health, and relevant industries could also be adjoined to the list (Scott, 2006). Rapid growth of tourism demonstrates that it is not specific to historic locations and wonderful natural spots; rather, it generates events, images, traditions, and implications that attract potential tourists to itself.

In UNCTAD approach to creative industries that hold creativity as the backbone of the industry, any activity that has a powerful artistic component or any economic activity that produces symbolic products and is strongly dependent upon spiritual ownership designed for a possibly large market falls in the category of creative industries. UNCTAD classification of creative industries includes four large

groups: cultural heritage, arts, media, and functional creations. These groups are divided into nine subgroups (Industry and Technology Think Tank, 2008).

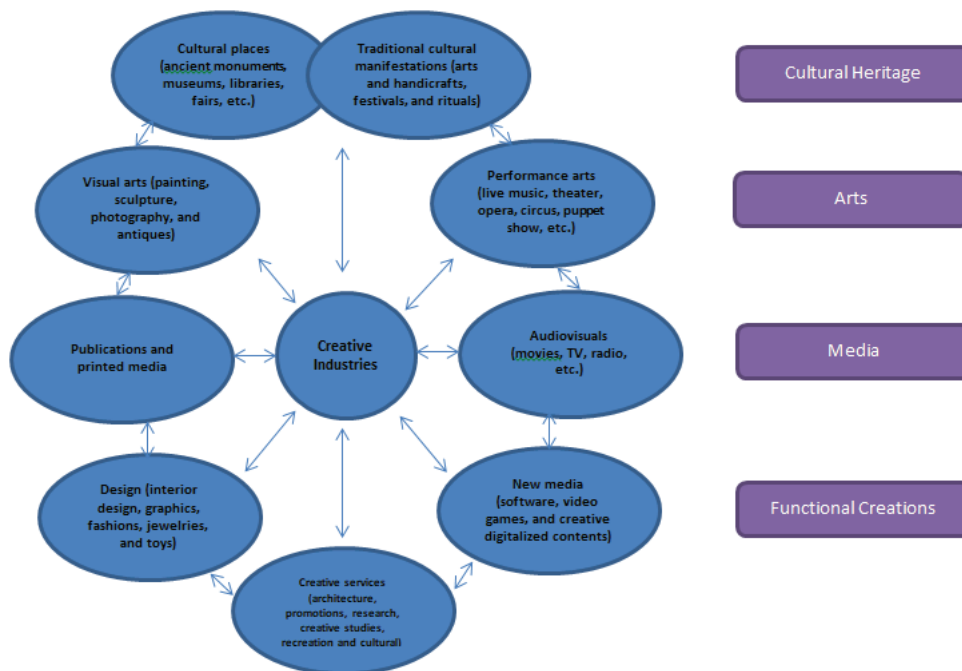


Figure 1: UNCTAD Classification of Creative Industries  
Source: Industry and Technology Think Tank, 2008

### Theoretical Background

There are different studies conducted on cultural tourism in Iran and other countries. Theoretical background was examined with the intention of achieving the dimensions and components impacting on development of cultural tourism.

The study entitled “The Factors Impacting on Cultural Tourism Development with the Approach of Attraction of Foreign Tourists to Central Iran; Case Study: Yazd City” by Zare Ashkezari, Saghaei, and Mokhtari Malekabadi (2015) showed that 66.9 percent of foreign tourists believed that energated management and failure to execute



cultural tourism projects could seriously undermine development of cultural tourism. 75.2 percent of tourists held efficient promotions depicting historic, traditional, and desert architectural values to be pivotal in attraction of cultural tourists. Among the components under investigation, educational components in the field of cultural tourism were appraised to be affected by serious weaknesses (Zare Ashkezari, Saghaei, and Mokhtari Malekabadi, 2015).

Ahmadi (2017), in his research “Analysis of the Factors Impacting on Cultural Tourism Development and its Effects on Economic Stability of Zanjan Province Rural Regions”, concluded that expansion of rural and cultural tourism has increased occupation level of villagers. He made some suggestions including training tourists and local community in connection with importance of historic and cultural heritage, formation of scientific and specialized workgroups composed of local experts to formulate a strategic cultural tourism program, training local expert personnel in the field of cultural tourism, and making required arrangements for conduction of research concerning cultural tourism, and so forth. This study introduced 25 variables impacting on development of cultural tourism.

