



Identification and Analysis of Antecedents and Consequences of Experience Co-Creation in Iran's Sports Tourism

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ABSTRACT

The present investigation aims to identify and analyze the antecedents and consequences of experience co-creation in Iran's sports tourism. The present study is a mixed study that was conducted with the participation of 10 sports tourism experts and researchers in the field of co-creation in the qualitative phase and 15 tourism specialists in the quantitative phase who were selected purposefully. In the qualitative section, the data collection tool was a semi-structured interview and in the quantitative part of the study, data were collected by using a custom questionnaire. The findings showed 38 basic and 7 organizing themes corresponding to the antecedents and 36 basic and 7 organizing ones related to the consequences. Results of the quantitative section indicated that individual capabilities and the tourism economy (in the antecedents), along with social capital promotion and the booming tourism economy (in the consequences), are the most effective and the most impressionable components, respectively. Moreover, organizational dynamism and the booming tourism economy were the most significant components in antecedents and consequences, respectively. It is suggested that decision-making organizations should focus on the influential and significant factors and use incentive programs to create an enjoyable experience for sports tourists.

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1. Introduction

Tourism is a phenomenon that has long been considered among human societies and has continued to be dynamic according to different social and economic needs (Mansouri Moayed et al., 2017). Due to its diversity and breadth, it is known to be the main source of income, creation of jobs, private sector growth, and infrastructure development in the world. Hence, in developing countries, much attention has been paid to it (Derakhshani & Mahmoudi, 2014). In recent decades, along with the increasing role of tourism in economic development, attention to sports tourism witnessed a significant increase (Golzadeh et al., 2018). Gibson & et al. (2006) define sports tourism as the journey and transfer of a person to a specific place to participate in a competitive or recreational sport or watch sports activities (Sarlab et al., 2020). Sports attractions play an important role in countries. Tourism and sports are fascinating phenomena that, if put together, can yield a significant synergy in both areas (Jaberi et al., 2018: 39). In this regard, many countries have attempted to study, plan, invest, and perform marketing (in particular), and they successfully took advantage of the economic benefits of sports tourism development (Adabi Firoozjah et al., 2020). One way to achieve the development of sports tourists is to understand their behaviors, motivations, interactions, and to use their innovative experiences. According to Ratten, & Tajeddini (2019), linking practical experience with innovation has an impact on the sports industry. Accordingly, the researchers are trying to determine whether this issue also affects sports tourism or not.

Being almost a decade old, the term co-creation is yet to be introduced properly, and its dimensions are mostly unexplored. Sonja et al. (2022) demonstrated that co-creation is a process of interaction and influence between different stakeholders. Creating a purposeful conversation with customers and integrating the tourists' personal resources with organizations can be referred to as experience co-creation (Prahalad & Ramaswamy, 2004). Generally, there are two types of theoretical and practical gap about experience co-creation. From a theoretical point of view, little research has been done on the experience co-creation in sports tourism, especially in Iran. From a practical point of view, according to global statistics, Iran is ranked 97th among 141 countries in terms of tourism competitiveness, which is not a good ranking compared to regional competitors such as Turkey, Qatar, the United Arab Emirates, and Saudi Arabia (World Economic Forum, 2015). Meanwhile, Iran with its natural potentials, cultural attractions, and variety of climates can be considered as an attractive destination for foreign sports tourists (Forouzanfar et al, 2013). Sports tourism in Iran still does not have a favorable position and despite the huge costs of stakeholders, suffers from low participation of tourists and local people (Sayyed et al., 2013). Nonetheless, tourist participation as one of the key factors of co-creation can lead to the development of sports tourism. Iran's position in tourism, along with the results reported in tourism research, indicate that the use of existing potentials in tourist experience co-creation has not been given much importance in Iran so far.

The present study intends to take a step towards the development of sports tourism by considering the conditions and preconditions for co-creation and its outputs. Providing this pattern can help to increase the existing theoretical knowledge and to achieve the results of developing the experience co-creation for sports tourists and host communities. Hence, the main question of the research is, "what are the antecedents and consequences of the experience co-creation and what is the pattern of its effectiveness and influence?" To answer this question, while reviewing the literature on co-creation, an attempt has been made to design a model of the effectiveness and influence of the identified components.

2. Research Background

A review of studies shows that most studies examined a particular aspect of the co-creation. Among these studies, some of them such as Buonincontri et al. (2017) have only studied the antecedents, and others such as Loncarik et al. (2019) have reviewed its consequences, and most of these studies have taken a detailed look at this phenomenon.

