Assessment of innovative strategies to improve the tourism sector in Iran

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Abstract
In the present study, an expert empirical analysis was carried out to assess the innovative strategies to improve the employment rate in the tourism small- and medium-sized enterprises (SMEs) of Iran. The methodology of this paper was extended based on two qualitative and quantitative techniques, namely strengths, weaknesses, opportunities, and threats and quantitative strategic planning matrix. Within this context, three strategies were chosen based on the sum of total attractiveness scores to increase more creation of new jobs and employment positions in tourism SMEs. Two aggressive and competitive strategies were entitled as ‘developing financial support to create the new job and employment positions using tourist’s finances’ and ‘defining smart skills and technologies to improve tourism SMEs toward the pandemic impacts’ in addition to a conservative strategy of ‘providing training support and education technology in the tourism SMEs. Results revealed that the contribution of total direct (indirect) employment to gross domestic product could be anticipated to equal 5.34% (14.86%) in the status quo (2020) by an enhanced rate of 1.97 (2.09) times compared with 2015. Ultimately, technological approaches were described under the innovative strategies to enhance new jobs and employment creation in the tourism SMEs of Iran.

Keywords Tourism sector · Innovative strategies · Quantitative strategic planning matrix (QSPM) · Small- and medium-sized enterprises (SMEs)

Abbreviations
SO Aggressive strategy of strength-opportunity

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Introduction

This study examines the improving effect of innovative strategies in the employment of tourism small- and medium-sized enterprises (SMEs) in a non-western country. Innovations are typically new combinations of existing and novel components, products, and services, produced by multiple organizations (Iansiti and Levien 2004; Visscher et al. 2021). Innovative approaches can be directly or indirectly coupled to the processes of the actors in each SME aligned with the technological perspective (Hekkert et al. 2007; Musiolik et al. 2012; Adner 2017). Technology as part of innovation (Brown and Mason 2014; Carayannis et al. 2018) introduces transformational changes influencing business and economic growth through the diffusion of concepts like the Internet of Things (IoT), artificial intelligence, and digital transformation (Amitrano et al. 2018).

Based on previous studies (e.g., Amitrano et al. 2018), technology has been an important impact on innovative strategies for the growth of tourism SMEs. While innovation can generate economic efficiency, understanding of the nature and impact of firm-level innovation is very little in the non-western developing world (Cirera and Sabetti 2016). For instance, the innovation level of the economy in Iran, influenced by political and economic limitations, is low. Hence, all economic sectors in Iran, such as the tourism sector and its related business and entrepreneurial environment, lack digitization and technological innovation in managing and planning the developing programs. Besides, determining innovative strategies in the literature dominantly depends on hub firms or platform providers (e.g., Dhanaraj and Parkhe 2006; Gaver and Cusumano 2014).

Studies including perspectives on the strategies of SMEs or peripheral companies are still rare (Radziwon and Bogers 2019; Visscher et al. 2021). For example, levels of innovation and digitalization used by tourism SMEs remain stubbornly low (Alford and Jones 2020), and empirical research on innovation and SMEs’
performance in tourism remains limited (Gomezelj 2016; Lee et al. 2016; Rios and Ciobanu 2019). SMEs can be contributed to innovation in tourism (Thomas et al. 2011) due to their swift ability to respond to innovation opportunities and changes in tourism markets (Christensen and Overdorf 2000; Bunnell and Coe 2001; Nguyen et al. 2021). Hence, understanding well-organized innovative strategies for tourism SMEs to achieve superior performance is of substantial interest to firm studies (Kallmuenzer and Grissemann 2017).

Given these arguments, this study addresses the following overarching question: how do we retain innovative strategies of tourism SMEs in Iran? An investigation is constructed based on an expert analysis of strengths, weaknesses, opportunities, and threats (SWOT) and a quantitative strategic planning matrix (QSPM) to achieve the key and logical strategies versus the research question. Data analysis is conducted based on a comprehensive method using the aggregating attitude of SMEs in the tourism sector in Iran, three-time intervals of 2005, 2010, and 2015, and the quantitative combination of the SWOT–QSPM procedure.

This paper aims to determine innovative strategies for tourism SMEs under the shed of technological recommendations in the tourism sector of Iran. The paper first examines the actual statistics of the direct and indirect job creation and employment contributed to tourism SMEs in three periods and then identifies the main strengths, weaknesses, opportunities, and threats of tourism SMEs at the country level over the time intervals. Developing key strategies to improve the tourism SMEs in Iran is then produced using expert and empirical analyses. Finally, the prospect of tourism development in Iran is anticipated for the status quo. In this regard, some aggressive and competitive strategies will suggest based on the sum of total attractiveness scores to increase new jobs and employment positions in tourism SMEs of Iran.