Ghasemi, Kamranifar, and Hayati (2015) carried out a study entitled “Preparation of Solutions for Improving Cultural Tourism in Rural Areas by Synthesizing Strategic Planning Models and Artificial Neural Network” to examine and analyze desirable strategies for development of cultural tourism in rural regions of Binalood city. Using the SWOT analysis model, suitable strategies for development of cultural tourism in rural regions were presented. To prioritize strategies, Artificial Neural Network (ANN) method was adopted, according to which 10 prioritized strategies were selected. The strategy ‘Compilation of a comprehensive, long-term plan for cultural tourism’ was found to have the highest priority in the area under question (Ghasemi, Kamranifar, and Hayati, 2015).

The study entitled “Identification and Determination of Tehran Tourism Administration Dimensions,” undertaken by Ziaei, Abbasi Karjegan, et al. (2015), was intended to identify and determine dimensions of Tehran’s tourism administration based on the opinions made by managers, specialists, and experts of the area of tourism using the trifold framework aimed at designing and formulating

framework of urban tourism management proportional to economic, socio-cultural, and politico-environmental conditions of Tehran city. Results of analysis of data showed that the factors impacting on Tehran's tourism management framework fall into three structural, contextual, and content dimensions, and that design of the three-dimension framework of urban tourism management on the basis of the trifid framework could provide a suitable ground for policy-making and planning tourist plans for Tehran city (Ziaei, Abbasi Karjegan, et al., 2015).

In their research "Description of Strategic Prioritization of Creative Tourism Industry Policies in Korea using AHP Model," Jong Won Lee and Heseouk Lee (2015) drawn up four major and seventeen minor policies for development of creative tourism using the Analytic Hierarchy Process. The four areas include supporting business, supporting R&D, developing human resources, and promoting legal system (Lee and Lee, 2015).

Jessica Aquino et al. (2012) conducted their study entitled "Tourism, Culture, and Creative Industries" to examine the role of arts and creative industries in nurturing neighborhood revitalization, development of community as a result of activities of the centers focusing on capacity building and social interactions, and paying attention to arts and culture in the framework of tourism (Jessica, Rhonda, & Sung HeeKyung, 2012).

Rui Sua, Bramol, and Wali (2018) undertook to explain heritage tourism in urban regions in their study "Political and Cultural Economics and Urban Heritage Tourism." Key ideas of this study were explained through discussion of outcomes of prior research on urban heritage tourism. It is created by adopting a relative vantage point out of social relations and focusing on a serious attention to culture and politico-economic semantics in coordination of social activities and features of urban heritage tourist. Another heritage tourism-oriented study was conducted in Nanjing, China, to deal with economic relations and economic-cultural values. It put forward distinguished research questions, exhibiting how economic relations work in an environment of tourist semantics and identity in cultural and spiritual areas (Rui Sua et al., 2018).

In their study entitled “Cultural Tourism: Analysis of Interaction, Cultural Connection, Memorable Tourism Experience, and Loyalty to Destination” Han Chen and Imran Rahman(2018) investigated visitors’ interactions, cultural relations, memorable tourism, and destination loyalty in cultural tourism. Results showed that partnership of visitors has left positive impacts on cultural relationships. Findings underlined the importance of mutual cultural interactions in creation of memorable tourism experiences in cultural tourism.

Examination of prior studies and literature reviews indicated that many indices and variables of cultural tourism and resources applicable to this type of tourism establish a broad functional overlap between creative and cultural industries. In order to determine indices and components of cultural tourism with respect to literature review and theoretical background, the variables which had overlaps were unified into a single variable. Categorization kinds of creative and cultural industries indicate that the components introduced in UNCTAD classification have a wide overlap with those pertinent to cultural tourism classification based on Casapo’s theory. This type of classification has been taken into account as a dimension impacting on development of cultural tourism. Accordingly, dimensions and components impacting on tourism development were classified in four structural dimension, environmental dimension, behavioral dimension, and cultural and creative industries resources.

