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CONTENTS

Research articles

Research note

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Advances in Hospitality and Tourism Research (AHTR) 2022
An International Journal of Akdeniz University Tourism Faculty Vol. 10 (2)
ISSN: 2147-9100 (Print), 2148-7316 (Online) 157-187
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HOTELS' GREEN PRACTICES ADOPTION: DETERMINANTS AND TOP MANAGERS' ENVIRONMENTAL COMMITMENT

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ABSTRACT

This study aims to examine the mediating effects of top managers' environmental commitment (EC) between three key variables (i.e., subjective norms, perceived benefits, and environmental knowledge) and the adoption of green practices in Malaysian hotels. This study also evaluates the direct linkages among these variables. A total of 147 hotel top managers returned the completed and valid questionnaires. The participants consisted of top managers, such as owners, general managers, CEOs, and senior managers who possess managerial discretion regarding the hotel's green practices. Top managers' EC was found to be significantly related to green practices adoption in the hotels. Subjective norms (i.e., perceived stakeholder pressure) and environmental knowledge showed direct influences on top managers' EC. On the other hand, the hotels' green practices were mainly explained by environmental knowledge and perceived benefits. Top managers' EC was found to fully mediate the relationship between subjective norms and green practices. Besides, EC partially mediates the linkage between environmental knowledge and green practices. These findings suggest that exposure to environmental knowledge through different platforms and frequent monitoring of the stakeholders' expectations are beneficial in enhancing environmental commitment among hotel top managers and embracing green practices.

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INTRODUCTION

In recent years, there has been rising pressure from various stakeholders in business organizations to embrace green practices in response to the devastating environmental conditions such as climate change. Climate change does not only result in the rise of global surface temperatures but also the loss of habitat, an increase in sea level, and extreme weather events (National Geographic, 2020). Proactive actions by hotel management in adopting green practices are essential, given the large consumption of resources, non-durable products, water, and electricity in the sector (Dimara et al., 2017). Merli et al. (2019) found that the hotel and accommodation sector produced approximately 20% of tourism-related emissions. To be aligned with the Paris Climate Change Agreement and the United Nation's Global Goals, the hotel industry needs to achieve carbon emission abatement levels of 66% and 90% by the year 2030 and 2050, respectively (United Nations, 2018). Furthermore, a recent survey has also shown that 87% of millennials were found to be more loyal to hotel brands that endorse green or environmentally-friendly practices (Shedd, 2020). Yi et al. (2018) state that consumers are increasingly concerned with environmental issues, leading to rising demand for hotels that are actively implementing green practices. In short, green practices are not merely an inviting concept for today's hoteliers, but have gradually evolved into an essential part of an organization's strategic plan that can be served as a source of competitive advantage, especially with the rise of green-conscious consumers (Rahman et al., 2012; Verma & Chandra, 2018).

Generally, green practices encompass different business activities that aim at reducing the adverse implications on the environment (Kim et al., 2017). Kim et al. (2017) further defined green practices in the hospitality industry as a value-added business strategy that brings about advantages to the operators through environmental protection initiatives. Hotels that advocate green practices tend to be involved in resources conservation efforts (e.g., waste management, reduce consumption of water and energy), to purchase eco-friendly products, as well as develop environmental policy and training program (Bagur-Femenias et al., 2016; Choi et al., 2019; Kim et al., 2018b). Kim et al. (2017) summarized that hospitality operators in developed countries participate more actively in green practices as compared to the developing nations, like Malaysia. This is mainly due to the developed nations, particularly European countries that are in the forefront of environmental protection had started the environmental policies much earlier than the other developing countries (Kim et al., 2018b). Typically, larger hotels have more resources for green practices adoption,

but recent studies indicated that smaller scale hotels are joining the green bandwagon (Fernández-Robin et al., 2019). Thus, green initiatives are also important to small-scale hotels as they are personalized and flexible which cannot be offered by larger hotels or chain hotels (Musavengane, 2019).

Past studies have demonstrated several beneficial outcomes of green practices among hoteliers, such as better corporate image, operational efficiency, financial performance, customer satisfaction and customers' revisit intention (Alonso-Almeida et al., 2017; Han et al., 2018; Kim et al., 2016; Teng et al., 2018; Wan et al., 2017; Yin et al., 2019). Thus, hoteliers increasingly value the importance of implementing green initiatives to increase guests' trust (Moise et al., 2021). Meanwhile, the Stakeholder Theory (Freeman, 1984) contends that businesses should take care of different stakeholders' well-being, instead of merely focusing on maximizing profit. Stakeholders' demands have increasingly emerged as social pressure that can influence organizational strategy in recent years, as organizations must conform to regulatory requirements and accepted norms of behavior in the society (Park & Kim, 2014; Saleem et al., 2020).

Despite rising stakeholders' influences and wide coverage about environmental problems in various publications and media, hotel managers tend to have different standpoints and reactions towards the adoption of green practices in their organizations; some act proactively while others remain uninterested and are skeptical of its potential benefits (Alonso-Almeida et al., 2017; Best & Thapa, 2013). This is not surprising as Keogh and Polonsky (1988) argued that one's commitment to the natural environment is partly intrinsically motivated. In this regard, several researchers have stressed on the need to conduct more empirical studies in determining the implications of personal or individual-level factors of the top managers on green practices adoption (Papagiannakis & Lioukas, 2012; Park et al., 2014).

Moreover, from the perspective of Upper Echelons Theory (Hambrick & Mason, 1984), top managers' cognitions, values, and perceptions influence the strategic choices for their organization. Top managers have profound impacts on corporate culture, resource allocation, direction, and strategies of the organization. Top managers' characteristics (e.g., personal values and environmental concern) are related to attitude change for a more environmentally responsive organization (Papagiannakis & Lioukas, 2012; Park & Kim, 2014). It is also important to note that environmental knowledge fosters awareness about the interconnection between organizational activities and consequences to the

environment, thus stimulating the managers to select a development path that can strike a better balance between economic and social development (Chan et al., 2014; Rahman & Reynolds, 2016). Managers' environmental knowledge is not meaningful if it is unable to build the commitment that can lead to green actions.

Thus far, only some studies (e.g., Cantor et al., 2013; Kim et al., 2015; Saleem et al., 2020) evaluated the linkage between top managers' environmental commitment (EC) and green practices in the hotel industry. Moreover, factors that shape such commitment among the top managers remain under-explored. As stressed by Raineri and Paillé (2016), research on individual EC, especially among top managers is not very extensive in contrast to work-related commitment among employees that was widely documented in the organizational behavior literature. Kim et al. (2015) emphasized the need to better understand how individual-level factors affect organizational outcomes (i.e., green practices).

This is because top managers' EC is a key ingredient affecting employees' beliefs and attitude towards green practices which is essential for the organizational goals and in response to stakeholders' demands (Ojo & Fauzi, 2020). Nonetheless, most of the studies focus on the direct determinants of organizational-level outcomes, instead of the mechanism from which environmental factors and upper echelon's characteristics may indirectly affect the implementation of green practices through top managers' EC.

Taken together, this study attempts to provide an additional insight to the literature in several ways. Firstly, we intend to examine the mediating role of top managers' environmental commitment on the relationship between environmental knowledge, perceived benefits, and subjective norms (perceived stakeholder pressure) with the adoption of green practices in the hotel industry in Malaysia. Secondly, we also test the direct influence of environmental knowledge, perceived benefits, and subjective norms on (i) environmental commitment, and (ii) adoption of green practices. The result of this study can benefit hotel management, especially in environmental education and implementation of green practices in the hotel sector. This study also provides information on managerial functions toward the green practices of the hotel.

LITERATURE REVIEW

Top Managers' Environmental Commitment (EC) and Green Practices

EC was defined in different ways depending on the purpose, level of analysis, and context of the study. For the individual-level analysis, Yu et al. (2019, p. 3) described EC as "individual's pursuit of environmental sustainability, willingness to sacrifice personal enjoyment, reducing waste of resources, using environmentally friendly new products and supporting government's adaptation strategies". On the other hand, Davis et al. (2009, p. 178) explained that EC reflects one's "psychological attachment to and long-term orientation toward the natural world". Commitment can be described as "intending to continue in a line of action" (Agnew, 2009, p. 1). The present study focuses on the EC of the hotels' top managers, which can be expressed as "individual involvement and support for hotels' adoption of environmental practices" (Kim et al., 2015, p. 1502).

The concept of EC provides direction to manager's behaviors and notably enables the formulation of green practices in achieving organizational sustainable goals. Managers with high EC would pay attention to green practices. For instance, Kim et al. (2015) described that EC of hotels' general managers encompasses elements, such as dedicated to the environmental preservation of their organization, provide full support for the environmental program, and the involvement in the formulation of environmental strategies. The top managers' EC was essential in developing management capabilities and has a sizeable effect in fostering the adoption of green practices, such as waste reduction, green purchases, water, and energy conservation, environmental training to employees and the minimization of the usage of cleaning products that are detrimental to the environment (Alonso-Almeida et al., 2017; Bagur-Femenias et al., 2016; Han et al., 2018; Kim et al., 2015). Prior study revealed that the lack of leaders' commitment and management support (e.g., Ojo & Fauzi, 2020; Yusof & Jamaludin, 2014) was among the barriers for the implementation of hotels' green practices. Managers with stronger EC play an important role as a catalyst for corporate greening (Kitsis & Chen, 2021; Raineri & Paillé, 2016) and they are able to influence employees to partake in pro-environmental behavior (Tariq et al., 2020).

As indicated in the Upper Echelons Theory (Hambrick & Mason, 1984), several aspects influence top managers' perception and interpretation of the environment such as socio-demographic factors, personality, values, experience, and cognition. Top management needs to evaluate both internal and external environmental factors in making

strategic choices that can affect the organizational performance under the condition of bounded rationality (Abatecola & Cristofaro, 2020; Bromiley & Rau, 2016; Mensah & Ampolo, 2020).

Cantor et al. (2013) stressed that a high level of organizational support and strong personal commitment demonstrated by the environmental managers significantly contributes to the implementation of green initiatives. Moreover, a recent study by Saleem et al. (2020) supported the positive link between top management commitment and corporate environmental strategy. This line of reasoning leads to the following hypothesis:

H1: Environmental commitment is positively related to hotels' green practices.

Subjective Norms

In a general view, subjective norm was originally defined by Ajzen (1991) as an individual's perceived social pressure to perform or not to perform certain behavior. Such social pressure may stem from those who are important to him or her, such as family members, relatives, friends, and colleagues (Onel, 2017). In the analysis of individual outcomes, subjective norm was found to be the precursor of a person's pro-environmental behavior, such as energy-saving, practice recyclable activities, etc. (Yusliza et al., 2020). Past studies have empirically testified the relationship between subjective norm and commitment to the environment (Budovska et al., 2019; Yu et al., 2019) in different contexts, inclusive of hotel guests and undergraduate students.

In the context of an organization, the social pressures that motivate key managers to engage in green initiatives are mainly derived from the expectations of various key stakeholders, such as suppliers, customers, employees, government, general community, and shareholders (Cantele & Zardini, 2020; Chen et al., 2017; Kitsis & Chen, 2021). Besides, non-governmental organizations can exert social pressures to the management by creating environmental awareness among the public, but their influences are not substantial as compared to other stakeholders as indicated by Wang et al. (2020). The stakeholders who are concerned about the environmental issues may influence managerial decisions in two ways, either using pressure or through cooperation (Cantele & Zardini, 2020; Parviainen et al., 2018).

Besides, several global environmental initiatives, such as the European Green Deal, Global Green New Deal, ASEAN strategic plan for environment, ASEAN tourism standard and environmental rating systems, which direct towards the achievement of green economy and sustainable tourism development have indirectly been putting pressure to various sectors, especially to hotel sector to actively engage in green practices. The hoteliers are expected to be more environmentally responsive due to the external forces (Abdou et al., 2020).