The present paper is structured as follows: In the section “Introduction”, the general topic of the innovation and tourism SMEs, the research gap in Iran, the research question, aim, and anticipations are described. In the section “Literature review”, a brief description of the research background is presented concerning the integration of innovative technology in the tourism sector to explicit the research gap. In the section “Methodology”, data collection in the study area is described in addition to research context and data analysis using quantitative procedures of SWOT and QSPM. In the section “Results and interpretations”, the survey on tourism contribution to jobs and employees and developing key strategies are interpreted to support tourism SMEs through financial, training, and smart skills. In the section “Discussion and implication”, the prospect of tourism development in Iran and its academic and managerial implications are developed. In the last section of the “Conclusion”, summarized parts are developed for research findings, limitations, and recommendations aiding the tourism sector with innovative strategies.

**Literature review**

The tourism sector, as a multi-billion-dollar industry generating 10% of global GDP (Lane 2018), has made governments and private SMEs for supplying their capacities (Norouzi Isfahani et al. 2021). Owing to new problems such as the Covid-19...
pandemic and its bidirectional causality with tourism (Shahzad et al. 2022), this sector requires novel platforms to enhance its sustainable experiences in the future years (Milwood and Maxwell 2020). This prospect can be obtained using digitalization and innovation processes to define sustainable tourism (Del Vecchio et al. 2018). Innovation is the motor of evolution for the tourism sector by extending high-level infrastructures and technologies (Filipiak et al. 2020) and promoting processes of social sustainability (Kryzhanovskij et al. 2021).

The integration of technologies in innovation is delineated as an element that influences relationships among the different actors and innovation development in a given sector (Adner and Kapoor 2010; Amitrano et al. 2018). Nowadays, the emergence of innovative approaches in the tourism sector introduces new insights into the dialectic between digital technologies and innovation through the lens of sustainable tourism (Baidal et al. 2021). For instance, digital technologies have enabled innovative strategies, services, platforms, and infrastructures (Tiwana et al. 2010; Aldrich, 2014; Lytyinen et al. 2016; Von Briel et al. 2018; Kuester et al. 2018; Elia et al. 2020). The tourism industry and its SMEs should increase productivity and gain market power. Restructuring and cooperation mechanisms help enterprises to adapt to changes and increase their competitiveness.

The literature demonstrates the significant impact on the development of the country’s tourism sector (Filipiak et al. 2020) by creating new opportunities for enterprises and new service qualities for customers (Ngoc Thuy and Phuong Thao 2019). However, the adaptation of the tourism SMEs with innovative technologies seems to be not enough (Alford and Jones 2020). In his regard, several studies have called for more research regarding the role of innovation and smart technologies into support the tourism sector (e.g., Marques and Borba 2017; Pencarelli 2020; Pencarelli et al. 2020). Although supporting new forms of collaboration and value creation through smart tourism (Gretzel et al. 2015) most SMEs do not know what information technology and smart skills can be useful to protect the firms from global challenges.

Methodology

Data collection in the study area

Based on the global statistics of travel, tourism, and hospitality (Statista 2022), the total contribution of travel and tourism to GDP across Middle Eastern countries is estimated from 239 to 486 (in billion U.S. dollars) within 2018–2028. Meanwhile, the share of tourism to GDP in Iran is estimated from 25 to 45 (in billion U.S. dollars) within 2018–2028, which is about 10% of the aforementioned contribution in the Middle East region. According to the international tourism arrivals data, archived by World development indicators (World Bank 2021), total tourism arrivals were recorded as equal to 170.6 (in millions) for 25 Middle Eastern countries in 2018, which includes about 7.3% of total tourism arrivals in the World (Fig. 1). The most tourists have recorded for Turkiye, UAE, Saudi Arabia, and Bahrain with 46.1 (27.0% of the Middle East), 23.1 (13.5%), 17.6 (10.3%),
and 12.0 (7.1%), respectively. Although Iran contributes 10% of the travel and tourism GDP in the Middle East its tourism arrivals are about 7.3 million (only 4.3% of the Middle East). According to the world tourism organization (WTO 2011), Iran is considered among the top ten tourist-attracting countries, offering various historical and cultural attractions (Ghorbanzadeh et al. 2019). Although this rank in tourism capacities, especially in terms of historical, cultural, and natural diversities of attractions (Nasehi et al. 2017) the country has not yet a sustainable situation to facilitate tourism traveling and marketing. These facts reveal

![Fig. 1 Total tourism arrivals for 25 Middle Eastern countries, including Iran, in 2018 (derived from World Bank 2021)](image-url)
that the tourism infrastructure and business econometrics in Iran are very weak and this country needs more research in this regard.