**Table 2: Indices and Components Impacting on Cultural Tourism Development**

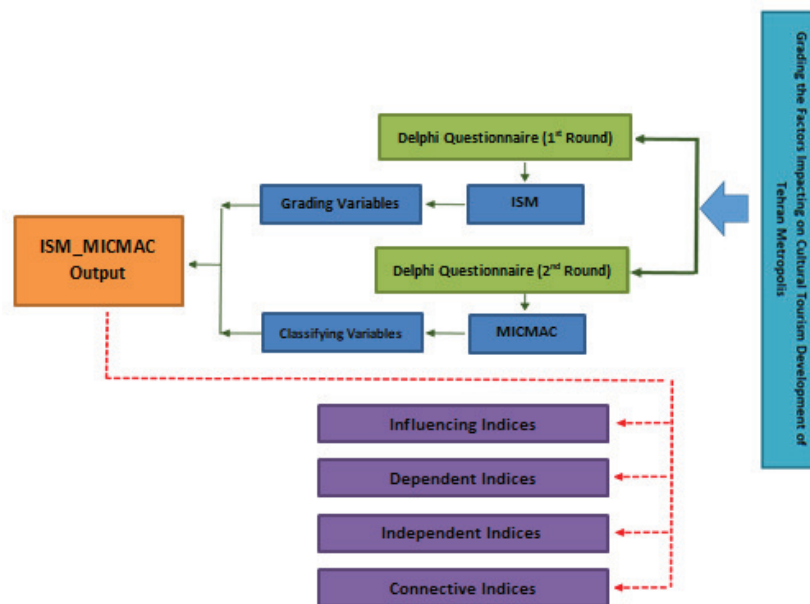
Dimensions	Components
<b>Structural Factors</b>	Technical training of human resources
	Increased investment in tourism industry
	Promotions, marketing, and branding
	Development of cultural tourism infrastructures
	Quality and diversity of tourism products and services
	Appropriate institutional partnership and labor division among different actors of the industry
	Safety and security degree of infrastructures
	Establishment of new tourist attractions
	Planning for development of cultural tourism
	Existence of cultural tourism attractions
<b>Environmental Factors</b>	Rules and regulations
	Political and international relations
	Quality and cleanness of the environment
	Urban landscapes and sceneries
<b>Behavioral Factors</b>	Mental image of tourists out of the host society
	Easy booking and planning for travel
	Degree of serenity and sense of freedom
	Price of tourism services and travel expenses
	Interactions among tourists and host society
<b>Cultural and Creative Industries Resources</b>	Traditional culture manifestations (arts and handicrafts, festivals, and rituals)
	Cultural places (ancient monuments, museums, libraries, and fairs)
	Performance arts (music halls, theaters, operas, circuses, etc.)
	Visual arts (painting, sculpture, photography, and antiques)
	Publications and printed media (books, press, and publications)
	Audiovisuals (movies, TV, radio, etc.)
	Design (interior design, graphics, fashions, jewelries, etc.)
	New media (software, video games, and creative digitalized contents)
	Creative services (architecture, promotions, research, etc.)

Source: Author, based on research's outcomes

### Research Methodology

The present study is an exploratory research that describes cultural tourism components with a focus on creative and cultural industries with respect to Tehran's physical, socioeconomic, and other aspects.

With respect to overlap of kinds of studies, this research might be labeled as a single-case study and field study, as well. In order to evaluate causal relations among indices and criteria impacting on creative city-based cultural tourism, experts' opinions and comments were garnered using two-step Delphi method. In the first step, a nonparametric questionnaire grounded upon Interpretive Structural Modeling is presented to experts in order for them to determine type of relations. This step is completed by purposive sampling, which goes on up until there is no significant difference among experts' opinions and a consensus is reached. In the second step and after type and direction of relations are decided, Interpretive Structural Modeling parametrically runs on MICMAC, which measures answers' reliability. The process for grading factors and components impacting on cultural tourism development of Tehran metropolis is depicted in the following diagram.



**Fig. 2: Process of Grading the Factors Impacting on Cultural Tourism Development of Tehran**  
Source: Authors

Devised by Warfield, Interpretive Structural Modeling is a suitable technique for creation and understanding the relationships among elements of a complex system. This methodology examines order and

direction of complex relationships among elements of a system. Simply put, ISM is a tool by which a body of different interrelated elements is structured in a systematic and integrated pattern (Warfield, 1974). As a matter of fact, ISM is an interactive process in which a series of different interrelated elements is structured in a systematic and integrated pattern (Rahnamay Roodposhti and Tajmir Riahi, 2014). This framework, which helps identify internal relations of variables, is a suitable method for analyzing effects of one variable on other ones (Agarwal et al., 2007). It can also take a role in prioritization and determination of level of a system's elements, the contribution which gives a golden hand to managers and policy-makers to better execute phenomena (Huang & Ong, 2015).

In order to complete ISM process, Excel will be employed to change Structural Self-Interaction Matrix (SSIM) to Quantitative Access Matrix and render required calculations for it. Due to multiplicity of the criteria and indices impacting on the readjustment process, it is required to first analyze and interpret the causal relationships among these criteria and indices. Interpretive Structural Modeling will finally grade the indices impacting on cultural tourism development, drawing a diagram for applicable relationships. It can constitute the major basis for formulation of the pattern for cultural tourism development.