Bentzen (2022) showed that continuous and high-level participation enhances the results of co-creation in terms of innovation, solutions, and the development of trust among participants. Moreover, the findings of the research by Bhardwaj and Kumar Sharma (2021) confirmed that interactions between tourists and tourism service providers, along with the active participation of tourists, affect co-creation. Hassanzadeh et al. (2021) believed that value co-creation includes interaction, knowledge

sharing, skills, creativity, and trust of tourists in order to create citizenship behavior and tourist loyalty. According to Rahmati (2020: 242), strengthening organizations, infrastructures, industry dynamics, and customer dynamics are prerequisites for the formation and expansion of co-creation in the tourism industry. Loncaric et al. (2019) stated that market experts could play a crucial role in sharing tourism experiences and helping experience co-creation. Chen et al. (2019) pointed out that customer participation affects value co-creation and leads to customer satisfaction and loyalty. In another study, Irani et al. (2018) mentioned two types of participation, latent and manifest, that facilitate customers' participation in co-creation activities by sharing and creating their experiences and knowledge. Buonincontri et al. (2017) showed that active interaction and participation of tourists and their attitudes about sharing experience with others is a precondition for creating an experience in tourism. Buonincontri and Micera (2016) concluded that the use of smart approaches improves experience co-creation by encouraging interaction with tourists, increasing their active participation during the experience, and promoting the sharing of experience among them. Also Fakoor Saghieh et al. (2016) showed that customer participation in the service delivery process plays an important role in their intention to return in the future. Campos et al. (2018) stated that active participation and interaction with people are the two main dimensions of the tourist's experience co-creation.

Some studies have only addressed the consequences of co-creation. Loncaric et al. (2019) stated that creating a shared tourism experience by market and travel agency experts increases the likelihood of future collaborations (i.e., their loyalty). Assiouras et al. (2019) pointed to the effect of co-creation on repurchase behavior and citizenship behavior. Loncaric et al. (2017) concluded that participation in the experience co-creation process with travel professionals affects customer satisfaction. In addition, customer satisfaction and co-creation have positive effects on the overall travel satisfaction and customer loyalty to the tourism service providers. Elaine et al. (2016) showed that the tourists' experience co-creation has a positive effect on the holiday experience and loyalty to the service provider.

In the existing literature related to the experience co-creation, lack of a comprehensive classification of the antecedents and consequences of the experience co-creation in sports tourism is seen. Therefore, identifying these factors as well as the extent and manner of their effectiveness and influence can provide useful information and reveal the need for such research.

3. Methodology

The present study is a practical one in terms of the purpose and a mixed exploratory one in terms of the data collection method, which has been carried out in two stages (qualitative-quantitative). In this approach, weaknesses and limitations of each quantitative and qualitative section were compensated and it helps the researcher to answer questions that may not be responded to using the quantitative or qualitative approaches alone (Niazi, 2011). For this purpose, first, antecedents and consequences of experience co-creation in sports tourism were qualitatively identified via thematic analysis. Thematic analysis is one of the simple and efficient methods of qualitative analysis that is the basis of many qualitative methods (Holloway & Todres, 2003). The data collection was performed using the online library method, searching databases, and reviewing the research background corresponding to the research topic. Next, in-depth and semi-structured interviews were conducted with experts to identify the antecedents and consequences of experience co-creation. Participants in the present in-depth and semi-structured interviews were scientific and academic experts (with a history of executive and research activities in tourism), co-creation specialists, travel agency managers, and tour guides. The purposeful sampling method was used in interviews and data collection, and thus, the interviews continued until the codes reached theoretical saturation. Based on the principle of theoretical saturation, 10 people were interviewed for 35 to 70 minutes. The interview analysis method was such that the critical phrases or concepts were first classified as primary codes through an in-depth study of the transcripts of the interviews. Then, different codes were classified as regular themes, and the initial codes relative to each of the basic themes were identified and collected. To improve the validity and reliability of the data, two review methods were employed by the participants and non-participant experts. In the review method, 2 interviewees were asked to review the final analysis report and the topics obtained and to express their opinions. According to these people, the research findings largely highlighted the antecedents of experience co-creation and its consequences in Iranian sports tourism.

However, in the review by non-participant experts with the cooperation of 3 faculty members, achievements were reviewed, and after receiving corrective comments, the editing was concluded. In this study, the codes were manually examined for classification and coding purposes.

In the quantitative part of the research, the DEMATEL technique was used to analyze the causal relationships between the identified factors. This technique is a decision-making method based on pairwise comparisons that takes advantage of experts' judgments about the extracted components. The reason for using the DEMATEL technique among the various multi-criteria decision-making methods is that this technique uses relational feedback. This means that each element can affect and be influenced by other elements at equal, higher and lower levels. The importance and weight of each element in the model is determined not only by upstream and downstream factors but also by all existing factors or the whole model. Also this technique examines the effect of criteria on each other and determines their relationships. This methodology confirms the relationship between variables and helps to show the relationship between variables by creating a directional graph (Azar et al., 2019). The advantage of this method over other multi-criteria decision-making methods is its clarity and transparency in reflecting the interrelationships between a wide range of components so that experts can better express their views on the direction and intensity of effects between factors. In addition, one of the most important reasons for its widespread use in problem-solving processes is that this method structures complex factors in the form of cause and effect groups. By dividing a wide range of complex factors into cause-and-effect groups, the decision-maker is better positioned to understand relationships. This issue leads to a better understanding of the position of factors and their role in the process of mutual influence (Ghobadi et al., 2019: 604).