Tourism marketing in Iran depends on tourism’s immediate needs, such as small lodging establishments, guesthouses, homestay facilities, restaurants and food stands, travel agencies, and local tour operations and guiding services, categorized as tourism SMEs. In addition, there is a range of other direct activities, including cottage industry activities covering the production of handicrafts such as decorations, art, and carpets, and local transportation services such as hire car and minibus facilities. SMEs in developing countries could be considered job creators, social stabilizers, and sources of innovation (Kuwayama et al. 2005). Technological infrastructure provides SMEs with practical tools to use with appropriate government policy measures (Kuwayama et al. 2005). Tourism SMEs have played an essential role in the sub-rural and small-city economies of Iran. Based on the definition of Iranian small industries and industrial parks organization (ISIPO 2020), SMEs are enterprises with less than 149 employees. They are also considered small-sized enterprises with a threshold of 10 family employees at local levels (Khatami et al. 2020).

With the emphasis of government policy on strengthening the market economy by giving the private sector a more significant role in delivering goods and services, the tourism sector represents significant opportunities, especially in SMEs. According to the statistical center of Iran (SCI 2018), Table 1 gives the inventory list of SMEs from 2005 to 2015. Furthermore, country-level data of the tourism sector in Iran (2005–2015) were gathered from some global datasets, including the World development indicators of the World Bank (2021), the global decision-making informatics of the World Data Atlas (WDA 2021) in the Knoema database, and the World Data Information (World Data 2021) hosted by the European directives and regulations.

## Data analysis using SWOT and QSPM procedures

A SWOT analysis (e.g., strengths, weaknesses, opportunities, and threats) is a matrix to identify the priorities of the strategies in a given subject (Buta 2007) and includes two matrixes of internal factors (strength-weakness) and external factors (opportunity-threat) (Harfst et al. 2010). Normalized importance values are given for factors as weighting values (0–1), and the status quo is ranged from 1 (lowest) to 4 (highest) for each factor. The factor scores are obtained by multiplying weighting values in the status quo (Yazd et al. 2019), which are summed to reveal the ascendancy

| Type of SMEs        | 2005 | 2010 | 2015 |
|---------------------|------|------|------|
| Guesthouses         | 652  | 864  | 1846 |
| Travel operations   | 536  | 1030 | 1265 |
| Tourist restaurants | 1305 | 1803 | 2915 |
| Total               | 2493 | 3697 | 6026 |
of weaknesses (threats) or strengths (opportunities) in the status quo (Bohari et al. 2013). Four types of strategies, e.g., the aggressive strategy of strength-opportunity (SO), the defensive strategy of weakness-threat (WT), the competitive strategy of strength-threat (ST), and the conservative strategy of weakness-opportunity (WO), are produced by considering the interactions between strength, weakness, opportunity, and threat factors (Ghorbani et al. 2015). Ultimately, all produced strategies are evaluated based on internal and external factors and their weighting values in a quantitative matrix of QSPM. The attractiveness scores (AS) are determined based on the improvement factors in light of the research target, ranging between 1 (low) and 4 (high). Ultimately, a total attractiveness score (TAS) is produced for each strategy by multiplying the AS by weighing values, which their summing value (STAS) is a rule to prioritize all strategies in the shed of the research target (Ommani 2011; Yazd et al. 2019).

### Results and interpretations

### Results derived from the tables

#### Survey of tourism contribution to jobs in the SMEs

The corresponding number of direct jobs (employment positions) corresponding to the total SMEs and additional indirect jobs are given in Tables 2 and 3. Based on the employment multiplier identified above, it is observed that in 2005, the 9,410 direct jobs supported 19,761 jobs indirectly in other industries. Similarly, about 20,525 and 30,724 direct touristic jobs of the SMEs in 2010 and 2015 have supported about 43,100 and 64,520 additional indirect jobs. The direct and indirect jobs of tourism SMEs in Iran have increased by 3.3 times from 2005 to 2015. Over the whole study

| Type of SMEs     | 2005  | 2010  | 2015  |
|------------------|-------|-------|-------|
| Guesthouses      | 1906  | 1957  | 4180  |
| Travel operations| 2145  | 5306  | 7586  |
| Tourist restaurants | 5359  | 13,261| 18,958|
| Total            | 9410  | 20,525| 30,724|

| Type of SMEs     | 2005  | 2010  | 2015  |
|------------------|-------|-------|-------|
| Guesthouses      | 4003  | 4110  | 8778  |
| Travel operations| 4505  | 11,143| 15,931|
| Tourist restaurants | 11,254| 27,848| 39,812|
| Total            | 19,761| 43,100| 64,520|
period, creating 60,659 direct jobs in the guesthouse, travel operations, tourist restaurants, and tour guides has generated an additional 127,382 indirect jobs.