Furthermore, Davis et al. (2015) pointed out that individuals will become more committed if they depend on others to meet their needs. Hotel managers need to conform to the stakeholders' requirements or expectations as the smoothness of the hotel operation and its financial performance rely on the supports of key reference groups. Besides, organizations that embark in green practices were found to boost employees' sense of meaningfulness in their job and improve work engagement (Casey & Sieber, 2016; Karatepe et al., 2020).

This can be related to the stakeholder theory which posits that an organization's primary focus is on building relationships and generating value for its stakeholders (Freeman & Dmytriyev, 2017). Hotel managers who perceive greater pressure from various stakeholders are more committed in getting involved and supporting the formulation of environmental policies and strategies (Tumpa et al., 2019). Dubey et al. (2017) argued that to enhance the green commitment among hotels' employees; the adoption of environmental policies must be enforced by the top.

As discussed earlier, organizations need to weigh different demands by stakeholders in deciding the resource allocation to implement green practices (Calabrese et al., 2019). Hotel managers are playing the role of an agent and they are compelled to comply with the environmental rules imposed by the local council or relevant associations. In many instances, the design and implementation of green policies are due to strong institutional pressure (Gupta & Gupta, 2021). Likewise, Ouyang et al. (2019) explained that the institutional environments, such as the regulative environment (e.g., government regulation and policies), normative environment (e.g., competitors' practices and industry association that can detect the norms and standards in the industry), and the expectations from other stakeholders exert considerable pressures on hoteliers to engage in green practices.

A few studies revealed that subjective norms (perceived stakeholder pressure) were closely linked with top managers' EC (Kitsis & Chen, 2021) and green practices adoption (Papagiannakis & Lioukas, 2012; Park & Kim, 2014). In a sample of hotels in the U.S., Park and Kim (2014) found that perceived stakeholder's pressure was the most influential factor in determining the top managers' decision on the adoption of green practices as compared to perceived economic benefits and environmental concern. Therefore, we proposed the following hypotheses:

H2: Subjective norm is positively related to managers' environmental commitment.

H3: Subjective norm is positively related to green practices.

Environmental Knowledge

Environmental knowledge refers to "general knowledge of facts, concepts, and relationships concerning the natural environment, and its major eco-systems" (Fryxell & Lo, 2003, p. 48). The term also reflects the knowledge and awareness about environmental issues, problems, and possible solutions (Zsóka et al., 2013). Although there were several past empirical studies showed that environmental knowledge is a prerequisite for meaningful green behavior among hotel employees (Chan et al., 2014; Safari et al., 2018), limited studies evaluated its implication on top managers. According to Yucedag et al. (2018), the knowledge of environmental issues is highly interconnected with a person's attitude (e.g., commitment).

In short, environmental knowledge is an important factor that can strengthen a person's commitment to behave in an environmentally friendly manner and reduce harm to the environment (Geiger et al., 2019; Kim et al., 2018a). Thus, top managers with environmental knowledge have a better understanding between business activities and environmental consequences that can promote their commitment to be actively involved in crafting green practices. Based on a sample of managers from different industries, Fryxell and Lo (2003) indicated that managers with strong environmental knowledge have a greater appreciation on the value of natural capital. Their findings showed that environmental knowledge encouraged managers to advocate greening initiatives and develop new environmental programs.

Furthermore, Roy and Thérin (2008) argued that continuous acquisition of knowledge on specific environmental issues allows managers to implement green practices that are beyond regulatory requirements. This

is particularly important since environment conservation has turned out to be the management's key consideration in hotel operations. Environmental knowledge enables managers to implement appropriate green practices in dealing with complex environmental issues (Martinez-Martinez et al., 2019).

In their systematic evaluation on the studies that were underpinned by the Upper Echelon Theory, Bromiley and Rau (2016) summarized that both cognitive and socio-behavioral factors affect top management's strategic decision and performance. Cognitive aptitudes (i.e., environmental knowledge) can act as a motivational force for a person to behave in an environmentally friendly manner (Geiger et al., 2018). People are less likely to adjust their behavior and actions that harm the natural environment if they lack related knowledge (Geiger et al., 2019). As such, this line of reasoning leads to the following hypotheses:

H4: Environmental knowledge is positively related to top managers' environmental commitment.

H5: Environmental knowledge is positively related to hotels' green practices.

Perceived Benefits of Green Practices

Studies showed that perceived benefits were one of the reasons for hotels to go green. Perceived benefits of green practices for hotel operation consist of financial benefits (Chen et al., 2018) and non-financial benefits (Zaiton et al., 2016). The most cited financial benefit was cost-savings (Alonso-Almeida et al., 2017; Chandran & Bhattacharya, 2019; Kularatne et al., 2019), which can be achieved through the improvement in energy and water efficiency; reduce the cost for water usage, waste disposal, and material usage (Butler, 2008; Chandran & Bhattacharya, 2019). Perceived financial benefits were indicated as the most influential factor in improving managerial environmental commitment (Cheyne & Barnett, 2001). Overall, hoteliers who are actively practicing green practices through environmental programs and guidelines would be able to gain benefit from resource efficiency (Chen et al., 2018).

Besides, the managerial belief about non-financial benefits, such as improved public image and employee morale has also been identified as the triggering factor for green practices adoption (Abdou et al., 2020; Chen et al., 2018; Pereira et al., 2021). A good hotel image can create a competitive advantage that can improve market share and productivity of the

employees (Singjai et al., 2018). Drawing from the Upper Echelon Theory on the implication of managerial perception on strategy, Park et al. (2014) asserted that perceived advantages of environmental management showed a relatively strong relationship with hotels' involvement in green practices. Moreover, Pamfilie et al. (2018) also revealed that perceived economic benefits promote the adoption of green practices among hoteliers. Hence, we propose the following hypotheses:

H6: Perceived benefits are positively related to top managers' environmental commitment

H7: Perceived benefits are positively related to hotels' green practices

The Mediating Effect of Managers' Environmental Commitment

Top managers' EC is a strong internal force for green practices adoption, which is a growing concern in the hotel industry. Top managers identify and recognize the roles of influential stakeholders of their organizations and their response to these forces indicates their level of EC, which affects their decision on green practices adoption. Banerjee et al. (2003) revealed the mediating role of top management commitment between external forces (i.e., public concern and regulatory forces) and environmental strategies in high environmental impact industries (e.g., manufacturing, chemical, pharmaceutical, and utilities). This shows that social pressures are capable of inducing managers' EC and green practices.

On the other hand, environment knowledge plays a role in enhancing managers' cognition of the need for environmental conservation (Geiger et al., 2019), thus fostering their commitment to take actions and transforming into a more environmentally responsible hotel. An individual with some degree of felt commitment to the environment would behave in a more environmentally friendly way (Yusliza et al., 2020). Managers' commitment, especially one who champions the environmental initiatives is vital in the success of hotels' green practices (Abdou et al., 2020).

Previous studies showed that managers' perceived benefits have an impact on EC (Abdou et al., 2020; Chen et al., 2018; Pamfilie et al., 2018) as well as green practices adoption (Alonso-Almeida et al., 2017; Chandran & Bhattacharya, 2019; Kularatne et al., 2019). Moreover, Verma and Chandra (2018) found that the desire to gain competitive advantages fosters top management commitment and leads to the realization of environmental strategy. Based on the reviews, we postulate that subjective norms (perceived stakeholder pressure), top managers' environmental

knowledge, and perceived benefits of green practices can potentially induce managers' EC that eventually leaves a positive impact on the adoption of hotels' green practices. Thus, the following hypotheses are formulated:

H8a: The relationship between subjective norms and green practices is mediated by environmental commitment among top managers.

H8b: The relationship between environmental knowledge and green practices is mediated by environmental commitment among top managers.

H8c: The relationship between perceived benefits and green practices is mediated by environmental commitment among top managers.

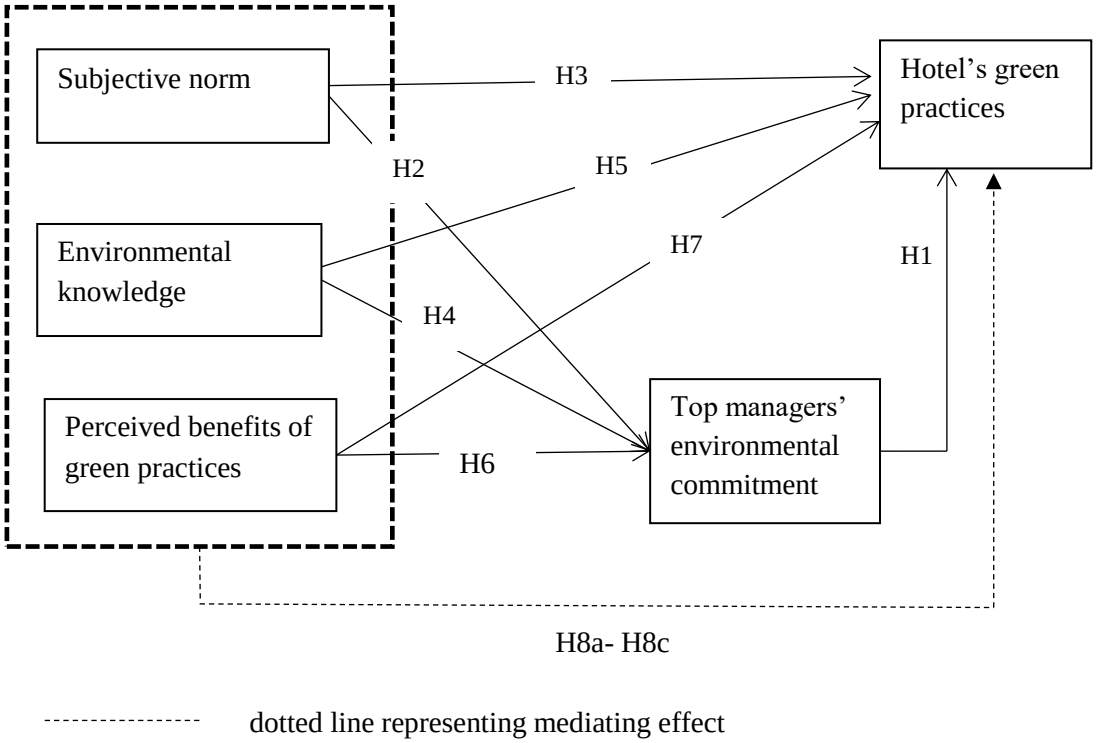

Figure 1. *Research Framework*

METHODOLOGY

The target population of this study was top-level managers of the hotel, such as owners, general managers, CEOs, and senior managers who possess managerial discretion regarding the hotel's green practice. A convenient sampling technique was used to select the hotels in this study. The data was collected between September and November 2019. This research had

obtained the approval from the Scientific and Ethical Review Committee from the university.

Due to the dispersed sampling locations, covering different states in Peninsular Malaysia, six research assistants were recruited and trained to collect the data from the hotel's top managers. The G*Power 3.1.9.4 F-test (Faul et al., 2007) was used to determine the minimum sample size. With an effect size of 0.15 and the power of the test set at 0.80 as recommended by Cohen (1988) which is commonly used in social science research, the minimum sample size required for this research is 85.

Several remedy actions were taken to enhance the generalizability of the data. First of all, the questionnaire of this study was well-designed to ensure that the data collected is accurate which is able to produce a generalizable result (Ng, 2006). Thus, a pre-test and pilot test were conducted to ensure the validity and reliability of the measurement scales. The second way to improve the convenient sampling is by including as many participants as possible (Stratton, 2021). The research assistants had approached as many hotels as possible and sought the help from the human resource department personnel or front desk manager to contact the relevant top manager of the hotel to get their consent to participate in the survey. However, several hotels had refused to take part during the first visit, so in total, only 350 questionnaires were distributed to the hotels. The research assistants then personally handed the self-administered questionnaire to the managers or sought help from the personnel in charge to pass it to the respective hotels' top managers. In view of the busy schedule of the top managers, the research assistants made a subsequent visit to the hotels to collect the questionnaire. A cover letter was enclosed together with the questionnaire to explain the purpose of the survey and to ensure that the data collected was for academic purposes. Both the cover letter and questionnaires were prepared in English language, which is the second language in Malaysia.