In order to implement DEMATEL, the following steps are performed:

Identifying the constituent elements, performing pairwise comparisons, calculating the average of opinions, normalizing the direct relation matrix, calculating the complete relation matrix, creating the causal diagram, calculating the threshold value, obtaining the IRM diagram, and final analysis.

In order to collect quantitative data, a pairwise comparison questionnaire (between identified factors) was used. To answer this questionnaire, 15 experts were selected using purposive sampling. Using the opinion of a small number of experts in the field guarantees the validity of the research (Azar et al., 2019). These individuals included academic experts in sports management and tourism, skilled and practical experts in the field of tourism and co-creation, and researchers who carried out the pairwise comparison of the examined components using a 5-point scale (0 to 4). The DEMATEL software was also employed for the DEMATEL technique (behin-tasmim.ir).

4. Research Findings

4.1 Part One (Qualitative Section of the Research): Results Obtained Via Thematic Analysis

The demographic characteristics in the qualitative section indicated that 6 participants were male, and the mean age of participants was 38.2 (years). Moreover, the education level of 5 participants was doctorate, 3 were master's graduates, and 2 had bachelor's degrees. Three participants majored in sports management, and seven studied strategic management, educational management, business management, and geography and tourism planning. Furthermore, four of the research samples were researchers in the field of co-creation, two were academics with a background in tourism activities, and four were managers in travel agencies or sports tourism tour guides.

In the present research, theme coding was done in three stages: basic, organizing, and global. Ultimately, 38 basic and 7 organizing themes were obtained, which were associated with the global theme of experience co-creation antecedents in Iranian sports tourism, as presented in Table 1. It should be noted that P in this study indicates the interviewed individuals.

In addition, 38 basic and 7 organizing themes were obtained, which were associated with the global theme of experience co-creation consequences in Iranian sports tourism, as listed in Table 2.

Table 1. The Basic and Organizing Themes of Experience Co-Creation Antecedents in Sports Tourism

Organizing themes	Basic themes	References
Local culture	Cultural and ethnic characteristics	P1, P5, P6/Vosoughi and Khosh Namak, 2015: 95/Tomic et al., 2014: 222
	Participability	P3/Irani et al., 2018/ Lunzaric et al.,2019/ Buonincontri et al., 2017/ Buonincontri & Micera, 2016/ Campos et al., 2018/ Ali et al., 2015
	Traditions and customs in the host community	P5
Tourism economy	Utilizing business space	Pashaei et al., 2019: 76/Rahmati, 2020:237
	Dependency on oil revenues	Habibi and Mohammadi, 2017/ Javashi Jadid et al.,2020:135
	Increasing the number of competitors	Rahmati, 2020:237
	The degree of privatization in the tourism industry	P1/ Rahmati, 2020:237
Scientific environment of tourism	The role of science in tourism management	P6
	Knowledge exchange and utilizing developed countries as models	P3, P5, P6, P7
	The connection between scientific centers with the tourism sector	P3, P5, P6/ Forouzanfar & Najafipour, 2014
	Producing scientific and media content	P1, P5, P6, P7, P10
Individual features and capabilities	Relying on group thinking in the decision-making	Stacey,2011:129
	Values and expectations of tourists	P3/ Rahmati, 2020:237
	Tourist's interests	P1, P6, P7
	Individual specializations	P3, P8
	Communication and social skills	P1, P3, P5, P7, P8
	Level and type of education	P5, P6/ Shahbazi & Qahiehi, 2014:69
	Tourists' age	P5, P6, P7, P8
	Travel experiences	P3, P7
	Knowledge and awareness	P3/ Rahmati, 2020:237
	Familiarity with information technology	P1, P3/ Zhang et al., 2018
Motivations	Competition	P7, P8
	Achieving success	P3, P7
	Obtaining new connections	P5/Bacman
	Extensive participation in social affairs	P5, P8
	Learning	P4, P7
	Exploring	P7, P8
	Supporting tourists	P1, P3, P5, P6, P7, P8
Organizational dynamism	Flexible organizational structure	P1, P3
	Organizational agility	P1
	Continuous training of staff	P6, P8/Sadeghi Jamal & Mahiti Tehrani, 2011
	The desire for a learning organization	P7, P8
	Taking advantage of tourists' participation in important decisions	Javashi Jadid et al.,2020:131
	Identifying tourists' needs	P1, P6/ Javashi Jadid et al.,2020:131
Market research	Evaluating the quality of the experience	P8, P10
	Using customer relationship management systems	P1, P4/ Javashi Jadid et al.,2020:131
	Studying the competitors' status	Rahmati, 2020:237
	Dividing the target community based on the nature of tourists	P5, P6, P7, P8