MICMAC analysis intends to analyze driving and dependent forces of variables (Bagheri Nejad et al., 2012). In this analysis, variables are divided into four general categories, the first of which encompassing those connective variables which have powerful driving force and dependency degrees. These variables are unstable barriers, *videlicet* any action on these would impact both on other barriers and on themselves as a feedback from others. The second category includes those variables which have powerful driving force, while their dependent force is feeble. The third class is composed of autonomous variables that have weak driving force and dependency degrees. These variables, which work independent of the whole system, leave the slightest impact on other variables. The connection these variables make with other ones is limited. The fourth category contains those dependent variables that have weak driving force, while their dependent force is higher than other barriers (Bagheri Nejad et al., 2012).

## Analysis

### A. Interpretive Structural Modeling (ISM)

In this study, the factors impacting on development of cultural tourism were extracted by reviewing literature on this type of tourism as well as creative and cultural industries at the scale of Iran and the world. In order to analyze the variables impacting on cultural tourism in Tehran metropolis and with respect to multiplicity of impacting and mediating criteria and indices that make causal relationships, it is required to analyze these relationships. One of the tools suitable for this objective is Interpretive Structural Modeling (ISM), whose different phases are described hereunder.

Stage 1) Nomination of Variables:

For facilitation of completion and distribution of questionnaires, research variables are designated from 1D to 28D.

**Table 2: Nomination of Variables Impacting on Cultural Tourism**

Components	Abbreviation
Rules and regulations	D1
Technical training of human resources	D2
Increased investment in tourism industry	D3
Promotions, marketing, and branding	D4
Development of cultural tourism's infrastructures	D5
Quality and diversity of tourism products and services	D6
Appropriate institutional partnership and labor division among different actors of the industry	D7
Political and international relations	D8
Safety and security degree of infrastructures	D9
Establishment of new tourist attractions	D10
Planning for development of cultural tourism	D11
Existence of cultural tourism attractions	D12
Quality and cleanness of the environment	D13
Urban landscapes and sceneries	D14
Mental image of tourists out of the host society	D15
Easy booking and planning for travel	D16
Degree of serenity and sense of freedom	D17
Price of tourism services and travel expenses	D18
Interactions among tourists and host society	D19
Traditional culture manifestations (arts and handicrafts, festivals, and rituals)	D20
Cultural places (ancient monuments, museums, libraries, and fairs)	D21
Performance arts (music halls, theaters, operas, circuses, etc.)	D22
Visual arts (painting, sculpture, photography, and antiques)	D23
Publications and printed media (books, press, and publications)	D24
Audiovisuals (movies, TV, radio, etc.)	D25
Design (interior design, graphics, fashions, jewelries, etc.)	D26
New media (software, video games, and creative digitalized contents)	D27
Creative services (architecture, promotions, research, etc.)	D28

Source: Author

Stage 2) Experts' Opinions:

Delphi questionnaire is employed for driving at highly accurate inputs of interpretive structural analysis. As the case study of this research is located in Tehran, fifty experts were asked to evaluate binary relations between indices. A final number of 39 experts participated in filling out Delphi questionnaire. Generally, the experts were specialists and managers from municipalities and Cultural Heritage Organization with a minimum academic level of bachelor's degree. After questionnaires were handed out and completed, data was entered in MICMAC. Measurement of questionnaires' reliability degree ruled out 15 questionnaires to reach at a final number of 24 ones with acceptable reliability values, the number which appears to be acceptable with regard to the standard of application of experts' opinions in social studies.

In the next stage, the index mode was employed to enter binary relations into model in order to pile up experts' opinions. Some relations proved to be devoid of mode, for which thirteen additional experts were asked to fill out the questionnaire. Finally, six acceptable questionnaires were added to the previously-admitted 24 ones. Primary data for formation of Structural Self-Interaction Matrix was provided on the basis of the opinions offered by 30 experts.