Data from the input–output analysis of the effects of tourism expenditure on the job suppliers suggests that for every direct job generated for the tourism SMEs in Iran, about 2.1 jobs can be generated indirectly in other sectors of the economy (SCI 2018). This estimated multiplier is quite favorable considering the relatively weak backward and forward linkages between the tourism industry and other industries in Iran. With innovative strategies to strengthen these linkages, the employment multiplier may significantly increase the higher levels. Nevertheless, the provisional employment multiplier of 2.1 is a reasonably conservative basis for assessing the overall size of the employment opportunities in the SMEs derived from the implementation of the research in future times.

Survey of tourism contribution to employees in the SMEs

According to the global datasets, some effective factors of tourism research were estimated, such as the direct (indirect) contribution of travel and tourism to employment, travel and tourism’s direct (indirect) contribution to national gross domestic product (GDP), and average rate of employees in each job of SMEs (Tables 4, 5). On this basis, direct (indirect) contribution of travel and tourism to employment have been recorded equal 340,000 (1,050,000) employees in 2005 and have been accelerated to 400,000 (1,110,000) in 2010 and 480,000 (1,390,000) employees in 2015. The direct and indirect employees of tourism SMEs in Iran have increased by 1.4 (1.3) times from 2005 to 2015, which seems less than the increasing trend of jobs in the SMEs. Despite the slow growth of the direct (indirect) contribution of tourism to GDP from 1.94% (5.8%) to 2.71% (7.1%) during 2005–2015, the mean number of employees have been decreased from 36 (53) to 16 (22) persons for direct (indirect) jobs.

| Table 4 | Direct contribution of travel and tourism to employment in tourism SMEs (2005–2015) |
|---------|-----------------------------------------------------------------------------------|
| Variable | 2005 | 2010 | 2015 |
| Total direct jobs | 9410 | 20,525 | 30,724 |
| Total direct employees | 340,000 | 400,000 | 480,000 |
| Contribution to GDP (%) | 1.94 | 1.99 | 2.71 |
| Rate of employee per job | 36 | 19 | 16 |

| Table 5 | Indirect contribution of travel and tourism to employment in tourism SMEs (2005–2015) |
|---------|-----------------------------------------------------------------------------------|
| Variable | 2005 | 2010 | 2015 |
| Total indirect jobs | 19,761 | 43,100 | 64,520 |
| Total indirect employees | 1,050,000 | 1,110,000 | 1,390,000 |
| Contribution to GDP (%) | 5.8 | 5.6 | 7.1 |
| Rate of employee per job | 53 | 26 | 22 |
The estimated changes of the tourism SMEs in Iran, described in the above-mentioned sections, revealed an influential role of a possible barrier and the tourism SMEs’ employment in Iran. Table 6 shows the decreasing trend of innovation and high-tech export in Iran from 2005 (26.3%) to 2015 (22.5%) by a reduction rate of 0.85. However, the number of tourist arrivals and tourism contribution to gross national product (GNP) has increased from 2005 (1,890,000 tourists—0.45%) to 2015 (5,240,000 tourists—1.20%) by an enhanced rate of 2.77 and 2.66. According to the literature, less technological innovation can decrease the employment rate in each SME. Technological innovation can imply the emergence of new firms and new jobs (Virvarelli 2015). Research using a dynamic employment model on manufacturing firms revealed a positive impact of various innovation variables on labor demand (Lachenmaier and Rottmann 2011). Innovation and employment are correlated positively and significantly in economic sectors relating to high-tech requirements (Buerger et al. 2012). Thus, technological attitudes in tourism SMEs of Iran are not employment-friendly and the opportunities and threats should be assessed toward improving job and employment positions in tourism SMEs of Iran.

**Evaluation of internal and external factors in tourism SMEs**

For this purpose, external (opportunities and threats) and internal (strengths and weaknesses) factors were evaluated in the shape of internal and external factors matrixes, influencing the tourism SMEs in Iran (Tables 7, 8). About 3 strengths and 3 weaknesses are surveyed in Table 7 to evaluate internal factors with total weights and scores for strength (weakness) factors equal to 0.55 (1.10) and 0.45 (0.85), indicating the influential role of strength factors compared with the weakness factors in the tourism SMEs of Iran. Based on the weighted scores of factors in the internal matrix, the highest strengths (0.50) and weaknesses (0.45) were shown as ‘S2: the increasing trend of job creation rate in tourism SMEs by 3.3 times in 2005–2015’ and ‘W2: lack of skills in the field of information and communication technologies (ICT)’.