Table 2. The Basic and Organizing Themes of the Experience Co-Creation Consequences in Sports Tourism

Organizing themes	Basic themes	References
Improving the behavioral tendencies of tourists	Tourists' expression of satisfaction	P1, P2, P6, P7/ Luncaric et al., 2017:321/Grissemann & Stokburger-Sauer, 2012:1483/ Buonincontri et al., 2017:268/ Elaine et al., 2016:70/ Nina et al., 2016/Ali et al., 2015/ Ursula et al., 2012/ Javashi Jadid et al., 2020:134
	Tourists' loyalty to the service provider organization	P7/Grissemann & Stokburger-Sauer, 2012:1483/ Elaine et al., 2016:70/ Luncaric et al., 2017/ Ursula et al., 2012
	Advising others to travel	P4, P5, P6, P8, P9, P10/ Javashi Jadid et al., 2020:134
	Tourists' return	P1, P4, P5, P6, P7/ Assiouras et al., 2019/ Javashi Jadid et al., 2020:134
	Willingness to spend more	Javashi Jadid et al., 2020:134/ Ursula et al., 2012/ Grisseemann & Stokburger-Sauer, 2012
	Attendance in cultural-sports events	P6, P7
	Promoting storytelling in social media	Ali Esmaili & Goli, 2020
Booming tourism economy	Entrepreneurship and job creation	P7, P8
	Increasing Gross Domestic Product and reducing reliance on government budgets	Javashi Jadid et al., 2020:135
	Increasing internal and external investments	P1, P5, P6, P7, P10/ Javashi Jadid et al., 2020:135
	Competitiveness and obtaining a competitive advantage	P3, P7/ Pranita et al., 2020:282
Tourism infrastructure development	Developing urban and transportation infrastructures	P1, P9/ Javashi Jadid et al., 2020:133
	Developing communication and telecommunications networks	Javashi Jadid et al., 2020:133
	Renovating buildings and sports facilities	P1, P4, P7
	Expanding sports hotels and motels	P1, P9/ Javashi Jadid et al., 2020:133
	Renovating historical landmarks	Javashi Jadid et al., 2020:135
An increase in social welfare of the host society	Enhancing public health	Javashi Jadid et al., 2020:135
	Material welfare	P8/Karroubi et al., 2020:63/ Javashi Jadid et al., 2020:135
	Host community access to tourism facilities	P10/Javashi Jadid et al., 2020:135
	Improving people's literacy level	P7/Javashi Jadid et al., 2020:135
Promotion of social capital	Improving living standards	Taghdisi et al., 2012
	Expanding teamwork	P3, P5
	Social participation	P1
	Reducing the immigration of local communities	P1, P6, P8/Javashi Jadid et al., 2020:135
	Improving trust in sports tourism stakeholders	P3
Cultural promotion	Respecting different opinions	P4, P7, P8, P9/ Javashi Jadid et al., 2020:135/ Pashaei et al., 2019: 75
	Preserving and disseminating local traditions, values, and customs	Pashaei et al., 2019: 75
	Developing the local culture	Javashi Jadid et al., 2020:135/ Emdadi Mehdi Mahalleh et al., 2015
	Increasing cultural interactions between communities	P7/Javashi Jadid et al., 2020:135
	Promoting the sense of pride in local people	Alipoor & Mohammadi, 2016
	Maintaining legends and sports traditions	P7
Value creation	Enriching services	P1/Zhang & Chen, 2008/ Javashi Jadid et al., 2020:134
	Adapting travel components to tourists' expectations	Javashi Jadid et al., 2020:131/Luncaric et al., 2017:321
	Reducing the cost of services	Grissemann & Stokburger-Sauer, 2012/ Buonincontri et al., 2017:268
	Providing facilities for comfortable travels	P6, P7
	Optimal use of time and resources by tourists	P2, P3

4.2 Part Two (Quantitative Section of the Research): Results Obtained from the DEMATEL Method

In this section, the opinions of 15 experts in the field were used. The descriptive findings related to this group of experts are presented in Table 3.

Table 3. Distribution of the Research Experts in the Quantitative Section

Features	Options	Frequency	Frequency percentage
Gender	Male	9	60
	Female	6	40
Age	20-30	4	26.66
	31-40	6	40
	41-50	5	33.33
Education	Bachelor's degree	2	13.33
	Master's degree	3	20
	PhD	10	66.66
Occupation	University faculty members	7	46.66
	Members of the board of federations	1	6.66
	Cultural heritage experts	2	13.33
	Tour guides	3	20
	Managers of tourism companies	2	13.33
Work experience	1 to 5 years	3	20
	6 to 10 years	2	13.33
	11 to 15 years	6	40
	16 to 20 years	4	26.66

Similar to the qualitative section, cause-and-effect relationships of the components identified using the DEMATEL technique have been calculated and implemented in two parts: the antecedents and consequences of experience co-creation in sports tourism.