Stage 3) Formation of Structural Self-Interaction Matrix:

After piling experts' opinions based on mode index, final Self-Interaction Matrix was provided by collection of the thirty structural self-interaction matrices. The concept of interrelationships of matrices is as follows:

V = if  $i$  impacts on  $j$

A = if  $j$  impacts on  $i$

X = if  $i$  impacts on  $j$  and  $j$  impacts on  $i$

O = if the two variables  $i$  and  $j$  are unrelated



**Table 3: Summarized Structural Self-Interaction Matrix**

Indices	Abbreviations	Rules and regulations	Technical training of human resources	Increased investment in tourism industry	Promotions, marketing, and branding	...	Audiovisuals media	Design	New media	Creative services
		D1	D2	D3	D4	...	D25	D26	D27	D28
Rules and regulations	D1	v	o	v	o	...	v	o	v	o
Technical training of human resources	D2		v	o	o	...	o	o	o	o
Increased investment in tourism industry	D3			v	o	...	o	o	o	o
Promotions, marketing, and branding	D4				v	...	a	a	o	o
	...					v	...	...	...	...
Audiovisual media	D25						v	o	o	o
Design	D26							v	o	o
New media	D27								v	o
Creative services	D28									v

Source: Author

Stage 4) Construction of Access Matrix:

Access matrix transforms the relationships among matrices ensuing from Structural Self-Interaction Matrix in a 0/1 binary mode. These calculations are generated through following conditions:

If the relation between two variables is V, then  $(i, j) = 1$  and  $(j, i) = 0$

If the relation between two variables is A, then  $(i, j) = 0$  and  $(j, i) = 1$

If the relation between two variables is X, then  $(i, j) = 1$  and  $(j, i) = 1$

If the relation between two variables is O, then  $(i, j) = 0$  and  $(j, i) = 0$

Accordingly, access matrix is calculated as follows:

Table 4: Summarized Access Matrix

Indices	Abbreviations	Rules and regulations	Technical training of human resources	Increased investment in tourism industry	Promotions, marketing, and branding	...	Audiovisuals media	Design	New media	Creative services
		D1	D2	D3	D4	...	D25	D26	D27	D28
Rules and regulations	D1	1	0	1	0	...	1	0	1	0
Technical training of human resources	D2	0	1	0	0	...	0	0	0	0
Increased investment in tourism industry	D3	0	0	1	0	...	0	0	0	0
Promotions, marketing, and branding	D4	0	0	0	1	...	0	0	0	0
...	...	...	...	...	...	...	...	...	...	...
Audiovisual media	D25	0	0	0	1	...	1	0	0	0
Design	D26	0	0	0	1	...	0	1	0	0
New media	D27	0	0	0	0	...	0	0	1	0
Creative services	D28	0	0	0	0	...	0	0	0	1

Source: Author

Stage 5) Grading the Factors Impacting on Tehran’s Cultural Tourism: In this stage, after access matrix of inputs is calculated, outputs and common elements are identified. Inputs for an index include the index itself and other ones which impact on it; furthermore, outputs contain the index itself and other ones on which it impacts. Therefore, common elements are those elements which are found in both input and output bodies. In order to determine relations and grades of criteria, output and common elements are compared whereby the index whose output and common elements are identical will be omitted and placed at the highest grade (it will be omitted from input, output, and common elements). In this way, the model is run up until all indices are omitted. Execution of model indicates that the model should run for ten rounds in order for all indices to be graded.