Nevertheless, only 161 questionnaires out of 350 managed to be collected during the subsequent visit(s). A total of 14 questionnaires had to be discarded as the respondents did not meet the criteria or due to incomplete information. In the socio-demographic section of the questionnaire, the respondents were asked to indicate their position. As a result, the final data was based on the 147 hotels' top managers who had returned valid questionnaires. As the sample for this study is 147 which exceeded the minimum sample size of 85, it can therefore be concluded that

the sample is deemed to be sufficient to detect the required effect size of 0.15.

Out of the 147 hotels' top managers who responded to the survey, 65 (44%) were male and 82 (56%) were female. The majority of them aged more than 35 years old (n=58, 39%) with at least Diploma qualification (n=94, 64%). There were only two respondents who were managing directors and the remaining 145 respondents were general managers of the hotel. The citizenship status for all the responding managers was Malaysian. For the size of the hotel, 68 (46%) hotels had less than 50 rooms, 28 (19%) between 50 and 100 rooms, 15 (10%) were hotels with 101 and 150 rooms while 31 (21%) with more than 200 rooms, while the remaining 5 hotels (3%) were hotels with 151-200 rooms. Our sample includes 48 (33%) budget hotels while city/business hotels and boutique hotels were 39 (27%) each. Other types of hotels include 6 (4%) heritage boutique hotels, 4 (3%) theme park resorts/hotels, 3 (2%) golf hotels, one (1%) eco/nature resort and the rest belong to other categories. Among these hotels, there were 10 (7%) five-star hotels, 22 (15%) four-star hotels, 42 (29%) three-star hotels, and 73 (49%) two-star hotels and below. A large proportion of the hotels (n = 111, 76%) indicated that their primary customers were a combination of business and leisure travelers, 25 (17%) key customers were leisure travelers, while 11 (7%) hotels' main customers were leisure travelers.

Measurement Instrument

All items used to develop the self-administered questionnaire were adopted or adapted from past studies which were originally in English language. A five-point Likert scale was employed to measure the adopted measurement items ranging from strongly disagree (1) to strongly agree (5). Prior to the pilot test, a pre-test was conducted by inviting academic professors who have expertise in environmental practices to evaluate the relevancy of the questionnaire items to ensure its content validity. Meanwhile, a pilot test was carried out with 30 respondents to access the reliability of the key constructs in this study. As the hotel managers are able to understand and communicate in English, the translation in different languages is not required in this study.

Subjective norms were measured with a six-item scale adapted from Yilmaz (2014). The original scale was developed by Sandve and Øgaard (2013). A minor amendment was made on the scale as found in Yilmaz (2014), in which the term "green marketing" has been modified to "green practices" to suit the purpose of the present study. Sample items include "I

believe that our guests expect our hotel to get involved in green practices". The measure also covered social pressures from the government, the general community, shareholders/owners, employees, and suppliers. The reliability score was 0.92.

Perceived benefits of green practices were measured with a six-item scale, adopted from Park and Kim (2014) with an inter-item reliability score of 0.87. Sample items include "Green practices contribute to the reduction of the operational costs", and "Green practices improve our hotel image."

Environmental commitment was a three-item scale, adopted from Kim et al. (2015). An example of the item is "I am committed to the environmental preservation of our hotel". The alpha coefficient of reliability was 0.90.

Green practices consist of seven items. The measure was developed by referring to Bagur-Femenias et al. (2016) and Kim et al. (2015). Minor amendments were made, such as "your organization" was replaced with "my hotel". The sample items include "My hotel buys environmentally friendly products," and "My hotel implements energy-saving practices". The alpha coefficient of reliability was 0.92.

Data Analysis

Statistical Package for the Social Sciences (SPSS) version 25 and SmartPLS version 3.2.4 software were used for data analysis. The SPSS software was used to generate the descriptive analysis, whereas the SmartPLS software was employed to run the partial least square-structural equation modeling (PLS-SEM) for hypothesis testing. PLS-SEM has been used in various disciplines in estimating a complex model with many constructs and indicators and it examines the relationships between the latent constructs (Hair et al., 2019). PLS-SEM is not constraint by the distributional assumptions as it is based on a non-parametric approach and it generates higher statistical power as compared to the covariance based-structural equation modeling (Hair et al., 2019). It is also able to test a complex structural model vigorously and check the robustness of the structural model (Hair et al., 2019; Sarstedt et al., 2020). Sarstedt et al. (2017) also explicated that "PLS-SEM is a causal-predictive approach to SEM that emphasizes prediction in estimating statistical models, which structures are designed to provide causal explanations" (p.3). A two-step analytical approach was pursued to evaluate the measurement model and structural model (Anderson & Gerbing, 1988).

RESULTS

As the self-reported survey method was employed in this study, a Harman single factor test was used to measure the common method bias by means of conducting Exploratory Factor Analysis (EFA). The items of all the key variables in this study were loaded together in EFA. The results from the unrotated factor solution demonstrated that a five-factor structure emerged, and the total cumulative variance was equal to 68.68%. The first factor is the largest contributor as it accounts for 33.16% of the total variance, which is well below the threshold value of 50% (Podsakoff et al., 2003). Thus, the data set is free from the common method bias. Meanwhile, the second, third, fourth and fifth factors explained 17.45%, 8.59%, 5.77%, and 3.71% of the total variance, respectively. The normality test was conducted by assessing the skewness and kurtosis values. The skewness value for the key constructs ranged from 0.319 to 0.958, whereas the kurtosis values ranged from 0.393 to 2.952. As the skewness values for all constructs were between -1 and +1 and kurtosis values were between -3 and +3 (Hair et al., 2007), the data was considered normal.

Table 1. *Inter-Correlations score and Basic Statistics*

No.	Construct	1	2	3	4	5	6	7
1	Size of Hotel							
2	Rating of Hotel	0.22**						
3	Subjective Norm	0.13	-0.12					
4	Environmental Knowledge	0.04	-0.06	0.30**				
5	Perceived Benefits of Green Practices	0.09	-0.06	0.53**	0.47**			
6	Environmental Commitment	0.04	-0.10	0.57**	0.52**	0.47**		
7	Green Practices	0.41**	0.16	0.34**	0.15*	0.37**	0.31**	
	Mean	-	-	3.83	3.94	3.96	3.97	3.36
	Standard Deviation	-	-	0.68	0.65	0.67	0.72	0.88
	Cronbach Alpha	N/A	N/A	0.92	0.93	0.87	0.90	0.92

Note. *=p value<0.05, **=p value<0.01

Two control variables were included in the analysis, such as the size of the hotel and rating of the hotels. These control variables were not the primary interest of the study; however prior studies indicated that these variables could influence green practices (Park & Kim, 2014). Table 1 presents the inter-correlation scores, standard deviation, and mean scores of each construct. The results revealed that the size of the hotel was significantly correlated with hotels' green practices adoption. The larger the

hotel size will result in the more active green practices being adopted in the hotel (Park & Kim, 2014; Rahman et al., 2012).

Evaluation of Measurement Model

A PLS algorithm was conducted to test the convergent and discriminant validity of the constructs. Table 2 depicts the factor loadings of items, average variance extracted (AVE) score and composite reliability score for each construct (Hair et al., 2019). Only one item (perceived benefits of green practice item 2 = PB2) with factor loading of 0.245 was removed from the

Table 2. *Convergent Validity Result*

Constructs	**Items**	**Loadings**	**AVE**	**CR**
Subjective Norm	SN1	0.866	0.703	0.934
	SN2	0.864		
	SN3	0.845		
	SN4	0.845		
	SN5	0.747		
	SN6	0.859		
Environmental Knowledge	EK1	0.722	0.614	0.941
	EK2	0.800		
	EK3	0.749		
	EK4	0.833		
	EK5	0.819		
	EK6	0.833		
	EK7	0.691		
	EK8	0.858		
	EK9	0.796		
	EK10	0.716		
Perceived Benefits of Green Practices	PB1	0.751	0.657	0.905
	PB3	0.836		
	PB4	0.832		
	PB5	0.867		
	PB6	0.759		
Environmental Commitment	EC1	0.925	0.842	0.941
	EC2	0.918		
	EC3	0.910		
Green Practices	GP1	0.838	0.647	0.928
	GP2	0.717		
	GP3	0.868		
	GP4	0.798		
	GP5	0.752		
	GP6	0.840		
	GP7	0.809		

Note. AVE=Average Variance Extracted, CR=Composite Reliability

measurement model. Except for EK7, the rest of the items have achieved a minimum required loading of 0.708 (Hair et al., 2019). EK7 was retained as the AVE score for each construct exceeded the threshold value of 0.500 (Hair et al., 2019). The AVE values ranged from 0.614 to 0.842. For composite reliability, the score for each construct has surpassed the minimum cut-off value of 0.7, ranging from 0.905 to 0.941. None of the construct composite reliability scores exceeded 0.95. Thus, there is no indication of indicator redundancy, which could compromise the content validity of the measurement (Hair et al., 2019). Thus, the convergent validity is deemed to be ascertained.

The discriminant validity was examined by generating Heterotrait-Monotrait (HTMT) Ratio (Henseler et al., 2015). Table 3 shows that none of the HTMT ratios is greater than the threshold of 0.85 ($HTMT_{0.85}$). Thus, it can be concluded that the constructs included in this study were conceptually different from each other (Hair et al., 2019).

Table 3. *Heterotrait-Monotrait Ratio Criterion*

No.	Construct	1	2	3	4	5
1	Subjective Norm	-				
2	Environmental Knowledge	0.33	-			
3	Perceived Benefits of Green Practices	0.59	0.48	-		
4	Environmental Commitment	0.62	0.53	0.56	-	
5	Green Practices	0.37	0.10	0.08	0.41	-

Evaluation of Structural Model

The structural model was assessed using the bootstrapping technique with 5000 re-samples. Table 4 depicts the path coefficient, t-statistics, effect size, predictive relevance, and explanatory power of the model. The explanatory power for EC and green practices is greater than 0.26 and it is indicated as a substantial level (Cohen, 1988). Based on the t-statistical results, the subjective norm (β=0.424, t=6.245, p<0.001) and environmental knowledge (β=0.354, t=4.242, p<0.001) are positively related with EC. However, perceived benefits (β=0.074, t=1.018, p>0.05) are not significantly related to EC. Thus, hypotheses 2 and 4 are well supported by the data, but not hypothesis 6.

Table 4 reveals that EC (β=0.287, t=2.941, p<0.01), environmental knowledge (β=0.309, t=3.744, p<0.001), and perceived benefits (β=0.335, t=4.564, p<0.001) are positively related with green practices. Therefore, hypotheses 1, 5, and 7 are supported. On the other hand, subjective norms

do not exert a significant direct influence on green practices (β=0.068, t=0.696, p>0.05), thus the result fails to support hypothesis 3.

Table 4. *Structural Model Results*

H	Path	Beta	SE	t-Statistics	Results	f^2	Q^2	R^2
H2	SN > EC	0.424	0.068	6.245**	Supported	0.235	0.371	0.462
H4	EK > EC	0.354	0.083	4.242**	Supported	0.179		
H6	PB > EC	0.074	0.072	1.018	Not Supported	0.006		
H1	EC > GP	0.287	0.098	2.941*	Supported	0.072	0.232	0.388
H3	SN > GP	0.068	0.098	0.696	Not Supported	0.004		
H5	EK > GP	0.309	0.082	3.744**	Supported	0.101		
H7	PB > GP	0.335	0.073	4.564**	Supported	0.109		

Note. SE = Standard Errors, SN=Subjective Norm, EK=Environmental Knowledge, PB=Perceived Benefit of Green Practices, EC=Environmental Commitment, GP=Green Practices, Q^2=Predictive Relevance, R^2=Explanatory Power, *= p-value<0.01, ** = p-value < 0.001

For the mediation analysis, Table 5 shows that EC mediates the relationship between subjective norm and green practices (β=0.122, t=2.457, p<0.01). The finding indicates that a full mediation exists since the direct effect is insignificant, while the indirect effect appears to be significant (Zhao et al., 2010) when EC is examined as a mediator. To add, EC has been found to partially mediate the linkage between environmental knowledge and green practices (β=0.102, t=2.625, p<0.01). Conversely, the relationship between perceived benefits and green practices is not mediated by EC (β=0.021, t=0.885, p> 0.05). Hence, hypotheses 8a and 8b are supported by the data, but not hypothesis 8c.