After identifying the components and constructing the survey matrix, the experts (15 people) were asked to perform pairwise comparisons of the components. In the next step, the initial decision matrix (A) was formed using the arithmetic mean of experts' opinions as

$$z = \frac{x^1 + x^2 + x^3 + \dots + x^p}{p} \quad (1)$$

where p is the number of experts, x^1 , x^2 , and x^p are the pairwise comparison matrices associated with experts 1, 2, and p , respectively. Table 4 presents the initial decision matrix (mean of the experts' opinions).

Table 4. The Initial Decision Matrix

Components	Local culture	Tourism Economics	Scientific environment of tourism	Individual features and capabilities	Motivations	Organizational dynamism	Market research	Total
Local culture	0	2.46	2.26	2.4	2.06	2.13	0.6	11.91
Tourism Economy	2.66	0	2.26	1.33	2.53	2.73	1.13	12.64
Scientific environment of tourism	2.66	2.73	0	1.26	2.53	2.66	2.53	14.37
Individual features and capabilities	2.4	1.86	2.6	0	2.6	2.73	2.46	14.65
Motivations	2.4	1.53	2.4	1.8	0	2.8	2.26	13.19
Organizational dynamism	1.93	2.73	2.8	1.86	2.86	0	2.06	14.24
Market research	0.73	2.73	2.73	1.13	1.2	2.53	0	11.05

Table 5 shows the normalized direct relation matrix (N).

Table 5. The Normalized Matrix

Components	Local culture	Tourism Economics	Scientific environment of tourism	Individual features and capabilities	Motivations	Organizational dynamism	Market research
Local culture	0	0.1679	0.1543	0.1638	0.1406	0.1454	0.041
Tourism Economics	0.1816	0	0.1543	0.0908	0.1727	0.1863	0.0771
Scientific environment of tourism	0.1816	0.1863	0	0.086	0.1727	0.1816	0.1727
Individual features and capabilities	0.1638	0.127	0.1775	0	0.1775	0.1863	0.1679
Motivations	0.1638	0.1044	0.1638	0.1229	0	0.1911	0.1543
Organizational dynamism	0.1317	0.1863	0.1911	0.127	0.1952	0	0.1406
Market research	0.0498	0.1863	0.1863	0.0771	0.0819	0.1727	0

Another step in the DEMATEL technique is extracting direct and indirect effect total matrix (T).

Table 6. Total Relation Matrix

Components	Local culture	Tourism Economics	Scientific environment of tourism	Individual features and capabilities	Motivations	Organizational dynamism	Market research	Row (R)
Local culture	1.0835	1.3007	1.3529	0.984	1.2766	1.387	0.9765	8.3613
Tourism Economics	1.2793	1.207	1.404	0.9629	1.3464	1.4687	1.041	8.7093
Scientific environment of tourism	1.3904	1.492	1.403	1.047	1.4661	1.6015	1.2142	9.6144
Individual features and capabilities	1.4106	1.4828	1.5934	0.9928	1.5065	1.6451	1.2457	9.8768
Motivations	1.2979	1.3463	1.4562	1.0151	1.2359	1.5169	1.1371	9.0053
Organizational dynamism	1.3589	1.4927	1.5671	1.0794	1.4879	1.4525	1.1971	9.6357
Market research	1.0511	1.2366	1.2896	0.8469	1.144	1.3159	0.8649	7.749
Colum (j)	8.8718	9.5581	10.066	6.9282	9.4634	10.3877	7.6765	

In the next step, the causal diagram is created. Then, the threshold value is calculated to determine the network relations map. In this way, partial relations can be ignored, and a network of reliable relations can be established. In the diagram, only the relations whose values in the total relation matrix are greater than the threshold value will be displayed. After the threshold intensity is determined, all values of the total relation matrix that are smaller than the threshold are considered zero, indicating that the corresponding causal relation is disregarded. The value calculated for the threshold in this section was 1.2847. Thus, all values less than this amount are insignificant and will not be displayed in the diagram. The pattern for the significant relations in the present research is as follows.

Figure 1 shows the significance, effectiveness, and impressionability of the experience co-creation antecedents in sports tourism. In this figure, the horizontal axis shows the significance of the component, and the vertical axis indicates effectiveness or impressionability.

The values of D+R and D-R must be obtained to plot the cause-and-effect diagram. D+R (known as superiority) indicates the significance and the sum of the intensity of an element in terms of both effectiveness and impressionability. Similarly, D-R represents the vertical position of an element. If this value is positive, it will be definitely effective, and if it is negative, it will be definitely impressionable. Therefore, according to the cause-and-effect diagram in the antecedents' pattern of experience co-creation in sports tourism, it is evident that individual features and capabilities and market research are the most influential factors. On the other hand, tourism economy, organizational dynamism, local culture, motivations, and the scientific environment of tourism are the most impressionable factors.