**Table 5: Grading the Factors Impacting on Development of Tehran's Cultural Tourism**

Indices	Abbreviation	Outputs	Inputs	Common Elements	Grades
Rules and regulations	D <sub>1</sub>	D1, D3, D5, D6, D7, D9, D10, D11, D13, D14, D24, D25, D27	D1	D1	10
Technical training of human resources	D <sub>2</sub>	D2, D11, D13, D16	D2, D7, D11	D2, D11	5
Increased investment in tourism industry	D <sub>3</sub>	D3, D5, D6, D9, D10, D11, D13, D14, D21	D1, D3, D7, D8, D11, D12	D3, D11	8
Promotions, marketing, and branding	D <sub>4</sub>	D4, D5, D6, D10, D11, D15, D16, D18	D4, D8, D9, D11, D12, D18, D20, D21, D22, D23, D24, D25, D26	D4, D11, D18	5
Development of cultural tourism's infrastructures	D <sub>5</sub>	D5, D6, D9, D10, D11, D15, D16, D17, D18	D1, D3, D4, D5, D6, D7, D8, D9, D10, D11, D12	D5, D6, D9, D10, D11	4
Quality and diversity of tourism products and services	D <sub>6</sub>	D5, D6, D9, D10, D11, D15, D16, D17, D18	D1, D3, D4, D5, D6, D7, D8, D9, D11, D12	D5, D6, D9, D11	4
Appropriate institutional partnership and labor division among different actors of the industry	D <sub>7</sub>	D2, D3, D5, D6, D7, D9, D10, D11, D20, D21, D22, D23, D24	D1, D7, D11	D7, D11	9
Political and international relations	D <sub>8</sub>	D3, D4, D5, D6, D8, D11, D15, D19	D8	D8	9
Safety and security degree of infrastructures	D <sub>9</sub>	D4, D5, D6, D9, D10, D11, D15, D17, D21	D1, D3, D5, D6, D7, D9, D10, D11	D5, D6, D9, D10, D11	7
Establishment of new tourist attractions	D <sub>10</sub>	D5, D9, D10	D1, D3, D4, D5, D6, D7, D9, D10, D11, D12, D20, D21, D22, D23, D24, D25, D26, D27, D28	D5, D9, D10	1
Planning for development of cultural tourism	D <sub>11</sub>	D2, D3, D4, D5, D6, D7, D9, D10, D11, D14, D15, D19, D20, D21, D22, D23	D1, D2, D3, D4, D5, D6, D7, D8, D9, D11, D12	D2, D3, D4, D5, D6, D7, D9, D11	7
Existence of cultural tourism attractions	D <sub>12</sub>	D3, D4, D5, D6, D10, D11, D12, D14, D15, D19	D12	D12	9
Quality and cleanness of the environment	D <sub>13</sub>	D13, D14, D15, D17	D1, D2, D3, D13	D13	4
Urban landscapes and sceneries	D <sub>14</sub>	D14, D15, D17	D1, D3, D11, D12, D13, D14, D21	D14	3
Mental image of tourists out of the host	D <sub>15</sub>	D15, D19	D4, D5, D6, D8, D9, D11, D12, D13	D15, D19	1

Indices	Abbreviation	Outputs	Inputs	Common Elements	Grades
society			,D14,D15,D17, D19,D20,D21, D22,D23,D24, D25,D26		
Easy booking and planning for travel	D <sub>16</sub>	D16,D17	D2,D4,D5,D6,D16	D16	3
Degree of serenity and sense of freedom	D <sub>17</sub>	D15,D17	D5,D6,D9,D13, D14,D16,D17, D19	D17	2
Price of tourism services and travel expenses	D <sub>18</sub>	D4,D18	D4,D5,D6,D18, D21,D22,D23	D4,D18	1
Interactions among tourists and host society	D <sub>19</sub>	D15,D17,D19	D8,D11,D12,D15,D19	D15,D19	3
Traditional culture manifestations (arts and handicrafts, festivals, and rituals)	D <sub>20</sub>	D4,D10,D15,D20	D7,D11,D20	D20	6
Cultural places (ancient monuments, museums, libraries, and fairs)	D <sub>21</sub>	D4,D10,D14,D15,D18,D21	D3,D7,D9,D11,D21	D21	6
Performance arts (music halls, theaters, operas, circuses, etc.)	D <sub>22</sub>	D4,D10,D15,D18,D22	D7,D11,D22	D22	6
Visual arts (painting, sculpture, photography, and antiques)	D <sub>23</sub>	D4,D10,D15,D18,D23	D7,D11,D23	D23	6
Publications and printed media (books, press, and publications)	D <sub>24</sub>	D4,D10,D15,D24	D1 ,D7,D24	D24	6
Audiovisuals (movies, TV, radio, etc.)	D <sub>25</sub>	D4,D10,D15,D25	D1 ,D25	D25	6
Design (interior design, graphics, fashions, jewelries, etc.)	D <sub>26</sub>	D4,D10,D15,D26	D26	D26	6
New media (software, video games, and creative digitalized contents)	D <sub>27</sub>	D10,D27	D1 ,D27	D27	2
Creative services (architecture, promotions, research, etc.)	D <sub>28</sub>	D10,D28	D28	D28	2

Source: Author

On the basis of the outcomes of interpretive structural model, the index *Rules and Regulations* is graded in the level 10 and the indices ‘*Suitable Institutional Partnership and Labor Division among Different Actors of Industry*’, ‘*Political and International Relations*’, and ‘*Existence of Cultural Tourism Attractions*’ are graded in the level

9 aimed at development of Tehran Metropolis's cultural tourism. In fact, indices of the levels 9 and 10 are fundamental ones to which more attention should be paid with regard to results of interpretive-structural analysis in development of Tehran cultural tourism. As dimensions of development of cultural tourism, indices respecting creative and cultural industries have mainly found their way in the level 6 (middle grade).

