Scientific Tourism Development: An Interpretative Structural Model for Iran's Higher Education Landscape

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Abstract

The current research was conducted with the aim of providing a model of factors affecting the development of scientific tourism in Iran's higher education system. The research method was a modeling case study. The statistical population of the research was the experts familiar with the field of scientific tourism, including the faculty members of Iranian universities, who were selected by purposive sampling of 37 people. The data collection tools included documents, interviews, and researcher-made questionnaires, and the interpretive structural modeling technique was used to analyze the data. In the first step, the factors affecting scientific tourism in higher education were extracted by reviewing the research literature using a systematic review method and also through interviews with experts and using the elicitation approach; and in the second step, using the 6-step Structural-interpretive modeling, the intended model was extracted. The obtained results showed that the 9 main factors affecting the formation of higher education tourism in Iran in influence order are: dynamic political exchanges with the world at the national level, the existence of macro-national policies in the field of academic interaction, facilitating the admission process in the political and administrative dimensions, the existence of economic and technical infrastructures for foreign students, the international language level of faculty and staff members and the structure of dynamic and accepting higher education, the existence of a sense of security in the social, security and political dimensions for foreign students and brand-making factors of universities, and presenting historical, cultural and religious attractions to the world.

Extended abstract

Introduction

The field of tourism, like other scientific fields, is becoming more dynamic day by day, and its form is changing in such a way that the concepts and forms of tourism have changed significantly compared to previous decades (Raikkonen et al, 2023). In fact, the view of tourism has shifted from paying attention to its economic consequences as a scientific and cultural opportunity (Parvin et al, 2021). One of these areas that have received serious attention in recent years is scientific tourism. For this reason, some experts consider scientific tourism as an alternative to other types of tourism (Buzindee et al, 2020). Therefore, considering that scientific tourism has significant benefits for both individuals and social institutions, including universities, in the cultural and economic fields; many governments are trying to attract foreign students, student-teacher exchanges, and international interactions. The upstream documents also show that the issue of attracting foreign students and exchange of professors and students as a policy are accepted by the higher education system. Based on this, the current research seeks to answer the question: how is the structural-interpretive model of factors affecting the formation of scientific tourism in higher education leveled?

Theoretical framework

From the perspective of formal and informal learning, tourists participate in a wide range of activities that might be generally considered from two aspects of active and passive learning environments (Gossling, 2018). McKercher, reviewing the fields of tourism, has presented them in adventure tourism, agricultural tourism, attraction tourism, battlefield tourism, business tourism, culinary tourism, cultural tourism, educational tourism, event tourism, marine tourism, Medical tourism, nature-based tourism, recreational tourism, sexual tourism, sports tourism, urban tourism, and wellness tourism. However, in all types of tourism, learning and acquiring knowledge; whether formally or informally, is prominent. McKercher points out that in all the mentioned types of tourism, "personal search" contains a learning aspect that includes aspects of cultural exchange, something that is directly related to learning (McKercher, 2016). Learning is the process of acquiring knowledge or skills, either through active processes such as study or practice, or through passive processes such as experience or comparison. Based on this, what is raised in the tourism process is mostly passive or implicit learning (Navio-Marco et al, 2022). In fact, learning from experiences is an important outcome of tourism that has been considered by the authors. However, learning in tourism can be both formal and informal, but what is important is that it is now widely accepted that learning goes beyond formal education, and learning that occurs in less structured contexts such as tourism might, at the same extent, have an important contribution to the growth of people (Falk et al, 2012; Gossling, 2018; Mansoori et al, 2018). In fact, the complexity and importance of scientific tourism is due to the fact that the knowledge gained during the trip, its impact on personal values, consumption norms and its consequences for the stability of the life style after returning home can be stable. Tourists should learn about sustainability, i.e., aspects of ecosystem functioning, climate change, resource scarcity, and the consequences of the global economic system to use sustainable resources (Gossling, 2018). This concept is known as implicit curriculum in the field of education. Specialists in this field believe that informal learning that a person acquires through observation and in an informal educational structure and outside of the direct educational content can have a deeper impact on the learner (Mansoori et al., 2018). With this view, a wide range of authors have come to the conclusion that learning is an essential aspect of tourism and can bring positive and significant learning results (Ballantyne et al, 2011; Lemelin et al, 2013).