Based on the DEMATEL hypothesis (i.e., $D-R < 0$ and $D+R=M$, where M is a large number), the organizational dynamism component is the main issue that must be resolved. In addition, the DEMATEL formula for individual features and capabilities is $D-R > 0$ and $D+R = M$. Therefore, it is considered the main component to solve the issue of organizational dynamism and thus, should be prioritized. The effectiveness and impressionability of other components are the priorities that follow these two.

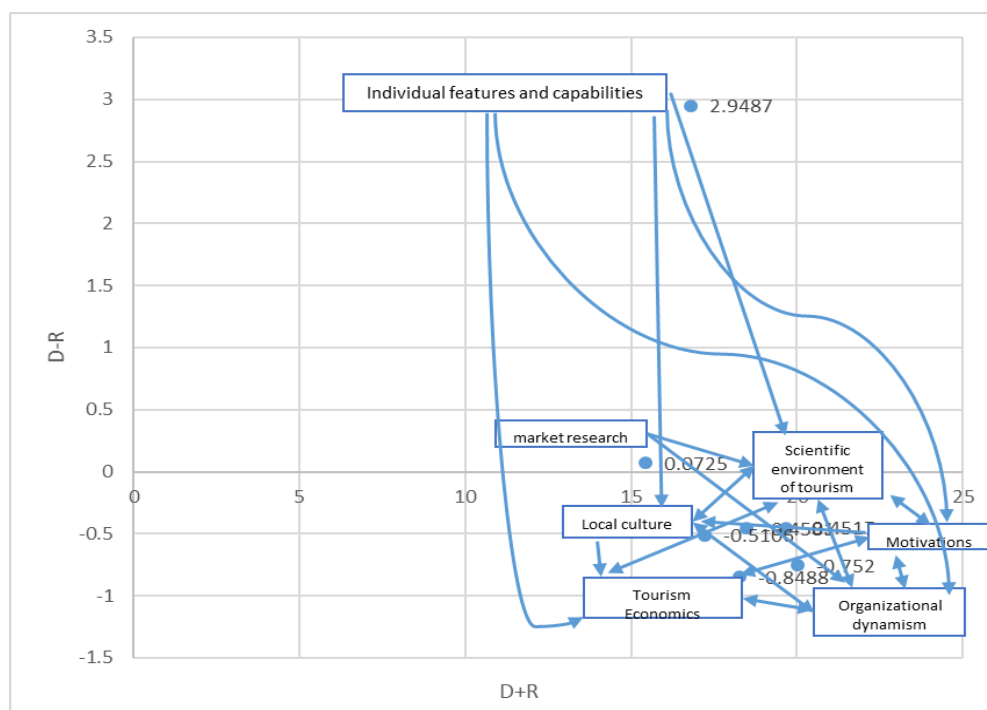


Figure 1. Causal Relationships Between Co-Creation Experience Antecedents in Sports Tourism

Table 7. The Extent of Effectiveness and Impressionability of the Experience Co-Creation Antecedents in Sports Tourism

Result	R	D	D+R	D-R
Individual features and capabilities	9.8768	6.9282	16.805	2.9487
Organizational dynamism	9.6357	10.3877	20.0234	-0.752
Scientific environment of tourism	9.6144	10.0662	19.6806	-0.4517
Motivations	9.0053	9.4634	18.4687	-0.4581
Tourism Economics	8.7093	9.5581	18.2674	-0.8488
Local culture	8.3613	8.8718	17.2331	-0.5106
Market research	7.749	7.6765	15.4255	0.0725

According to the results in Table (7), the organizational dynamism interacts more with other factors (due to having a larger R+D value) and is, therefore, more important than others. However, market research was found to have less interaction with other factors (due to having a smaller R+D value).

In order to analyze the effectiveness and impressionability of the experience co-creation consequences in sports tourism, the DEMATEL technique was employed. However, to avoid redundancy, only the prerequisites, the main matrix of the DEMATEL technique, and the diagram obtained from the analysis were provided.

The initial decision matrix (A) associated with the consequences of experience co-creation in sports tourism is presented in Table 8.

Table 8. Initial Decision Matrix

Components	Improving the behavioral tendencies of tourists	Booming tourism economy	Tourism infrastructures development	Increasing the social welfare of the host society	Social capital Promotion	Cultural promotion	Value creation	Total
Improving the behavioral tendencies of tourists	0	2.86	2.8	2.73	2.53	2.66	3	16.58
Booming tourism economy	2.33	0	3.2	3.2	2.53	2.6	3.4	17.26
Tourism infrastructures development	2.73	3.13	0	3	2.8	2.06	2.8	16.52
Increasing the social welfare of the host society	1.93	3.4	2.8	0	2.66	2.6	2.86	16.25
Social capital Promotion	2.86	3.2	3.13	2.73	0	2.86	2.73	17.51
Cultural promotion	3.2	3.06	1.86	2.66	2.73	0	2.6	16.11
Value creation	3	3.4	2.93	2.93	2.33	2.13	0	16.72