*B. MICMAC Analysis*

Since dedicated weights in ISM model are in 0/1 mode and in nominal scale, this model is able to specify existence or absence of relationships between two variables or indices; however, it is unable to determine how intense the relationship between two variables is. Accordingly, MICMAC analysis is employed. Aimed at preparation of input data, results of experts' opinions in Structural Self-Interaction Matrix were returned to them after they were finalized to determine intensity of the relationship between two variables in cases of existence of such a relation (number one is displayed in intended cells):

- 0 = Absence of impact
- 1 = Weak relation
- 2 = Moderate relation
- 3 = Powerful relation

With respect to direct relations among variables in an interwoven grid of reciprocal relationships, MICMAC divides indices into four categories in Cartesian coordinate system, as follows:

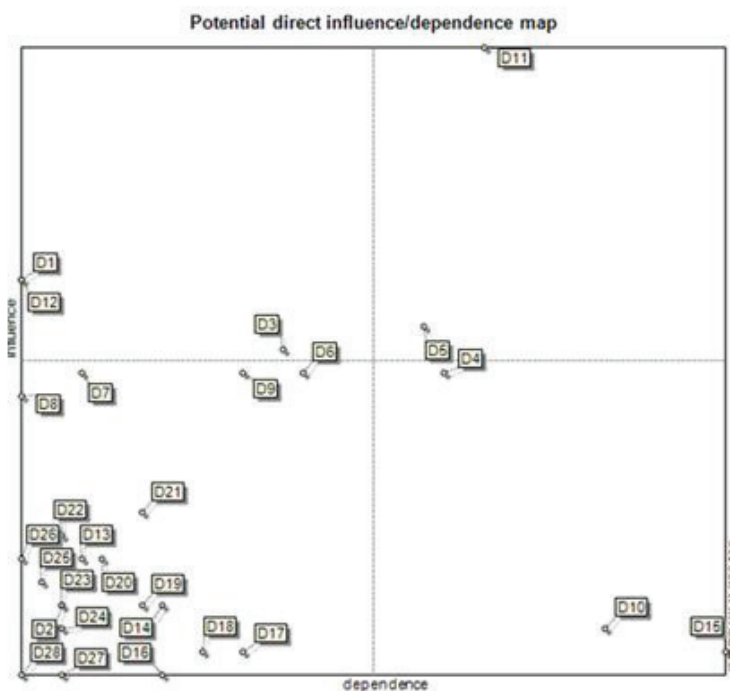


Fig. 2: Direct Influence/Dependence of Variables

The first category includes the indices which are located in region 1 of the coordinate system. These indices, which have high impact and dependence degrees, are connective variables that link impacting and dependent variables. It could be concluded that the variables which are categorized under this class are the factors which develop tourism in Tehran metropolis.

Table 6: Connective Variables Based on Direct Relation Matrix

Indices	Abbreviation	Region in Coordinate System	Type
Promotions, marketing, and branding	D4	1	Connective
Development of cultural tourism's infrastructures	D5	1	Connective
Planning for development of cultural tourism	D11	1	Connective

Source: Author's Calculations

The second category encompasses the indices which are located in region 2 of the coordinate system. These indices, which have high impact and low dependence degrees, could be entitled ‘influencing indices’ or ‘motivating indices’.

**Table 7: Influencing Variables Based on Direct Relation Matrix**

Indices	Abbreviation	Region in Coordinate System	Type
Rules and regulations	D1	2	Influencing
Increased investment in tourism industry	D3	2	Influencing
Quality and diversity of tourism products and services	D6	2	Influencing
Existence of cultural tourism attractions	D12	2	Influencing

Source: Author’s Calculations

The third category contains the variables which are located in region 3 of the coordinate system. These indices, which have weak impact and dependence degrees and make limited connections with other variables and indices, could be entitled ‘independent indices’. It is very difficult to impact on these indices due to their limited connections with other variables inside the system. In order to improve these indices, extra-system items should be inserted and/or level of the index and its connections should be improved. Most indices for cultural tourism development of Tehran metropolis fall into this category

**Table 8: Dependent Variables Based on Direct Relation Matrix**

Indices	Abbreviation	Region in Coordinate System	Type
Technical training of human resources	D <sub>2</sub>	3	Independent
Appropriate institutional partnership and labor division among different actors of the industry	D <sub>7</sub>	3	Independent
Political and international relations	D <sub>8</sub>	3	Independent
Safety and security degree of infrastructures	D <sub>9</sub>	3	Independent
Quality and cleanness of the environment	D <sub>13</sub>	3	Independent
Urban landscapes and sceneries	D <sub>14</sub>	3	Independent
Easy booking and planning for travel	D <sub>16</sub>	3	Independent
Degree of serenity and sense of freedom	D <sub>17</sub>	3	Independent
Price of tourism services and travel expenses	D <sub>18</sub>	3	Independent
Interactions among tourists and host society	D <sub>19</sub>	3	Independent
Traditional culture manifestations (arts and handicrafts, festivals, and rituals)	D <sub>20</sub>	3	Independent
Cultural places (ancient monuments,	D <sub>21</sub>	3	Independent