Furthermore, about 3 opportunities and 3 threats are surveyed in Table 8 to evaluate external factors with total weights and scores for opportunities (threats) factors equal to 0.55 (1.40) and 0.45 (1.20), indicating the influential role of opportunity factors compared with the threat factors in the tourism SMEs of Iran. Based on the weighted scores of factors in the external matrix, the highest opportunities and threats were shown as ‘O3: an increasing amount of tourism receipts in the economy equal to 4.77 billion USD (United States Dollar) in 2015’ and ‘T1: worldwide

| Table 6 | Tourism-related indicators of the economy in Iran (2005–2015) |
|---------|---------------------------------|
| Indicator | 2005     | 2010     | 2015     |
| Number of tourists | 1,890,000 | 2,940,000 | 5,240,000 |
| The income per tourist ($) | 543   | 896     | 911     |
| Overall contribution to GNP (%) | 0.45  | 0.54    | 1.20    |
| High-tech exports (%) | 26.3  | 23.9    | 22.5    |
| No | Internal factors                                                                 | Weight | Status quo value | Score |
|----|-----------------------------------------------------------------------------------|--------|------------------|-------|
| 1  | S₁, The increasing number of total types of tourism SMEs by 2.4 times (2005–2015) | 0.15   | 3.0              | 0.45  |
| 2  | S₂, The increasing trend of job creation rate in tourism SMEs by 3.3 times (2005–2015) | 0.25   | 2.0              | 0.50  |
| 3  | S₃, Production of 2.1 indirect jobs toward each direct job in tourism SMEs         | 0.15   | 1.0              | 0.15  |
|    | Sum                                                                               | 0.55   |                  | 1.10  |
| 2  | W₁, Lack of smart management and digitization of tourism SMEs in Iran             | 0.10   | 2.0              | 0.20  |
| 3  | W₂, Lack of skills in the field of information and communication technologies (ICT) | 0.15   | 3.0              | 0.45  |
| 4  | W₃, Decreasing rate of direct employment per job in SMEs from 36 to 16 (2005–2015) | 0.20   | 1.0              | 0.20  |
|    | Sum                                                                               | 0.45   |                  | 0.85  |
|    | Total sum                                                                         | 1.00   |                  | 1.95  |
| No | External factors                                                                 | Weight | Status quo value | Score  |
|----|-----------------------------------------------------------------------------------|--------|------------------|--------|
| 1  | O₁, The increasing number of tourist arrivals from 1.89 m to 5.24 m in 2005–2015 | 0.10   | 2.0              | 0.20   |
| 2  | O₂, Enhancing the contribution of the tourism sector to GNP from 0.45% to 1.20% (2005–2015) | 0.15   | 2.0              | 0.30   |
| 3  | O₃, The increasing amount of tourism receipts in the economy equal to 4.77 billion USD in 2015 Sum | 0.30   | 3.0              | 0.90   |
|    | Sum                                                                              | 0.55   |                  | 1.40   |

**Opportunities**

**Threats**

| No | External factors                                                                 | Weight | Status quo value | Score  |
|----|-----------------------------------------------------------------------------------|--------|------------------|--------|
| 1  | T₁, Worldwide Covid-19 pandemic’s effects on tourism stagnation                   | 0.20   | 4.0              | 0.80   |
| 2  | T₂, Investment risks in the tourism sector of Iran due to international sanctions | 0.15   | 2.0              | 0.30   |
| 3  | T₃, Low level of high technology in the economic sectors of Iran                  | 0.10   | 1.0              | 0.10   |
|    | Sum                                                                              | 0.45   |                  | 1.20   |
|    | Total sum                                                                        | 1.00   |                  | 2.60   |
Covid-19 pandemic’s effects on tourism stagnation’. The total final score of the internal (external) factor’s matrixes was calculated as 1.95 (2.60), indicating the successful role of external opportunities in enhancing job and employment rates in tourism SMEs.