After calculating the total relations matrix, the threshold value corresponding to the consequences of experience co-creation in sports tourism was obtained as 3.0078, and the pattern of significant research relationships was acquired as follows:

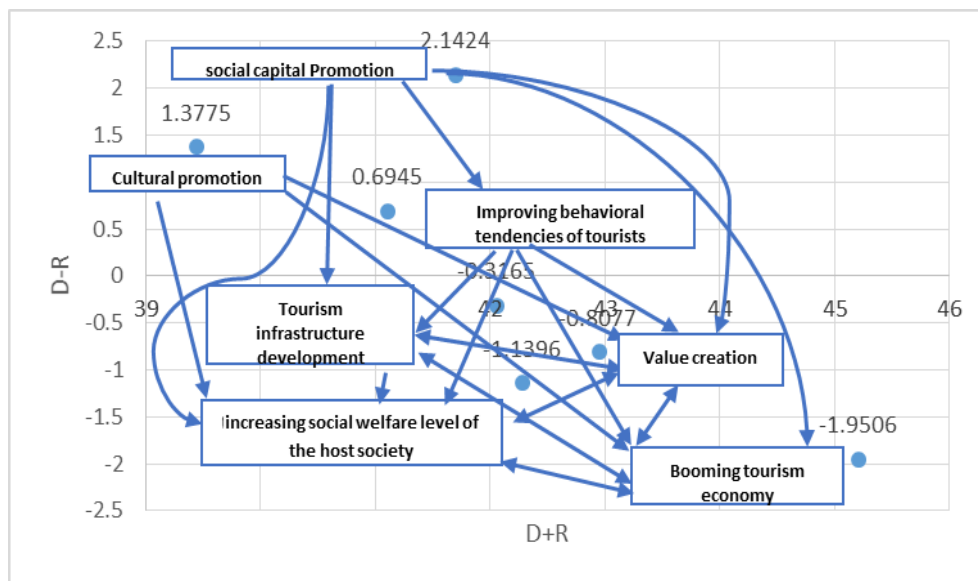


Figure 2. Causal relationships between the experience co-creation consequences in sports tourism

Based on the above diagram, it can be concluded that social capital promotion, cultural promotion, and improving behavioral tendencies are effective indexes. In contrast, the booming tourism economy, increasing the social welfare of the host society, value creation, and tourism infrastructure development are impressionable indexes. Moreover, among the consequences of experience co-creation in sports tourism, the promotion of social capital and the booming tourism economy were found to be the most effective and the most impressionable factors, respectively.

Based on the assumptions of the DEMATEL technique ($D-R < 0$; $D+R = M$ and $D-R > 0$; $D+R = M$), the booming tourism economy is the main issue to be solved, and the social capital promotion and behavioral tendencies improvement in tourists are the main components to solve this problem, which should be prioritized. The effectiveness and impressionability of other components follow these two priorities.

Table 9. The Extent of Effectiveness and Impressionability of the Experience Co-Creation Consequences in Sports Tourism

Result	R	D	D+R	D-R
Social capital promotion	21.9242	19.7818	41.706	2.1424
Booming tourism economy	21.6307	23.5813	45.212	-1.9506
Value creation	21.0711	21.8788	42.9499	-0.8077
Improving the behavioral tendencies of tourists	20.9031	20.2086	41.1117	0.6945
Tourism infrastructures development	20.8702	21.1867	42.0568	-0.3165
Increasing the social welfare of the host society	20.5723	21.7118	42.2841	-1.1396
Cultural promotion	20.4094	19.0319	39.4413	1.3775

Results also showed that the booming tourism economy has more interaction with other factors due to having a larger R+D value and, therefore, is more significant than others. However, the cultural promotion component has been found to have the least interaction with other factors due to a smaller R+D value. (Table 9)

5. Discussion and Conclusion

In the present study, the antecedents and consequences of experience co-creation in sports tourism were first identified using the thematic analysis. Then, knowing that the factors in the real world have intrinsic dependencies, the DEMATEL technique was employed to examine the causal relationships between the components. It should be noted that few studies have considered the causal relationships of the antecedents and consequences of co-creation, and therefore, this study can help improve the literature in this field.

The results of the research in the qualitative section indicated that the antecedents of experience co-creation in sports tourism include the local culture, tourism economy, scientific environment of tourism, individual features and capabilities, motivations, organizational dynamism, and market research. Tourists who have sufficient motivation to participate extensively in social affairs demonstrate a high enthusiasm for participating in co-creation activities. Hence, tourism-related companies and organizations should take measures to increase tourists' motivation. Among these measures, we can mention the correct and efficient advertisements about discounts, free tour services, or encouraging tourists and acquainting them with attractions, which are among the most widely used methods in attracting tourists. The results of Agheli et al. (2019) also show the positive effect of two dimensions of personal resources and tourists' motivation on co-creation. In Rahmati's (2020) research, the role of industry dynamics has been mentioned as a factor that affects the co-creation in the tourism industry.