The f^2 values 0.02, 0.15, and 0.35 denote small, medium, and large effect sizes, respectively (Cohen, 1988), the significance hypotheses paths, H2 (SN→EC) and H4 (EK→EC) show the medium effects size. Meanwhile, H1 (EC→GP), H5 (EK→GP), and H7 (PB→GP) indicate small effect sizes. The blindfolding technique is also conducted to examine the predictive relevance of the endogenous construct: EC and green practices. Table 4 indicates that the cross-validated redundancies value (Q^2) for EC is 0.371 and green practices is 0.232, which are above zero, indicating that the exogenous variables in the current research model have predictive relevance for endogenous constructs (Hair et al., 2019). The exogenous variables explained 46.2% (R^2=0.462) and 38.8% (R^2=0.388) of the variance in

EC and green practices adoption, respectively. As the R^2 is above 0.26, this indicates a substantial model based on Cohen's (1988) guideline.

Table 5. *Mediation Analysis Statistical Result*

H	Path	Beta	Std. Error	t-Statistics	Results	Bootstrapping Confidence Interval	
						5% LL	95% UL
H8a	SN > EC > GP	0.122	0.050	2.457*	Supported	0.049	0.212
H8b	EK > EC > GP	0.102	0.039	2.625*	Supported	0.043	0.168
H8c	PB > EC > GP	0.021	0.023	0.885	Not Supported	-0.011	0.066

Note. SN=Subjective Norm, EA=Environmental Awareness, EK=Environmental Knowledge, PB=Perceived Benefit of Green Practices, EC=Environmental Commitment, GP=Green Practices, LL=Lower Level, UP=Upper Level,

*=p value<0.01

DISCUSSION AND CONCLUSIONS

The overarching purpose of the present study is to investigate the interplay among subjective norms, environmental knowledge, environmental awareness, EC, and hotels' green practices in Malaysia. Parallel with our expectation, this study confirms that managers' EC is positively related to the adoption of green practices in a hotel, which is in line with an earlier study by Kim et al. (2015) based on a sample of the U.S. hotels' general managers. This shows that top managers with a greater level of EC are willing to devote time and effort to become involved and endorse green initiatives in their premises. The present finding is also consistent with the study by Saleem et al. (2020) and supports the notion of Upper Echelon Theory (Hambrick & Mason, 1984) that top management strategic judgment and choices (e.g., green practices) reflect their personal characteristic (e.g., commitment toward environmental preservation).

Meanwhile, subjective norms or the perceived stakeholder pressure were found to have the most profound influence in shaping the EC of the hotels' top managers in this study. The result agrees with the past studies (Park & Kim, 2014; Saleem et al., 2020) which supports the claim that perceived social pressure from a company's stakeholders can affect managers' commitment and attitude towards environmental initiatives. An interesting finding is that subjective norms are not related to green practices directly, but rather predict green practices indirectly through EC, indicating

a full mediation. This shows that subjective norms will promote green practices adoption mainly through top manager's EC. Top managers who perceive greater social pressures from stakeholders are more committed to supporting the environmentally friendly efforts, and in turn more prone to adopting green practices. Based on stakeholder theory, management should consider various stakeholders' expectations in making their judgment for the appropriate strategy. If they fail to do so, hotels may risk losing customers and damage the company's image (Kim & Kim, 2016). In this regard, it is also important to take note on the decision-making process from the upper echelon perspective (Hambrick & Mason, 1984). This is because management's commitment towards a particular action is likely to be affected by their perceptual and interpretative processes (Park & Kim, 2014; Saleem et al., 2020). Thus, when top managers realize that they cannot simply ignore the demands from the stakeholders, they have a greater sense of EC to incorporate green practices into the hotel operation.

Next, the present finding also shows that environmental knowledge has a direct positive effect on both managers' EC and adoption of green practices. Environmental knowledge has been recognized for its positive influence on an individual's pro-environmental behavior (Geiger et al., 2019; Safari et al., 2018). The results are consistent with Fryxell and Lo (2003) who postulated that scientific and practical knowledge related to the environment significantly affects managers' evaluations and strategic actions. In the mediation analysis, we have discovered that environmental knowledge influences green practices indirectly through top manager's EC. This shows that environmental knowledge is essential in evoking hotel top managers' EC, which in turn becomes an important source for the adoption of green practices in the hotels. The result is in line with the assumptions of Upper Echelon Theory (Hambrick & Mason, 1984), which state that personal attributes of key managers affect how they view the environmental issues, thus affecting their personal commitment and corporate decision. Top managers with adequate environmental knowledge have a better understanding of the consequences of deteriorating natural environment on human well-being and business operations. In turn, this stimulates top managers' commitment to play a key part in preserving the environment by adopting green practices.

As predicted, perceived benefits have a considerable impact on the implementation of green practices in the hotels, which corroborates with several past studies (e.g., Abdou et al., 2020; Park et al., 2014). Nevertheless, there was an absence of a significant direct relationship between perceived benefits with managers' EC. The assumption of the indirect relationship

between perceived benefits and green practices, through EC was not established. The results imply that the organizations still engage in green practices despite the absence of, or lack of, top managers' EC. This is rather surprising since the potential benefits should stimulate hotel managers' commitment towards green practices. Nevertheless, certain qualitative studies (e.g., Alonso-Almeida et al., 2017; Choi & Han, 2019) indicated that perceived benefits were not a sufficient motivator for a company to execute the environmental responsible strategy as some managers viewed that it is time-consuming and costly, especially when the focus is about short-term profitability. A plausible explanation for the absence of a positive link between perceived benefits and EC is that when there are obvious shreds of evidence of the potential benefits, it is easier to convince the top managers to adopt green practices. The efforts towards an environmentally friendly hotel can be initiated by others within the organization, while the top managers may remain open-minded towards the implementation of green practices that are advantageous to the hotels although they may not be fully involved. Some researchers (Ferdig, 2007; Hemingway, 2005) postulated that anyone within the organization can emerge as a change agent for green practices regardless of their roles or positions. Nevertheless, the results should not undermine the critical role of top managers' EC.

Theoretical Implications

While supporting the linkages between EC and green practices as addressed by existing works (e.g., Kim et al., 2015), this study provides a unique insight to the existing pieces of literature by confirming that subjective norms (i.e., perceived stakeholder pressure) and environmental knowledge determine the hotels' adoption of green practices through top managers' sense of commitment to the environment in Malaysia, which is a developing country. Several theoretical implications are identified. First of all, we found that subjective norm has a stronger effect on top managers' EC than environmental knowledge and perceived benefits. Cantele and Zardini (2020) argued that the most effective and significant method to encourage managers to engage in green practices is social pressure where managers' green action commitment is influenced by various stakeholders such as suppliers, customers, employees, government, general community, and shareholders.

Secondly, perceived benefits have revealed to be the strongest factor that led managers to be involved in green practices by the implementation of environmental programs and guidelines (Chen et al., 2018; Kim et al., 2017). This is followed by environmental knowledge and top manager's EC.

Chandran and Bhattacharya (2019) denoted that hoteliers are willing to practice green initiative due to costs savings and brand image which could sustain the performance of hotels (Abdou et al., 2020; Chen et al., 2018; Kularatne et al., 2019). Thus far, there are limited studies that have tested the relationship between perceived benefits and green practices among top managers in hotel sector. As a result, this has offered a new finding in the field of environmentally responsible behavior studies.

Thirdly, top manager's EC played an important role in the proposed model by mediating the relationship between subjective norm and green practices as well as between environmental knowledge and green practices. Top manager's EC should not be neglected if hoteliers intend to adopt green practices. The EC of top managers is essential for the success of hotels' green practices (Abdou et al., 2020) as they are responsible for leading the entire organization and setting themselves as a role model by taking the initiatives to transform their hotel to be a more environmentally responsible hotel (Geiger et al., 2019).

Practical Implications

Given the increasing number of environmental issues, the insights we gleaned point to the need to delve more deeply into finding the most effective way in providing environmental education among present and future managers so that they have greater environmental knowledge and create greater awareness to develop a greener hotel. Relevant environmental knowledge helps managers avoid the ignorance about the environmental impacts of hotel operations. This can be achieved by attending workshops, conferences, seminars, and talks that are related to hotels' green practices. Through these events and activities, managers can remain well-informed and convinced about the benefits of adopting green practices. Thus, they are more likely to possess greater EC, which can eventually translate into actions for a greener hotel. Moreover, Hsiao et al. (2018) stressed that a budget should be allocated for acquiring and developing human resources with environmental knowledge and expertise. Besides, the hotels should have environmental policies in place and emphasize on the use of eco-friendly equipment and facilities. Additionally, it is important to have a top manager or senior manager with high EC to oversee the implementation of green practices. As the tourism and hotel industries are closely related, hoteliers' efforts to preserve the natural environment are not only beneficial to the hotel (e.g., greater cost efficiency, competitiveness, and profitability), but also serve as a way in ensuring the sustainability of the business in the long run.

In view that subjective norms influence top managers' EC, the government's national policy and relevant regulations that emphasize green growth will serve as strong signals to hoteliers to be committed in supporting green initiatives. The finding also points out that environmentally conscious customers, employees, and the general community can express their views and provide suggestions for an environmentally friendlier hotel via various communication channels as their actions can influence hotels' green decision. The suppliers can influence the hoteliers by promoting a collaboration to develop green supply chains (Al-Aomar & Hussain, 2017). It is also important for managers to monitor and understand stakeholders' environmental expectations regularly, so that they can take appropriate actions to respond to the demands of various stakeholders. In addition, hotel associations can disseminate more information regarding the benefits of green practices adoption and share the knowledge on achieving effective and efficient green practices. Relevant stakeholders including Malaysian Association of Hotels, and Ministry of Tourism, Arts, and Culture and Ministry Investment Development Authority (MIDA) should allocate a budget for hotels to initiate green practices, such as the installation of solar panel on top of the hotel roofs. In addition, MIDA and the Malaysian Green Technology and Climate Change Centre (MGTC) could enlarge or extend the coverage of the current tax incentive package, known as Green Investment Tax Allowance (GITA) and Green Income Tax Exemption (GITE), to the hotel sector (EdgeProp, 2016; My Hijau, 2018).

Limitations and Future Study

Having carried out the study, there are some limitations that have been discovered. Firstly, this study is a cross-sectional design study, therefore, it precludes the ability to draw the causality of the proposed relationships. Besides, the number of the hotels' top managers who participated in this study can be considered as small, and this may limit the generalization of the results. As such, a longitudinal study that involves more top managers from different hotels will enhance the reliability and generalization of the study.

Next, this study did not capture the ownership types of the hotels (e.g., chain-affiliated or independent). Future researchers can extend the present study by evaluating the relative influence of different stakeholders' perceived benefits on top managers' EC and green practices, which is moderated by the hotel size and ownership types of the hotels (Nejati et al., 2014; Ouyang et al., 2019; Rahman et al., 2012). Besides, the present study

included hotels of different ratings, and yet, the proportions of 4 and 5-star hotels were relatively small as compared to other categories. It is also possible for future researchers to include a more equal number of hotels from different categories to enable sound comparison and further analysis to be performed.