**Developing key strategies for tourism SMEs**

According to the interactions between internal and external features, under the shed of four categories of strategies, ten key strategies were determined for the paper topic in the study area in Table 9. Aggressive strategies (SO) are proposed to develop the strength such as ‘S1: the increasing number of total types of tourism SMEs by 2.4 times in 2005–2015’ to achieve the more opportunity such as ‘O1: the increasing number of tourist arrivals from 1.89 m to 5.24 m in 2005–2015’. Competitive strategies (ST) are identified to reduce threat factors such as ‘T1: worldwide Covid-19 pandemic’s effects on tourism stagnation’. Conservative strategies (WO) are identified to overcome weaknesses such as ‘W1: lack of smart management and digitization of tourism SMEs in Iran’. Ultimately, defensive strategies (WT) are proposed to make a defensive plan and prevent external threats.

On this basis, two main aggressive strategies were produced as ‘SO1: developing financial support to create new job and employment positions using tourist’s finances’ and ‘SO2: developing indirect employments in the fields of the digital ecosystem and smart tourism’. Two main conservative strategies were produced as ‘WO1: Providing training support and education technology in the tourism SMEs’ and ‘WO2: Transferring the traditional managing of SMEs into the innovative management level’. Therefore, two competitive and defensive strategies were suggested as ‘ST1: defining smart skills and technologies to improve tourism SMEs toward the pandemic impacts’ and ‘WT1: providing digital institutions to protect tourism SMEs under the economic limitation’.

Finally, the QSPM analysis is produced in Table 10 to prioritize the key strategies. The STAS values for six key strategies were calculated as 4.50, 4.35, 3.65, 3.60, 3.40, and 3.10 for strategies of SO1, ST1, WO1, SO2, WT1, and WO2, respectively (Fig. 2). The essential key strategies were chosen as ‘SO1: developing financial support to create new job and employment positions using tourist’s finances’, ST1: defining smart skills and technologies to improve tourism SMEs toward the pandemic impacts’, and ‘WO1: providing training support and education technology in the tourism SMEs’.

**Interpretations**

**Developing financial support to create new jobs and employment positions using tourist’s finances**

In a market economy, private financial stockholders tend to avoid supporting smaller projects of SMEs, where it is difficult for them to assess risk or add loading for unknown risk. Hence, a governmental program should provide equity
### Table 9: Developing key strategies

| Opportunities (O) | Aggressive SO strategies | Conservative WO strategies |
|-------------------|--------------------------|---------------------------|
| SO₁                | Developing financial support to create new job and employment positions using tourist’s finances | WO₁ Providing training support and education technology in the tourism SMEs |
| SO₂                | Developing indirect employments in the fields of the digital ecosystem and smart tourism | WO₂ Transferring the traditional management of SMEs into innovative management level |

| Threats (T)        | Competitive ST strategies | Defensive WT strategies |
|--------------------|----------------------------|-------------------------|
| ST₁                | Defining smart skills and technologies to improve tourism SMEs toward the pandemic impacts | WT₁ Providing digital institutions to protect tourism SMEs under the economic limitation |
### Table 10 QSPM analysis of key strategies

| Factor | Weighting value | \( SO_1 \) | \( SO_2 \) | \( WO_1 \) | \( WO_2 \) | \( ST_1 \) | \( WT_1 \) |
|--------|----------------|-----------|-----------|-----------|-----------|-----------|-----------|
|        |                | AS | TAS | AS | TAS | AS | TAS | AS | TAS | AS | TAS | AS | TAS |
| \( S_1 \) | 0.15           | 4  | 0.6 | 1  | 0.15 | 1  | 0.15 | 1  | 0.15 | 1  | 0.15 | 2  | 0.3 |
| \( S_2 \) | 0.25           | 3  | 0.75 | 1  | 0.25 | 2  | 0.5  | 2  | 0.5  | 2  | 0.5  | 1  | 0.25 |
| \( S_3 \) | 0.15           | 1  | 0.15 | 3  | 0.45 | 1  | 0.15 | 1  | 0.15 | 3  | 0.45 | 1  | 0.15 |
| \( W_1 \) | 0.10           | 1  | 0.1  | 3  | 0.3  | 2  | 0.2  | 2  | 0.2  | 2  | 0.2  | 3  | 0.3 |
| \( W_2 \) | 0.15           | 1  | 0.15 | 2  | 0.3  | 4  | 0.6  | 3  | 0.45 | 3  | 0.45 | 1  | 0.15 |
| \( W_3 \) | 0.20           | 2  | 0.4  | 2  | 0.4  | 1  | 0.2  | 1  | 0.2  | 2  | 0.4  | 4  | 0.4 |
| \( O_1 \) | 0.10           | 4  | 0.4  | 1  | 0.1  | 1  | 0.1  | 1  | 0.1  | 1  | 0.1  | 1  | 0.1 |
| \( O_2 \) | 0.15           | 3  | 0.45 | 2  | 0.3  | 2  | 0.3  | 1  | 0.15 | 3  | 0.3  | 2  | 0.3 |
| \( O_3 \) | 0.30           | 3  | 0.9  | 2  | 0.6  | 1  | 0.3  | 1  | 0.3  | 3  | 0.3  | 2  | 0.6 |
| \( T_1 \) | 0.20           | 1  | 0.2  | 2  | 0.4  | 3  | 0.6  | 2  | 0.4  | 4  | 0.8  | 1  | 0.2 |
| \( T_2 \) | 0.15           | 2  | 0.3  | 1  | 0.15 | 1  | 0.15 | 2  | 0.3  | 2  | 0.3  | 3  | 0.45 |
| \( T_3 \) | 0.10           | 1  | 0.1  | 2  | 0.2  | 4  | 0.4  | 2  | 0.2  | 4  | 0.4  | 2  | 0.2 |
| STAS    | –              | 4.5 | 3.6  | 3.65 | 3.1  | 4.35 | 3.4  |
| Priority | –              | 1   | 4    | 3    | 6    | 2    | 5    |