Indices	Abbreviation	Region in Coordinate System	Type
museums, libraries, and fairs)			
Performance arts (music halls, theaters, operas, circuses, etc.)	D <sub>22</sub>	3	Independent
Visual arts (painting, sculpture, photography, and antiques)	D <sub>23</sub>	3	Independent
Publications and printed media (books, press, and publications)	D <sub>24</sub>	3	Independent
Audiovisuals (movies, TV, radio, etc.)	D <sub>25</sub>	3	Independent
Design (interior design, graphics, fashions, jewelries, etc.)	D <sub>26</sub>	3	Independent
New media (software, video games, and creative digitalized contents)	D <sub>27</sub>	3	Independent
Creative services (architecture, promotions, research, etc.)	D <sub>28</sub>	3	Independent

Source: Author's Calculations

The fourth category is composed of the variables which are positioned in region 4 of the coordinate system. These indices, which have high dependence and low susceptibility degrees, could be entitled 'dependent indices'.

Table 9: Dependent Variables Based on Direct Relation Matrix

Indices	Abbreviation	Region in Coordinate System	Type
Establishment of new tourist attractions	D10	4	Dependent
Mental image of tourists out of the host society	D15	4	Dependent

Source: Author's Calculations, 2018

### Conclusions

In this study, the factors impacting on cultural tourism development of Tehran metropolis were extracted with a focus on creative and cultural industries that have heavy overlaps with cultural tourism components. A number of 28 indices were selected. In the next stage, these factors were graded using two-step Delphi method and, then, interpretive-structural analysis. In the second Delphi stage, results of the first round were provided to experts. Finally, outcomes of this stage's questionnaire were analyzed by MICMAC. Accordingly, connective, impacting, independent, and dependent variables were specified. Following is the most important outcomes of the present research:

- On the basis of interpretive-structural outcomes, the index *Rules and Regulations* is graded in the level 10 and the indices 'Suitable



*Institutional Partnership and Labor Division among Different Actors of Industry*, *Political and International Relations*, and *Existence of Cultural Tourism Attractions* are graded in the level 9 aimed at development of Tehran Metropolis's cultural tourism. In fact, indices of the levels 9 and 10 are fundamental ones to which more attention should be paid with regard to results of interpretive-structural analysis in development of Tehran cultural tourism. As dimensions of development of cultural tourism, indices respecting creative and cultural industries have mainly found their way in the level 6 (middle grade).

- The indices *'Rules and regulations'*, *'Increased investment in tourism industry'*, *'Quality and diversity of tourism products and services'*, *'Appropriate institutional partnership and labor division among different actors of the industry'*, *'Political and international relations'*, and *'Existence of cultural tourism attractions'* are considered as impacting indices that influence on cultural tourism of Tehran metropolis. These indices are important in that they impact on other variables and the whole system, and that conditions of other indices could be improved by making changes and corrections therein.
- Connective variables in development of cultural tourism of Tehran metropolis include *'Development of cultural tourism's infrastructures'*, *'Safety and security degree of infrastructures'* and *'Planning for development of cultural tourism'*. Paying attention to these indices is imperative in that they—as neglected elements for taking advantage of existing potentials and opportunities in order to come up with a catholic urban development in most urban planning processes—establish the connection between dependent and influencing variables.
- Noteworthy in development of Tehran's cultural tourism is that most effective indices and variables are independent ones. Additionally, all indices of creative and cultural industries are independent ones. This implies that little attention has been paid so far to these indices and criteria in urban development and tourism plans.
- Dependent variables, encompassing *'Promotions, marketing, and branding'*, *'Establishment of new tourist attractions'* and *'Mental image of tourists out of the host society'*, are the items which will be taken into consideration in operation phase. In order to improve

conditions of these indices in development of cultural tourism of Tehran metropolis, their contextual variables, i.e., influencing and connective indices, should be borne in mind.

Although it is possible to improve each of above-cited indices for development of Tehran's cultural tourism, it is recommended to prioritize the variables with higher impact degrees before making attempts to increase desirability of dependent indices.

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