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BIGGER AND COMPLEX IS NOT ALWAYS BETTER. THE CREATION OF COMPOSITE SUSTAINABLE TOURISM INDICATOR TO COMPARE DESTINATION DEVELOPMENT

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ABSTRACT

Destination managers need indicators for monitoring, comparing and decision-making purposes about sustainable tourism development. There have been several initiatives to set the sustainable tourism indicators, however, the indicators are either too complex, data collection is difficult, or the analysis requires expert statistical knowledge. Therefore, this article aims to propose a user-friendly method that allows destination managers and decision makers to process tourism data and integrate them into one composite indicator. To help destination managers in their work, this paper reviews the most used methods to create composite indicators, and with the help of the Delphi method among experienced tourism leaders, it proposes a tool that allows destination managers to compare sustainable tourism development of destinations. The results present the application of simple composite sustainable tourism indicator on the example of eight destinations in Slovakia. The paper provides useful guidance in data collection, analysis and decision-making concerning sustainable tourism development.

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INTRODUCTION

Sustainable development requires the integration of its principles into all tourism activities. As Ko (2005) notes, if sustainable development is one of

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the major current tourism objectives, then the sector should monitor its performance and impacts. To ensure that the sustainable development of tourism is realistic and not-only a theoretical concept, it is necessary to apply appropriate tools to measure its impacts (Falatooni et al., 2016; Liu, 2003; Miller & Twining-Ward, 2005). However, universally accepted guidelines for measuring sustainable tourism development have not yet been determined, but practices from different areas of research are combined in attempts to measure it (Kožić & Mikulić, 2014). Therefore, there is no generally accepted proposal to measure sustainable tourism development (Alfaro Navarro et al., 2020; Torres-Delgado & Saarinen, 2014), and the most common frameworks includes the sets of indicators. Tanguay and Rajaonson (2013) concluded that, in developing sustainable tourism indicators, there have been many failures, either because the suggested frameworks did not meet the desired requirements, or for the reason that they were not based on relevant sources. Methodological difficulties may also reduce the applicability of indicators (Kristjánsdóttir et al., 2018). Therefore, not only the theory (Torres-Delgado & Saarinen, 2014) but also the practice call for the easy-to-use method for measuring sustainable tourism development.

This paper provides a review of the existing literature in the sustainable tourism monitoring and the use of composite indicators in sustainable tourism research. Furthermore, it discusses the practical application of composite indicators in tourism destinations. Based on the literature review and with the help of the Delphi method among tourism experts, this paper proposes a user-friendly method that allows destination managers and decision makers to process various tourism data and integrate them into one composite indicator. The study seeks to find answers to two research questions;

RQ1: What are the limits of the methods used for constructing the composite sustainable indicators for tourism?

RQ2: Which method is suitable for the simple and practical adoption of the composite sustainable indicator for tourism?

The study continues as follows. The first section summarizes the literature on sustainable tourism indicators and presents methods used to create aggregate sustainable tourism indicators. The second section points out methodology, explains application of Delphi method and the selection of suitable statistical method. The application of the proposed method is presented in the third section. The conclusions and practical and theoretical implications are summarized in the fourth section.

LITERATURE REVIEW

Without indicators, the term "sustainable" becomes little more than a meaningless phrase (Butler, 1999; Wheeller, 1993). Liu (2003) notes that the measurement of sustainable tourism development is crucial, since there is an urgent need to develop policies and methods that are not only theoretically sound but practically viable as well. Sustainable indicators can be defined as "a set of measures that provide the necessary information to better grasp the relationships and the impact of tourism on the cultural and natural resources in which tourism takes place and on which it is strongly dependent" (World Tourism Organization, 1996, p. 4). Since the introduction of the concept of sustainability in tourism, there have been efforts to monitor the performance of nations and businesses in new frameworks, models, and indicators (Niyazieva & Zhechev, 2020). Indicators of sustainable tourism development follow the concept of sustainability, its tools and they include a set of measures that help to understand the relationship between tourism development and resources on which it depends (World Tourism Organization, 2004). Indicators are used for multidimensional evaluating of destination development (Blancas et al., 2015). Several researchers and stakeholders have proposed different frameworks and/or sets of indicators for monitoring sustainable tourism. Several researchers and stakeholders have proposed different frameworks and/or sets of indicators. Indicators can be grouped into two main categories: simple indicators and composite-aggregated indicators (indices) (Pulido-Fernández & Sánchez-Rivero, 2009). Simple indicators are based on real data and provide information that is based on minimal data processing (Torres-Delgado & Saarinen, 2014), while indices (complex or composite indicators) combine and weight numerous simple indicators (Pulido-Fernández & Sánchez-Rivero, 2009). The advantage of a composite indicator is that it describes different data in an aggregated form that is more understandable to the user (Saltelli, 2007). Mayer (2008) simply adds that a composite indicator is a combination of several indicators that can provide an overall description of a system. Composite indicator can be used to analyse multidimensional systems, as a tourism destination, that cannot be measured by single indicators. Additionally, the combination of numerous data into a composite indicator can help tourism stakeholders to understand the overall performance of the destination and to compare the performance with others (Castellani & Sala, 2010). There can also be an indicator system that contains a set of multiple indicators (Torres-Delgado & Saarinen, 2014).

As Ceron and Dubois (2003) conclude, setting the right indicators requires a high level of contingency, while implementing them requires a high level of pragmatism. An indicator system is not useful when, for example, the user realizes that it is difficult to gather data, or it is time consuming, or an indicator is completely meaningless for the user's destination (Johnsen et al., 2008). The indicator system should be straightforward enough to be understood and applied also by the non-professional (White et al., 2006). Despite the fact that sustainable tourism monitoring has become more popular among academia, non-governmental organizations, and also among tourism professionals, its impact on real policies and their efficiency has been minimal (Pulido-Fernández & Sánchez-Rivero, 2009). Appropriate sets of tourism measures recommended by researchers are usually too complicated to be adopted by tourism professionals and policymakers (Tanguay & Rajaonson, 2013). Indicators need to be methodologically and scientifically settled, while at the same time, easily applied and their results readily disseminated (Torres-Delgado & Saarinen, 2014). Applicable and reliable tourism measures should be developed with practical implementation at national, regional and local level in mind (Wanner et al., 2020).

So far, several indicator systems have been proposed, either as a set of simple indicators (Agyeiwaah et al., 2017; Asmelash & Kumar, 2019; Choi & Sirakaya, 2006; Tanguay & Rajaonson, 2013) or with a proposal of a composite indicator (Blancas et al., 2015; Torres-Delgado & López Palomeque, 2018). Some indicator systems have major practical limitations, while others are scientifically valid but too complicated to be functional (Torres-Delgado & Palomeque, 2014) and present a theoretical description of the framework without its real application (Blancas et al., 2015). Not all research results can provide appropriate sustainable tourism frameworks applicable to other destinations (Fernández-Tabales et al., 2017). Pulido-Fernández et al. (2015) agree that a common criticism of sustainable tourism development is that both academia and policymakers have taken the concept on board with too much enthusiasm but a lack of solutions. The authors add that researchers have proposed a quantity of theories, however, only a few practical schemes, whereas policymakers have used the concept for their own purposes. Bigger is not always better, especially within sustainable tourism development (Agyeiwaah et al., 2017). Regardless of the number of indicators proposed, their methodological processing and interpretation is needed. In recent years, a growing number of models for the composite indicator have been seen that aim to propose a complex and simple interpretation of the concept of sustainable tourism (Torres-Delgado

& López Palomeque, 2018). However, their application by destination managers and decision-makers is questionable and under-researched. Therefore, this article aims to propose an easy-to-use comprehensive method that allows destination managers and decision-makers to process available tourism data and integrate them into one composite indicator.

Various techniques have been used to create a composite indicator (OECD, 2008). These techniques depend mostly on the user's skills (researcher or policymaker). So, the user must select which technique to apply considering methodology, such as choosing indicators, their classification, application of normalization method, indicators weighting and aggregation (Nardo et al., 2005). Various studies have shown that (e.g. Blancas et al., 2011; Castellani & Sala, 2010; OECD, 2008), there are several techniques to propose a composite sustainable tourism indicator and the study findings indicate that there is no ideal method (Pérez et al., 2013). Furthermore, the statistical methods used to create the composite indicator (data normalisation or aggregation) also provide a variety of modifications. All this leads to the fact that each method has a different result.

Table 1. *Method used for constructing composite sustainable indicators for tourism*

Author(s) and year of publication	**No indicators**	**Method used for constructing composite sustainable tourism indicator**	**Application**
Pulido-Fernández & Sánchez-Rivero (2009)	14	Composite indicator as a weighted sum of aggregate indices applying a confirmatory factor analysis	Spain
Castellani & Sala (2010)	20	Sustainable performance index as a sum of the values of 20 indicators	Italy (Lombardy)
Blancas et al. (2011)	85	Principal component analysis and distance to reference point	Spain (Andalusia)
Lozano-Oyola et al. (2012)	85	Net goal programming synthetic indicator	Spain (Andalusia)
Pérez et al. (2013)	39	Two stage aggregation using principal component analysis and data envelope analysis	Cuba
Kožić & Mikulić (2014)	30	Composite indicator using data standardization method	Croatia
Blancas et al. (2015)	89	Net goal programming composite indicator	EU countries, Norway, Switzerland
Blancas et al. (2016)	85	Vectorial dynamic composite indicator based on the goal programming technique	EU countries, Norway
Fernández-Tabales et al. (2017)	43	Multi-attribute decision analysis and analytic hierarchy process	Spain (Andalusia)
Ziaabadi et al. (2017)	87	Principal component analysis, linear programming	Iran (Kerman Province)
Torres-Delgado & López Palomeque (2018)	12	Composite indicator using data standardization method	Spain (Catalonia)
Alfaro Navarro et al. (2020)	27	Principal component analysis, linear aggregation method	EU´ NUTS II
Blancas et al. (2018)	65	Vectorial composite indicator using cluster analysis	Spain (Andalusia)

So far, within the sustainable tourism research, only a few studies have addressed the construction of composite sustainable tourism indicators (Kristjánsdóttir et al., 2018; Torres-Delgado & López Palomeque, 2018). The process usually involves steps in which subjective decisions have to be made, such as the choice of indicators, indicator weighting and aggregation (Pérez et al., 2013). Various studies have proposed different methods for constructing composite indicator for the tourism sector (Table 1). However, what is often overlooked is the end-user's ability to use and process these indicators. Destination managers, policy-makers and other stakeholders may lack the ability to work with sophisticated and complex computing relationships. Although the manager can understand the result, he/ she is not able to repeat the procedure or apply it in his conditions whether due to lack of understanding or time or both.

This can lead to ignorance and reluctance to apply similar methods (Agyeiwaah et al., 2017). There is, therefore, the question that, if apart from academics, someone else has applied the proposed indicators. The results of the method used for constructing a composite sustainable tourism indicator (applying principal component analysis or linear programming) can be easily interpretable but, if someone wants to adopt them, they need to understand at least complex computing relationships. However, if the preconditions are not met, applying a principal component analysis or factor analysis based weights to create composite indicator can be inaccurate and also irrational (Falatooni et al., 2016). Therefore, there is a need for an easy-to-use comprehensive method that both theory and praxis can rely on.

METHODOLOGY

Relevant input indicators selection

In order to use relevant indicators for the method, the list of most-used sustainable tourism indicators both in theory and practise have been evaluated by experts using the Delphi method. Miller and Twining-Ward (2005) defined the Delphi method as a unique technique that involves stakeholder or expert group brainstorming to fill the gaps in the knowledge. In tourism research, the Delphi technique has been widely used. For example, Choi and Sirakaya (2006) used a modified Delphi method to select sustainability indicators. The design of the survey and the suitability of the technique were pretested by the sample of 15 experts from Slovakia (Gúčik & Marciš, 2018).

First, based on the reviewed studies (e. g. Blancas et al., 2011; Castellani & Sala, 2010; European Commission, 2016), a list of 30 most used indicators for constructing composite sustainable tourism indicator was created. Subsequently, for the Delphi panel, tourism experts were selected from the public sector, academic institutions and destination management organizations (DMOs). The main criterion for the Delphi panel was expert experience in tourism development in selected Central and Eastern European (CEE) countries (Slovakia, Czech Republic, Croatia and Slovenia) (Table 2).