![Fig. 2](image-url) A wind-rose diagram for the key strategies
and low-interest loans for tourism SMEs. Although the government would face the same costs in risk assessment as private sector institutions by adopting this approach, one way to reduce the risk would be to link the financial support strategy to the training strategies. However, innovative financial support is costly (Hall and Williams 2019), particularly for tourism SMEs with limited financial resources (Motta and Sharma 2020). Therefore, financial support is proposed as a facilitator that encourages and supports innovation in tourism (Mei et al. 2015). Tourism SMEs may obtain additional financing through government financial support such as grants, subsidies, and tax incentives, or private financings such as debts or bank loans (Serrasqueiro and Nunes 2014; Nguyen et al. 2021).

**Defining smart skills and technologies to improve tourism SMEs toward the pandemic impacts**

Innovative technologies have generated a new section in tourism fields, which is called smart tourism. Given the information intensity of tourism and the resulting high dependence on information and communication technologies (ICT) (Law et al. 2014; Koo et al. 2015), smart tourism can be seen as a logical progression from traditional tourism to more recently e-tourism (Buhalıs 2003; Werthner and Ricci 2004; Werthner et al. 2015). The government needs to identify the local SMEs involved in tourism, develop smart systems, and revise the strategies toward Covid-19 pandemic impacts. SMEs generally prefer to go to the suppliers they have used in the past because identifying and getting to know new suppliers is costly and time-consuming. For similar reasons suppliers generally prefer to work with their existing health protocols. Suppliers generally prefer to expand existing markets rather than seek new ones. Likewise, businesses in the local area will only attempt to produce goods and services for tourism operators and developers if they are aware of the demands of the developers and operators.

The rapid development of information technology has revolutionized the tourism industry facilitating mobility, luggage, and information (Law et al. 2014; Buhalıs et al. 2019). New forms of innovative technologies have significantly affected how tourism SMEs market their products worldwide and efficiently communicate with the global audience (Hall and Williams 2019). However, for some SMEs, insufficient understanding of global challenges such as the pandemic effect is a barrier to adopting new technologies. Many tourism SMEs that lack technological innovations and skills can be weakened toward future challenges (Hall and Williams 2019). In this regard, the Covid-19 outbreak has sparked fears of global economic challenges with a high level of uncertainty (Nicola et al. 2020). All aspects of society have been influenced by Covid-19 with new social and entrepreneurial behaviors (Ratten 2020). The complexities of the pandemic require both a technological reaction and an innovative readiness. Hence, post-Covid-19 technology has to accommodate shifts in consumer behavior, e.g., risk perceptions, and likely changes in the interaction modus, e.g., from physical touch to automated detection (Gretzel et al. 2020).
Providing training support and education technology in the tourism SMEs

Success in any SME is efficient if the owners or managers undertake some form of training. Many tourism SME managers could help build small businesses and jobs by encouraging technology training. General training is needed to operate innovative financial management, human resource development, and new business planning. The need for technology training in these topics should be stressed. In western countries, one of the major reasons for SME failure is a lack of skills in financial and business management, and the situation in Iran is probably similar. One problem with this strategy is the reluctance of SME owners to undertake sufficient technological training. One way of overcoming these difficulties may be to establish a small number of pilot programs to provide a demonstration effect. Owners, operators, and private sector trainers are much more likely to be persuaded of the benefits of this type of training by seeing the practical benefits. Training is an effective way to enhance SME employees. Investments in training upgrade employees with new technological capabilities and improve or adjust their knowledge, skills, and abilities to meet organizational needs (Martínez-Ros and Orfila-Sintes 2012; Nieves and Quintana 2018). A high level of human capital contributes to innovation in tourism (Nguyen et al. 2021).