In the analysis of antecedents, the results showed that individual features and capabilities have the greatest impact on other factors and are affected the least. This notion indicates the significance of this component: due to its influential role, any negative change in it yields adverse effects on other components. In this regard, Agheli et al. (2019) and Chen et al. (2019) have proposed individual abilities as an important factor in facilitating co-creation. These findings mean that the role of tourists and their participation in the service delivery process is undeniable, because they themselves are a part of the travel experience. Therefore, experts should participate tourists in the process of production and provision of services according to their individual characteristics, such as interest, knowledge and awareness, and their travel experiences, and act according to their expectations and desires, And in this way, while taking advantage of the co-creative activities of tourists, the field of tourism development will also be provided.

The results showed that the organizational dynamics component needs more attention. In addition, this component is more interactive and therefore more important than other factors. The results of the present study are consistent with the results of Rahmati (2020), which considers the dynamics of industry as a factor for the formation and expansion of co-creation.

It has also been shown that individual features and capabilities is the main component in solving the issue of organizational dynamism and should be given priority. However, market research has been shown to have less interaction with other factors and thus, is of little importance to the participants in

the present research. Moreover, tourists have personal characteristics and valuable resources such as knowledge, skills, creativity, and solidarity, and they can voluntarily help tourism companies. Therefore, if an organization can exploit these resources, they will provide long-term benefits. Based on the needs of tourists, service providers attempt to equip their resources and facilities in an appropriate way to provide satisfaction for their customers.

In the qualitative section, the results of the research indicated that the consequences of experience co-creation in sports tourism include the booming tourism economy, improving tourists' behavioral tendencies, developing tourism infrastructure, improving social welfare, promoting social capital and culture, and creating value. Most of the researches in this area have focused on the behavioral consequences of tourists and fewer researches have been done on other co-creation outputs. For example, the findings of Loncaric et al (2019), Loncaric et al (2017), and Elaine et al (2016) show that the participation of tourists - as a component of co-creation - affects their satisfaction and loyalty.

In the analysis of the cause and effect relationships of the experience co-creation consequences in sports tourism, the social capital was found to be the most effective component, and its existence among tourists is very effective and useful. Therefore, to improve the level of social capital, training courses for improving the level of skill and expertise of indigenous society, especially youth, can be organized in order to make them ready for adopting tourism industry jobs and providing more stable services for them.

According to the results, the booming tourism economy is the most impressionable component and the main issue. Also, this component has more interaction with other factors and, therefore, is the most significant one. In addition, social capital promotion and behavioral tendencies improvement of tourists are also the main components to solve the problem of the booming tourism economy, which should be prioritized. In this regard, it can be noted that the payments that tourists make for hotels, restaurants, and other goods and services directly affect the economy of the host society (O'Brien & Chalip, 2007: 318). Krisjanous, & Maude (2014) also emphasized partnerships between service providers and customers for greater profits (Krisjanous & Maude, 2014). Furthermore, the presence of tourists also leads to the development of tourism infrastructures and the improvement of facilities. This issue further leads to the optimal use of the benefits of tourism, along with higher benefits to the host community, which yields the return of tourists and prevents youth migration.

Furthermore, the results showed that cultural promotion has less interaction with other factors and is less important, while positive cultural exchanges and the promotion of traditional culture and customs in various fields - can bring positive social effects for the country.

The findings of the present research can be used by planners, marketers and employees of tourism agencies in order to attract, retain and build customer loyalty, and decision makers can use the localized results for Iranian tourists. Based on the results, officials and decision-making organizations need to focus on identified and effective components. Therefore, it is suggested to the officials and managers of the tourism industry and sports managers, to realize the foundations and fields of development of sports tourism by using the elements identified in the antecedents and consequences of experience co-creation. For example, the participation of tourists with special individual capabilities, with travel experience and with higher levels of loyalty and with the desire to provide feedback should be used for service development. The organizations active in the tourism industry can also take advantage of the findings of the present study by creating information bases and communication channels on the Internet and social networks to encourage tourists to participate in providing decisions and in the interests of the company by establishing interactions and sharing their information and experiences with tourists. Moreover, they can utilize this participation to receive the necessary feedback from tourists and take corrective measurements. In the present study, the positive consequences of experience co-creation in sports tourism were investigated. In future studies, it is suggested to examine the negative consequences. Given that the current study is limited to sports tourism; it is also suggested to investigate the co-creative elements and their consequences in other industries. Finally, since the DEMATEL technique cannot rank the effective categories, future researchers are recommended to rank the identified categories. Finally, the insufficiency of studies in the field, along with a lack of cooperation from the experts, should be pointed out as the most important limitations of the present study.

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