Table 2. *The panel members' institutions*

Destination management organizations	**Public institutions and agencies**	**Academic institutions**
Slovak DMO association	Ministry of transport and construction of Slovakia, Tourism section	Faculty of Economics and Administration Masaryk University, Czech Republic
DMO Banská Štiavnica, Slovakia	Ministry of environment of Slovakia	Faculty of European Studies and Regional Development Slovak University of Agriculture in Nitra, Slovakia
DMO Central Slovakia	Ministry of transport of Czech Republic, Tourism section	TURISTICA University of Primorska - Faculty of Tourism Studies Portorož, Slovenia
DMO Visit Bratislava, Slovakia	Goodplace Travel Lab, Slovenia	Faculty of Economics Matej Bel University, Slovakia
DMO High Tatras, Slovakia	Mitomed+, Croatia	

After agreeing to participate in a panel, a group of 25 experts was identified representing tourism leaders with expertise and experience from CEE countries. The panel members were then asked to complete an online survey that consisted of three sections. In the panel first section, the panellists were asked to assess the importance of sustainable tourism indicators and their applicability for destination managers and policy makers, as well as the character of the indicator. In the second section, the panel members were asked to review methods used to create a composite indicator based on the OECD (2008) and to evaluate its applicability in the practice of destination management. The last section was for additional experts' comments and suggestions. The experts were contacted in three rounds, the response rate achieved 76%.

Based on their opinions and consensus, a set of 23 indicators of sustainable tourism development was created specifying the data sources needed for their collection (Table 3). Indicators were classified into three, most recognised, categories of sustainable tourism (Lozano-Oyola et al., 2012; Blancas et al., 2015), namely economic, social and environmental. The ideal number of indicators to apply in sustainable tourism research is

unclear. If we use only some indicators, important gaps can be overlooked. On the other hand, applying too many indicators can become difficult and unmanageable. However, according to the World Tourism Organization (2004), it is optimal to use 12 to 24 indicators relevant to the priority issue. Furthermore, there is still no agreement among academics on which indicators are suitable to evaluate the sustainable development of tourism (Önder et al., 2017). Most of the selected indicators of sustainable tourism development cannot be expressed by the available statistical data. To collect data, the panellist proposed to use survey templates from the European Tourism Indicator System (ETIS) (European Commission, 2016).

Table 3. *Sustainable tourism indicators*

Ref.	Sustainable tourism indicators	Data Source
E1	Nights spent at tourist accommodation establishments (per year)	OS
E2	Average number of bed nights of tourists	OS, QT
E3	Average accommodation occupancy rate for the year (%)	OS, QT
E4	Tourist´ daily spending (euros)	QT
E5	Tourism contribution to employment (% of total employment)	QP
E6	Percentage of jobs in tourism that are seasonal (%)	QP
E7	Percentage of locally produced goods and services sourced by the destination's tourism service providers (%)	QP
E8	Residents' engagement in providing tourism services (%)	QR
S1	Number of tourists per 1 000 residents	OS
S2	Percentage of tourists satisfied with tourism development (%)	QT
S3	Percentage of residents satisfied with tourism development (%)	QR
S4	Percentage of tourists who prefer regional consumption (%)	QT
S5	Accessibility of tourism service providers for people with disabilities (%)	QP
S6	Percentage of tourism service providers that have committed to support local community and culture (%)	QP
S7	The number of local DMO members (% of total number of tourism service providers)	OS, QP
S8	Residents' engagement in the development of tourism in the destination (%)	QR
Z1	Percentage of tourists using different modes of transport to arrive at the destination (%)	QT, QP
Z2	Percentage of tourists using soft mobility transport services to get around the destination (%)	QT, QP
Z3	Percentage of tourism service providers that have committed to reduce waste production (%)	QP
Z4	Percentage of tourism service providers that have committed to reduce water consumption (%)	QP
Z5	Percentage of tourism service providers that have committed to reduce energy consumption (%)	QP
Z6	Percentage of tourism service providers involved in nature protection activities (%)	QP
Z7	Tourism carrying capacity (coefficient)	OS, QR, QT

OS – official statistics, QT – tourists' questioners, QP – tourism service providers' questioners, QR – residents' questioners

The selection of suitable statistical method

To create an easy-to-use composite indicator, there is a need for simple, but on the other hand comprehensive method to reduce the information from selected indicators that both theory and praxis agree on. Multidimensional statistical methods, such as CFA, PCA, or cluster analysis, are used mainly for academic purposes and are hardly applicable by destination managers

in practice. The experts in Delphi method agreed that the suitable easy-to-use method can be the variation of the Min-Max method. Originally, the Min Max method allows normalization of different indicators and is used in time-dependent studies (OECD, 2008), where the minimum and maximum values are transformed into normalised indicators with values between 0 (laggard) and 1 (leader).

The proposed variation of the Min-Max method also incorporates a scoring system and allows to compare different variables (e.g. percentages, persons, overnights, tourists' spending) and imply them into one indicator – score for the destination (or for each dimension). This method also enables indicators weighting if they are of different importance (e.g. based on the results of Delphi study). The indicators can be compared with their measured variables and aggregated into composite indicators. Furthermore, the proposed variation of Min-Max method allows to set apart whether the value of the indicator should be maximized (1) or minimized (2) based on its development in other comparable destinations.

$$(1)\quad B_{ij} = \frac{X_{ij}}{X_{max\,i}} \times 100$$

$$(2)\quad B_{ij} = \frac{X_{\min i}}{X_{ij}} \times 100$$

where B_{ij} is the number of points or score for indicator (i) destination (j), X_{ij} – value of the i-indicator for j-destination (rescaled value), $X_{\max i}$ – the maximum value of i-indicator and $X_{\min i}$ – the lowest value of the i-indicator. The best-evaluated (leader) destination gets maximum (e. g. 100) points, i.e. measured value that is from the sample the best. The indicators can be integrated into one composite indicator (I), which can be expressed as weighted arithmetic mean of all indicators:

$$(3)\quad I = \frac{1}{n}\sum_{i=1}^{n} B_{ij} \times w_{ij}$$

where i is 1, 2 ... n number of used indicators, j – number of destination in the sample, w_{ij} – indicator weight. The lowest score identifies the least (laggard) sustainable destination and highest the best destination (leader) within the sample.

Indicators can be weighted by numerous procedures such as data-centric or opinion-centric approaches (Delphi method or expert panel surveys) (Mikulić et al., 2015). This brings about further variations in the process of creating a composite indicator. In sustainable tourism research, the Delphi method has been used for indicator weighting in several studies

(e.g., Ocampo et al., 2018; Tsaur et al., 2006). In the proposed method, weights were calculated based on the mean importance assigned to the indicator according to the Delphi results. The weights were determined as the ratio of the assigned mean (importance) and the maximum rating that the panelists could assign to the indicator (Appendix A).

The Min-Max normalization is one of the most common ways to normalize data. Similarly to our variation, it has been used in regional science to compare regional development (Tej, 2008; Výrostová, 2010). Regional development as well as tourism is a complex and complicated process that is influenced by many factors and conditions. The method provides a relatively objective and broad view of the possibilities of development compared to other spatial units.

RESULTS

In order to test the applicability of the proposed method in the practice, eight tourism destinations in the Central European country - Slovakia were selected. The research sample consists of urban (Bratislava, Košice, Central Slovakia), rural (Slovak paradise, Žitný ostrov), mountain destinations (High Tatras, Liptov), and a spa destination (Piešťany). These are the most competitive destinations in Slovakia (Kvasnová et al., 2019). The sample characteristics are shown in Table 4.

Table 4. *Basic characteristics of the sample*

Destination	Overnight stays	Beds	Population	Area in sq. km
Bratislava	2 719 733	16 185	424 428	367
Košice	367 725	5 772	239 171	242.8
Liptov	387 357	14 019	72 396	477.7
Piešťany	663 806	4 768	32 431	44.2
Slovak paradise	157 892	2 390	84 116	553
Central Slovakia	518 692	5 660	135 274	421.5
High Tatras	2 084 632	11 665	59 038	485.9
Žitný ostrov	94 186	4 163	52 144	208.5

Source: Statistical Office of the Slovak Republic, 2019

The official statistics and primary surveys were used to collect the input data. Questionnaires for tourists, residents, and tourism services providers were designed based on the ETIS templates (European Commission, 2016) in the Slovak language. With the help of destination managers in each destination, 639 tourists, 326 tourism service providers, and 680 residents provided information during the summer and winter seasons of 2018.

The results of the proposed variation of the Mix-Max method and the scores for the partial indices (sustainable tourism dimensions) as well as the composite sustainable tourism indicator (I), are shown in Table 5.

Table 5. *Comparison of sustainable tourism development in Slovak destination*s

Destination	*I*	Sustainable Tourism Dimensions		
		Economic	Social	Environmental
Piešťany	64	59	65	71
High Tatras	60	62	59	52
Košice	57	49	64	58
Slovak paradise	57	42	64	66
Bratislava	52	58	43	54
Central Slovakia	51	47	52	53
Liptov	50	44	58	50
Žitný ostrov	49	42	47	61

The advantage of this method is the ability to compare the results among destinations. In this study, destination Piešťany shows the highest tendency to sustainable development of tourism (leader), whereas Žitný ostrov presents the lowest (laggard). The destination Piešťany obtained the best results for indicators such as (E2) average length of stay, (S5) percentage of tourism enterprises and attractions accessible for people with disabilities, and (Z3) percentage of tourism enterprises that reduce waste production. These results are in line with the spa character of Piešťany. Overall, Piešťany obtained the best values, which we used as a basis for comparison with other case studies, in five indicators. The lowest number of points was assigned to the destination Žitný ostrov, e. g. for (E3) the average occupancy rate in commercial accommodation, (S3) residents' satisfaction with the tourism development, and the proportion of tourism enterprises and attractions that are involved in the activities of the local DMO (Figure 1).

Considering the results obtained, it is useful to note that the composite indicator has no lower or higher limits; instead, the results can specify the gaps between destinations. Therefore, regarding the sustainable or unsustainable development of tourism in destination, we can only discuss it in comparable terms. Moreover, the differences among indicators or dimensions can be evaluated by dispersion of values used (e.g. variance or standard deviation). In this study, the Slovak paradise (National park) obtained lower points for economic indicators (e.g. for average length of stays, average occupancy rate, and high percentage of seasonal employees) but on the contrary, higher points for environmental indicators (tourism enterprises that reduce waste production and are actively involved in nature protection).

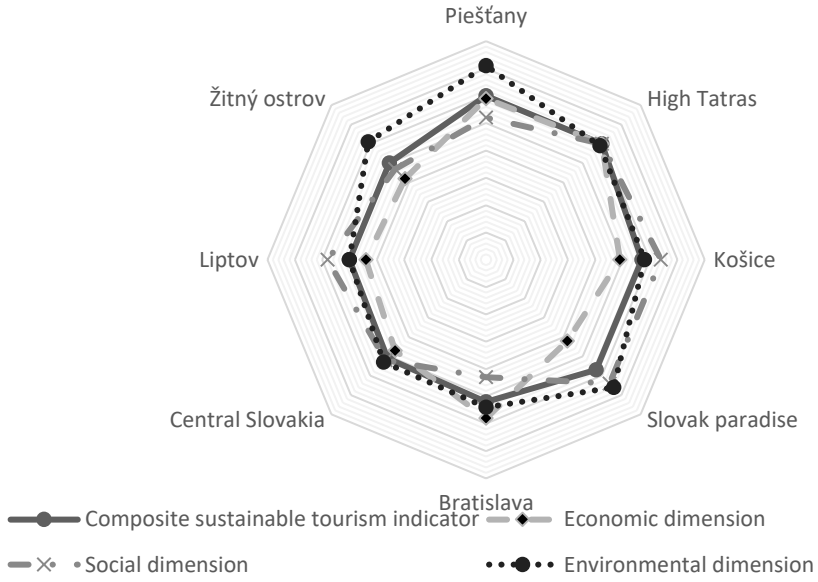

Figure 1. *Comparison of sustainable tourism development in analysed destinations*

The method can be enriched by modelling the "best practice" destination, where the best indicator values are assigned to a fictional object - a model of the ideal destination. To express differences among destinations, the Euclidean distances can be calculated. The further the destination is from the model of ideal destination, the worse ranked their indicators values are. This measurement is able to highlight the differences between destinations and identify a model that presents the best (ideal) examples of sustainable tourism development (Figure 2).