Discussion and implication

Prospect of tourism development in Iran

This section can anticipate an enhanced employment rate of tourism SMEs in Iran using the determined key strategies. By assumption of the increasing rate of tourist arrivals equal 2.77 (within 2005–2015), the increased direct (and indirect) contribution of travel and tourism to employment in tourism SMEs should be estimated at a similar rate (Table 11). On this basis, the total direct (indirect) employees were anticipated to equal 945,000 (2,910,000) persons in the status quo (2020). It is worth noting that the total number of SMEs and related jobs could be constant through the last 5 years due to international sanctions and the worldwide Covid-19 pandemic. Results revealed that the contribution of total direct (indirect) employment to GDP could be anticipated to equal 5.34% (14.86%) with an enhanced rate of 1.97 (2.09) times compared with 2015. Furthermore, the rate of employees per job would be estimated to equal 31 and 45 employees for direct and indirect effects for tourism SMEs, influenced by technological innovation strategies.

Implications

Our research can contribute to the understanding of innovative strategies in the tourism sector. The paper’s finding responds to the calls from the recent literature on the concept of innovative strategies to facilitate innovation through management systems.
Research findings, concerning an expert empirical analysis of the tourism SMEs in Iran, will reinforce the literature in suggesting the crucial role of technology in the tourism industry (e.g., Nunkoo et al. 2020; Almeida-Santana et al. 2020; Cassia et al. 2021). Cirera and Sabetti (2016) previously revealed the direct impact of technological innovation on the employment growth of SMEs based on the theoretical models for various countries. Similarly, Dachs and Peters (2014) and Harrison et al. (2014) revealed the positive impact of innovation on institutional employment in European countries. The definition of new technologies led to new skills, new jobs, new services, and new forms of employment (Korres 2008). However, all SMEs need to perfect the training and education process to utilize innovative strategies, especially in non-western countries. For instance, Kuwayama et al. (2005) have exposed that although most SMEs recognize the need for information technology, the actual adoption of these technologies is less than optimal. Tourism SMEs in Iran should focus on business models and digital ecosystems from tailored solutions to local and global challenges.

Conclusion

In the present study, an expert empirical analysis was carried out to identify innovative strategies to improve the employment rate in tourism SMEs in Iran. The direct and indirect jobs of tourism SMEs were evaluated by an increase of 3.3 times from 2005 to 2015. The direct and indirect employees of tourism SMEs were estimated an increase by 1.4 (1.3) times, which seems less than the increasing trend of jobs in the SMEs. Thus, technological levels in tourism SMEs of Iran are not employment-friendly. The opportunities and threats toward improving job and employment positions were assessed to enhance the employment rate in tourism SMEs. Hence, the methodology of this paper is extended based on two qualitative and quantitative

| Variable                                      | 2020         |
|-----------------------------------------------|--------------|
| **Total jobs**                                |              |
| Direct                                        | 30,724       |
| Indirect                                      | 64,520       |
| **Total employees**                           |              |
| Direct                                        | 945,000      |
| Indirect                                      | 2,910,000    |
| **Contribution to GDP (%)**                   |              |
| Direct                                        | 5.34         |
| Indirect                                      | 14.86        |
| **Rate of employee per job**                  |              |
| Direct                                        | 31           |
| Indirect                                      | 45           |

(Visscher et al. 2021).
techniques, namely strengths, weaknesses, opportunities, and threats (SWOT) and quantitative strategic planning matrix (QSPM).

Within this context, the main three strategies were chosen based on the sum of total attractiveness scores to increase more creation of new jobs and employment positions in tourism SMEs of Iran. The strategies are entitled ‘SO1: developing financial support to create the new job and employment positions using tourist’s finances’, ST1: defining smart skills and technologies to improve tourism SMEs toward the pandemic impacts, and ‘WO1: providing training support and education technology in the tourism SMEs’. These strategies would involve interventions both by the management of the SMEs and by the government in developing programs. Under the innovative strategies, technological approaches were described, such as information technology and smart skills, to enhance new jobs and employment creation in tourism SMEs.

The main limitation of this study was the availability of datasets for a broader set of countries in the Middle East. A similar analysis could be used to compare the neighboring countries, showing innovative strategies to improve their tourism sectors. Besides, this research could be repeated with a large number of time intervals to extend the comparative results and forecast the tourism-based job and employment rate in the future. Ultimately, further research could develop empirical and econometric approaches to examining innovative strategies of the present study in tourism growth of the countries.

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Declarations

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