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Methodology

The current research is both fundamental and applicable in terms of its purpose; and in terms of approach, it is in the category of mixed (qualitative-quantitative) research; and in terms of methodology, it is of the modeling. The potential participants of the research included the faculty members of Iranian universities, among whom 37 people were selected purposefully the type of desirable cases. Finding the participants was through the snowball method. The reason for choosing the sampling method was that the researcher was looking for the most favorable sample for collecting information. The research tool was the self-interactive questionnaire (ISM). In order to build and validate the tool, in the first step, through the review of research documents and literature as well as interviews with experts, the factors affecting scientific tourism in Iran's higher education system were extracted, then by combining and putting the factors together and removing duplicate factors, the final factors were extracted. In order to validate the final factors, the Lawshe content validity index was used. For this purpose, experts were asked to determine the degree of comprehensiveness and hindrance of the final factors based on the extracted factors. The CVR value was 94%, which showed the high reliability of the tool. Also, the interpretive structural modeling technique was used to analyze and present the model of factors affecting scientific tourism in Iran's higher education system. The steps of structural modeling analysis are as follows: In the first step, the structural self-interaction matrix (SSIM) is formed, which means that the identified factors enter the structural self-interaction matrix. In this matrix, if the element of row I leads to column J, letter V; If the element of column J leads to row I, the letter A is placed, and if this relationship is two-way, the letter X is placed, and if there is no relationship, the letter O is placed. Because in this research, several experts were used to fill out the questionnaires, the mode method based on the maximum frequency in each region has been used to form the structural self-interaction matrix. In the second step, the primary availability matrix (RM) is formed. This matrix is formed by changing the relationship symbols of the SSIM matrix to 0 and 1, so that instead of (i,j=1, j,i=0) V; and instead of (i,j=0, j,i=1) A; and instead of (i,j,j,i=1) X;and instead of (i,j,j,i=0) O is placed. In the third step, the final achievement matrix is formed; after the initial acquisition matrix is obtained, its internal consistency must be established. For example, if factor 1 leads to factor 2 and factor 2 leads to factor 3, then factor 1 should also lead to factor 3, and if this state was not established in the achievement matrix, the matrix should be modified and the relationships that were missed be replaced In the fourth step, the level and priority of the variables are determined. In the fifth step, the interpretive structural model is drawn; in other words, the model is drawn based on the determined levels and the final achievement matrix; and in the sixth step, the MICMAC diagram is provided.

Discussion and Results

In order to answer the question; what the factors influencing scientific tourism in Iran's higher education system are, by reviewing the research literature as well as interviewing experts, and combining the extracted codes; 9 final factors were extracted as factors and indicators affecting scientific tourism in the higher education system, as follows: international language level of Faculty members and staff of universities and international curricula, being a brand of the university, introducing and presenting historical, religious and cultural attractions to the world, the existence of economic infrastructure for foreign students, facilitating the admission process in political and administrative dimensions, the existence of macro-national policy making in the field of academic interaction, the structure of dynamic and accepting higher education, and the existence of a sense of security in social, security and political dimensions for foreign students. Also, the results of the research showed that among these factors,

respectively according to influence; dynamic political exchanges with the world at the national level as the seventh level (the most basic factor), the existence of macro-national policies in the field of academic interaction at the sixth level, facilitating the admission process in political and administrative dimensions at the fifth level, the existence of economic and technical infrastructures for foreign students at the fourth level, international language level of faculty members and staff and the structure of dynamic and receptive higher education at the third level, the existence of a sense of security in the social, security and political dimensions for foreign students in the second level, and the factors of being a brand of universities and introducing and presenting historical, cultural and religious attractions to the world in the first level of the model are effective on the formation of scientific tourism in education.

Conclusion

The results of the literature review and polling of experts showed that factors such as strong and dynamic political exchanges with the world, international language level of faculty members and university staff and international curricula, the brand of the university, introduction and presentation of historical, religious and cultural attractions to the world, the existence of economic infrastructure for foreign students, the facilitation of the admission process in political and administrative dimensions, the existence of macro-national policies in the field of university interaction, the structure of dynamic and receptive higher education, the existence of a feeling security in social, security and political dimensions for foreign students are considered as the main factors affecting the formation of scientific tourism in Iran's higher education. The results of the research are in line with the results by Parvin et al. (2021), Fathi Vajargah et al. (2021), mehravar et al. (2022), Barahouei & Bagherimajd, (2020), Poursaeed et al, (2019), Khorasani & Zamani Manesh (2012). The research results show that the factors affecting scientific tourism might be a wide range of extra-university factors such as political, economic and cultural issues outside the university, meanwhile university structures and university policy-making procedures play a significant role. Based on this, considering that the results showed that the most basic factors affecting scientific tourism in higher education are related to the macro level, therefore, it is recommended to develop a strategic policy program at the national level to attract international students. Also, considering that a significant part of the factors affecting scientific tourism is related to cultural and political issues, it is expected that the interaction between the International Affairs Office of the Ministry of Science and Universities and the Ministries of Cultural Heritage, Tourism and Handicraft Industries increase for the purpose of national agreements.

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