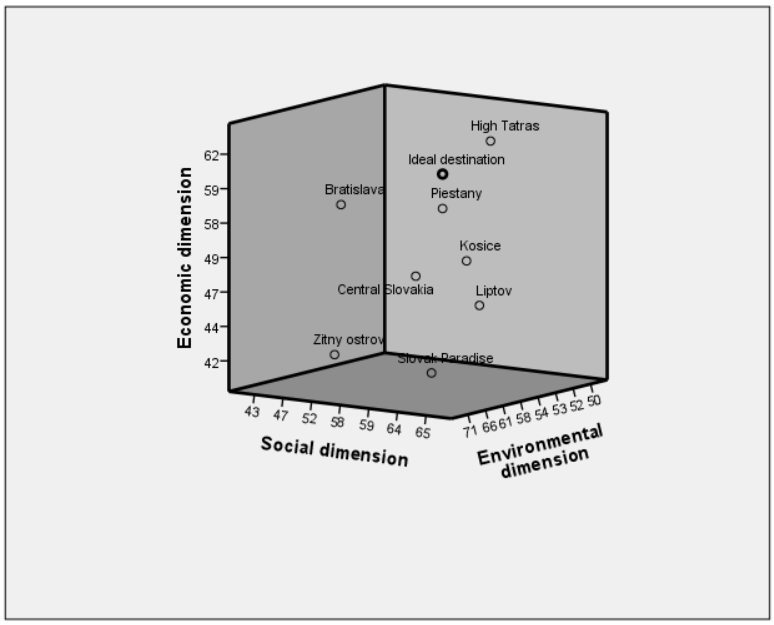

Figure 2. *Distance of destinations from the ideal model*

CONCLUSION

Tourism is a sector known for weak statistical data, while issues related to sustainable development create an additional amount of uncertainty (Ceron & Dubois, 2003). By applying an appropriate method, destination managers and decision-makers can identify positive or negative impacts of tourism in the destination. There are numerous studies that have proposed methods for constructing and use of composite indicators for the tourism sector. Each had to face the questions that arise due to the lack of agreement regarding the ideal technique (Torres-Delgado & López Palomeque, 2018). However, destination managers' and policy-makers' ability to use such methodology is often overlooked. These methods are generally too complex to be operational which can lead to end-user ignorance and reluctance.

On the example of tourism development in eight destinations in Slovakia, this article incorporates a simple variation of the Min-Max method. Instead of developing a too complex data processing methodology, the authors focused on a simple and practical-oriented method that can be adopted easily. Adopting smaller, yet practicable measures may represent a formidable action towards sustainability (Agyeiwaah et al., 2017). In other words, policymakers can apply the proposed methodology to begin the process of monitoring and measuring destination development.

Theoretical implications of the study include the review of current approaches to sustainable tourism monitoring using composite indicator. The literature review reveals that the creation of an appropriate sustainable tourism framework calls for a combination of a scientific approach and a decision-maker approach (Falatooni et al., 2016). The current study supports this theoretical discussion and proposes a method that is based on the views of those to whom these methods are intended. Prior studies have identified several indicators for sustainable tourism development. Although these frameworks are scientifically appropriate, they are often difficult to be applied due to the lack of information or human resources (Önder et al., 2017). Indicators for monitoring sustainable tourism development should be developed in discussion with all stakeholders (Mutana & Mukwada, 2018). With the help of the Delphi method and experts from various tourism fields and destination managers, the proposed method allows measuring different tourism-related variables with an easily understandable and more user-friendly approach. Another theoretical contribution is the review of the most widely used method for constructing composite sustainable tourism indicators.

In addition, the paper has several practical implications for destination managers and policy-makers. The challenge, to propose a practical framework that can be used in practice and at the same time is scientifically relevant to direct destinations toward sustainable tourism development (Torres-Delgado & Palomeque, 2014), was fulfilled. The aggregation of various tourism data into a single indicator can help destination managers and decision-makers to recognize the impacts of tourism development and to compare the performance of their destination with different regions. The study's interest in the composite indicators results from their ability to aggregate several factors and conditions, provide a broader, integrated overview, and attract decision-makers' interest. Another practical implication of the proposed method is that it can simply analyse numerous data, which means the destination managers and policymakers find it easier to understand. It also enables indicator weighting if they are of different importance and sets apart whether the value of the indicator should be maximized or minimized.

The limitations of the study lie in the possible risk of subjectivity, which may despite applied Delphi method and theoretical background have affected the indicator selection, assignment of weights and values. Another limiting factor is also the focus only on the selected experts from the CEE countries and the character of the static indicators. Therefore, the method should be tested in the praxis of several destinations to prove its usefulness. In the near future, new tools, in terms of data used (e.g. big data), their collection (smart sensors, web scrapping), exchange (dynamic technological platforms with APIs), and analysis (sentiment analysis) can lead to much more understandable, real-time and user-friendly construction of composite sustainable tourism indicator, which can lead to smart destination development.

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Appendix A. *Descriptive statistics and weights of sustainable tourism indicators*

Sustainable tourism indicators	Mean	SD	Max	Min	*W*
Nights spent at tourist accommodation establishments (per year)	868 675	978 485	2 719 733	94 186	0.800
Average number of bed nights of tourists	2.4	1.2	5.0	1.3	0.724
Average accommodation occupancy rate for the year (%)	29.9	11.4	44.0	14.4	0.830
Tourist´ daily spending (euros)	62.8	14.7	80.2	42.3	0.830
Tourism contribution to employment (% of total employment)	20.4	8.0	31.0	11.0	0.830
Percentage of jobs in tourism that are seasonal (%)	13.5	6.5	22.3	2.5	0.770
Percentage of locally produced goods and services sourced by the destination's tourism service providers (%)	63.6	11.43	75.0	48.0	0.862
Residents' engagement in providing tourism services (%)	31.9	6.16	40.0	18.0	0.846
Number of tourists per 1 000 residents	9 574	12 107	35 310	1 537	0.816
Percentage of tourists satisfied with tourism development (%)	80.3	7.5	90.0	69.0	0.800
Percentage of residents satisfied with tourism development (%)	84.0	7.8	93.0	71.0	0.908
Percentage of tourists who prefer regional consumption (%)	61.3	10.4	75.0	50.1	0.784
Accessibility of tourism service providers for people with disabilities (%)	55.4	14.4	70.7	33.3	0.724
Percentage of tourism service providers that have committed to support local community and culture (%)	59.9	16.4	80.5	32.3	0.784
The number of local DMO members (% of total number of tourism service providers)	42.1	11.0	56.0	21.1	0.754
Residents' engagement in the development of tourism in the destination (%)	30.5	8.7	48.3	17.8	0.900
Percentage of tourists using different modes of transport to arrive at the destination (%)	58.3	16.1	80.6	32.9	0.770
Percentage of tourists using soft mobility transport services to get around the destination (%)	51.8	15.5	74.6	33.3	0.830
Percentage of tourism service providers that have committed to reduce waste production (%)	72.6	18.6	90.2	45.7	0.924
Percentage of tourism service providers that have committed to reduce water consumption (%)	52.0	10.1	65.9	35.6	0.892
Percentage of tourism service providers that have committed to reduce energy consumption (%)	66.0	8.9	79.2	51.1	0.892
Percentage of tourism service providers involved in nature protection activities (%)	55.1	15.6	83.3	37.1	0.908
Tourism carrying capacity (coefficient)	2.8	0.7	4.3	2.3	0.830

Mean: mean value of the indicator for the sample, SD: Standard deviation, Max: maximal value, Min: minimal value, *W*: indicator weight based on the results of Delphi method as a ratio between mean importance and maximal rating, e.g. 4.5 to 5.

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DETERMINANTS OF THE EXPENDITURE OF TOURIST DEMAND IN COASTAL DESTINATIONS

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ABSTRACT

The aim of this work is to analyze the determinants of tourist expenditure in Monte Hermoso, a destination located in the southwest of the province of Buenos Aires, Argentina. Tourist surveys were administered during the austral summer (January-February) and considered as primary information. Socioeconomic and trip-related variables were selected to explain the determinants of the average total expenditure of tourists in this destination. The Ordinary Least Squares (OLS) method was applied. From the results obtained, it was determined that the level of income, origin, group size, and type of accommodation are the regressors that best demonstrate the spending behavior of the destination's domestic demand. Therefore, it is possible to identify the most attractive demand segments that contribute to improving competitiveness and increasing the rate of return of the destination.

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INTRODUCTION

Clearly shown by the statistics and statements of the World Tourism Organization (UNWTO), the consolidation of tourism as an economic sector

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that equals or even exceeds other sectors such as oil or automotive industry is considered as a fact at global scale. Between 2009 and 2019, there was not only an increase in tourists' number that make up international flows, but also an increase in income from international tourism; the latter is one of the main indicators of growth in the activity (UNWTO, 2019). Income is a measure of the economic impact of tourism upon destinations. The Word Travel & Council Tourism - WTTC (2020a) established that in 2019 the activity contributed to 10.3% of global GDP, which represented 6.8% of total exports and 28.3% of global services exports. In addition, capital investment exceeded US $ 900 billion, i.e., 4.3% of total investment.

In Latin America, tourism represents 8.8% of regional GDP and during 2019, it represented 9.2% of the national GDP in Argentina (WTTC, 2020a, 2020b). According to the report of the National Ministry of Finance of Argentina (2019), tourism is the fourth export complex in the country and stands out for its contribution to Argentina's federal growth. Although most of the international arrivals are concentrated at Ministro Pistarini International Airport (Ezeiza), 94% of tourist expenditure takes place outside autonomous city of Buenos Aires and Buenos Aires's Metropolitan Area. This shows that tourism is a consumption activity whose measurement through expenditure is essential (Park et al., 2019).

The growth of this sector at all territorial scales is based on the permanent mobility of people for tourism purposes, which is favored by globalization and the technological development that this phenomenon brings about. This presents a new model of global tourism that, in terms of demand, is characterized by its expansion towards intra and interregional destinations and the convergence of different tastes, preferences, and lifestyles that shape new market segments. Consequently, more flexible and adaptable forms of production are implemented (Fraiz Brea, 2015; Garcia Pascual, 2017). Changes in demand give rise to the emergence of the postmodern tourist who is differentiated by ones' behavior and consumption patterns (Noguera Tur et al., 2015). This tourist coexists with other tourist profiles, which implies that the destination should be aware of these segments and their contributions to the different tourism products it offers.

Sun and sand destinations, traditionally associated with a Fordist production model and mass tourism, are not exempt from the processes of change in tourist demand. This is added to the inconveniences of seasonality and modernizing (in the case of mature destinations), as well as to the impacts of crises and changes in the environment where they are

located. Therefore, the interest in empirical knowledge of tourist consumption using expenditure and its components as proxy variables is widespread. These data contribute to the definition of dynamization and positioning strategies according to the scenario of change where tourist destinations are found.

Studies focused on such variables (consumption and expenditure) have been conducted both at micro (Wu et al., 2013; Brida & Scuderi, 2013; Vasco et al., 2014; Aguiló et al., 2017; D'Urso et al., 2020) and macro level (Eugenio-Martin & Campos-Soria, 2014; Lin et al., 2015; Mehran & Olya, 2018; Desfrancois & Pastás Gutierrez, 2019). Some authors (Abbruzzo et al., 2014; Disegna & Osti, 2016; Smolčić Jurdana & Soldić Frleta, 2017) agree that there is a smaller number of analyzes on determinants of tourism expenditure at individual level, although the recent review of literature unveils many studies in which the main unit of analysis is the subjects. However, there is a greater number of studies that address the determinants of spending in destinations with international demand rather than in those with domestic tourist demand. It is the case of sun and sand destinations in the Mediterranean and European, Asian, and North American destinations associated with other types of tourism. Likewise, in the mid-latitudes of the southern hemisphere, there are studies focused on the international demand of Peru, Colombia, Ecuador, and Uruguay, however, there is no analysis on domestic demand. Therefore, the following questions arise: *What are the determinants in coastal destinations where the main demand results from domestic tourism? Does the relationship between expenditure and the explanatory variables go in the same direction? What are the advantages of identifying the determinants of expenditure for a tourism destination and its marketing organizations?*

Monte Hermoso is a consolidated sun and sand destination located in the southwest of the province of Buenos Aires (SW Buenos Aires). Its main economic activity is tourism, and it is the fastest-growing and fastest-expanding destination in SW of Buenos Aires (Vaquero et al., 2007). The Secretariat of Tourism has been conducting surveys among tourists during the austral summer (January and February) for over a decade now so that it is possible to know the demand for the destination from a descriptive point of view (definition of the tourist profile and consumption habits). However, there is a lack of explanatory and correlational research on expenditure at the destination. Therefore, the objective of this paper is *to analyze the determinants of expenditure by tourists in Monte Hermoso during the 2020 summer season*.

LITERATURE REVIEW

Demand and Tourist Consumption

The concept of demand is directly associated with a price-quantity relationship since the individuals demand goods or services when they desire them and have the resources to obtain them. In the field of tourism, demand is understood as the flow of people who visit a destination or wish to do so for not more than one year and not less than 24 hours. Based on this definition, the demand is classified as effective or latent. The first group includes the total number of people who participate in tourist activities, while the second one refers to those who wish to participate in tourism but are unable to do so due to personal reasons (potential latent demand) or to those related to the destination (deferred latent demand) (Panosso Netto & Lohmann, 2012). In this article, an analysis of effective demand is conducted since it is a variable that can be quantified based on accurate data.

At the same time, tourist demand may appear to be a simple concept, but it is far from being so due to the multiple approaches and issues that may arise. For example, there are different studies based on macro and micro contexts (Ruiz Romero de la Cruz et al., 2020), as well as on purely economic, motivational, or psychosocial perspectives. Likewise, some other studies base their analysis according to the tourism types, while others do not address these differences. One of the aspects that complicates the approach to demand is the underlying act of consumption. Tourism consumption is not the result of economic determinism because it is related to cultural and behavioral factors that respond to different socio-cultural, economic, and political contexts. From this perspective, tourism is not restricted to travel from a point of origin to a destination, but rather regards people looking for experiences and realities different from those of their daily lives. This reflects a social attitude of "choice" within a relatively defined market based on the interests of the supply (Guzmán Hernández et al., 2009).

In line with the complexity of demand and consumption, Woodside and Dubelaar (2002) propose a conceptual and empirical framework about tourism consumption systems (TCSs). A TCS is defined as "(…) the set of related travel thoughts, decisions, and behaviors by a discretionary traveler prior to, during, and following a trip" (Woodside & Dubelaar, 2002: 120). According to this theory, thoughts, decisions, and behaviors are linked to other thoughts and decisions related to other activities. This shows the interest in understanding these patterns in the consumption of goods and services which are directly and indirectly related to tourism. Therefore, it is

possible to broaden the spectrum of analysis in relation to the decisions made and the actions carried out by the tourist, instead of focusing exclusively on the reasons for choosing the destination. The study of the tourist by means of the TCSs helps to obtain a more specific definition of the profile by market segment, socio demographic features, trip planning among other issues.

In the study of demand, it is essential to consider the determining factors. Regalado Aragón (2013) establishes four economic factors that influence the decision to consume a tourist product: a) the prices of tourist services, b) the prices of other goods consumed by tourists, c) the level of discretionary income, and d) the real exchange rate (for international tourism). For their part, González Alatorre and Conde Pérez (2011) expand that vision and establish four groups of factors: a) economic, they refer to the same aspects mentioned by Regalado Aragón (2013); b) related to the demanding subjects: motivations, tastes, and preferences (push factors) (Da Silva Añaña et al., 2017), geographic proximity and demographic and socio-cultural features of the visitors. The third group of factors, c) the marketing system that includes the promotion of the destination; and finally, d) customer satisfaction, an extremely complex dimension given its subjective nature. In sum, these determinants can be included in the function of tourist demand, i.e. the "quantity demanded" depends on a set of factors that usually include: the price of the service, the income level, the price of other goods and services, tastes and preferences, and the size of the market (Mochón Morcillo & Becker, 2008).

Tourism Expenditure: A Strategic Variable

Like the determinants of demand, tourism spending is a widely developed topic in literature. It is one of the main indicators when analyzing consumption and is often used as a proxy variable to estimate effective demand. Total tourist spending is the sum of expenditures made by the tourist for consumption while traveling between the region of origin and the destination, and *in situ*.

The payment for a tourist service gives rise to economic effects and investments that multiply income and generate income and consumption (Narváez & Fernández, 2010). Thus, the complexity in the analysis of spending is mainly due to its implications for the destination. On the one hand, it is necessary to identify the space where the expenditure is made (origin or destination) to determine the real impact of tourism in each territory (Alegre Martín et al., 2003). On the other hand, it is necessary to

differentiate between the number of tourist arrivals and the expenditure made (Noguera Tur et al., 2015). The profitability obtained by tourism is not necessarily proportional to the linear growth of visitors but depends on i) the effective spending capacity of tourists at the destination, ii) the components into which it is broken down, and iii) the occupancy rate of the tourist supply.

According to Aguiló et al. (2017) destinations deal a dilemma about increasing spending, expanding the tourist plant or increasing prices and improving the quality of services. From the perspective of profitability, one tourist with a certain level of expenditure is preferred to two tourists with half the spending. Under this presumption, the same level of benefits can be achieved with a high daily per capita expenditure and a low volume of tourists or, alternatively, with a high volume of tourists and a low level of daily per capita expenditure. In short, from a macro perspective, the analysis of tourism expenditure allows: i) to measure the multiplier effect that the activity contributes to the economy as a whole, ii) to identify how income is distributed along the value chain and therefore its contribution to local and regional growth (Noguera Tur et al., 2015), iii) to assess the return of tourist activity in a destination, and iv) to study the evolution of demand in a given period (Nicolau & Mas-Ruiz, 2007; Narváez & Fernández, 2010; Varisco, 2018). Accordingly, strategies can be planned to improve the positioning of the destination, gain the target public, segment the market, and design public policies (Park et al., 2019).

From a micro perspective, it is important to measure spending by considering tourists as the unit of analysis. The study of total tourism expenditure by group, total individual expenditure and daily expenditure per capita, helps to understand spending patterns and consumption behavior (García-Sánchez et al., 2013; Disegna & Osti, 2016). On this scale of analysis, different authors have concluded that tourism is a normal good, i.e., income elasticity is positive, as income increases, so does the demand for tourism (Nicolau & Mas-Ruiz, 2007; Hung et al., 2013, Brida & Scuderi, 2013; D'Urso et al., 2020).

The components of tourist expenditure are usually broken down into the following categories: accommodation, food and beverages, transportation, shopping, excursions, and entertainment (Marcussen, 2011; Smolčić & Soldić Freleta, 2016). However, in respect of their determinants, multiple variables are involved since they do not have a universal definition. This is because the results obtained in different applied studies are not always associated. For instance, in the analysis conducted by

Nicolau and Mas-Ruiz (2007), age is not a significant factor in explaining expenditure by Spaniards during their vacations, while Jang et al. (2004) found that it was for Japanese tourists, who spent more on travel as they get aged. In turn, Kruger et al. (2010) showed that this variable is one of the most significant. In relation to the length of stay, different results have also been obtained. Nicolau and Mas-Ruiz (2007) and Aguiló et al. (2017) found that its length has positive effects on tourism expenditure, while Smolčić Jurdana and Soldić Frleta (2016) determined that the effect is negative. In contrast, Park et al. (2019) identified that this explanatory variable is not significant.

Despite the distinctive features and heterogeneity of the empirical findings, there is a common denominator in the determinants selected in most of the studies on this issue. Nicolau and Mas-Ruiz (2007) group the explanatory variables of spending into three categories: i) individual travel-related characteristics, ii) personal restrictions, and iii) socio-demographic characteristics. On their part, Mudarra-Fernández et al. (2019) identify four groups of factors that affect tourism expenditure: i) socioeconomic variables, ii) variables related to the trip characteristics, iii) variables associated with the destination, and iv) psychological variables. Based on these two proposals Figure 1 disaggregates the corresponding explanatory variables.

Socio-economic variables	**Related to the characteristics of the trip**
Age	Length of stay
Education level	Loyalty to the destination
Marital status	Accommodation
Nationality	Package tour
Level of income	Size of travel group
Occupation	Group composition
Size of the household	Season
Size of the city of residence	Payment terms
Mother tongue	Use of technology

Related to the characteristics of the	**Psychological**
Proportion of visitors from the same region	Personality
Distance to the destination	Motivational
Image	Expectations-Satisfaction
Activities offered	Values of the tourist

Figure 1. *Determinants of tourist expenditure grouped by main categories of analysis*

According to the review by Mudarra-Fernández et al. (2019) the main explanatory variables of expenditure for most tourism typologies are: within the group i) educational level, income, nationality, and occupation. With respect to category ii), length of stay and size of the group are directly and positively related, while loyalty to the destination expresses an inverse relationship to spending. In the group iii), the variables image, distance to the destination, and proportion of people from the same region stand out, although, unlike the previous cases, the degree of analysis is comparatively lower and, consequently, there is less certainty about its effect on tourism expenditure. Within the last group iv) the most studied variable is motivation that has a positive effect on the dependent variable.

From this literature review, assumptions arise about the relationship of the determinants with respect to tourism expenditure. Regarding to this, the hypotheses are established for each of the four groups defined above with respect to Monte Hermoso (Table 1).

Table 1. *Hypotheses about the determinants of tourism expenditure in Monte Hermoso*

Group	Hypotheses
(i)	H_1: Monte Hermoso's tourists with over ARS 32,000 income express a direct relationship with respect to total expenditure.
	H_2: The relationship with respect to total expenditure by Monte Hermoso´s tourist is independent from the category of occupancy.
(ii)	H_3: Tourists who are on vacation in the destination for more than 15 days spend more than those with shorter stays.
(iii)	H_4: Tourists that come from cities more than 300 km from the destination, spend more than those from the nearby region.
(iv)	H_5: Tourists who choose Monte Hermoso for the safety spend more than those who choose it for its attractions.

Most of the studies focused on the analysis of individual consumption are based on econometric models which, according to the review by Abbruzzo et al. (2014) are classified into two groups. On the one hand, there are studies based on the representation of the Engel curve. They seek to show the level of expenditure based on socio-demographic, travel-related, psychographic, and budget restriction variables. For this purpose, the most widely used methods are Ordinary Least Squares (OLS), although other methods have also been used to answer specific estimation issues. Another group of studies is based on random utility models in which the attributes that affect the probability that a subject will consume tourism goods when faced with the likelihood of choosing between tourism and non-tourism goods and services are determined. In these cases, logistic regression methods are usually used.

STUDY AREA

Monte Hermoso is a seaside destination located in SW Buenos Aires (38° 59' S; 61° 15' W) as administrative seat of the homonymous district is the main urban nucleus. Arranged longitudinally parallel to the coast, the urban area of the town covers 186 ha. The city has a general direction E-W and extends for a length of 32 km between Punta Sauce (14 km from the destination) and Punta Pehuen Co.

The extension of the beach and its natural characteristics have allowed its transformation from a resource to a to a tourist attraction of hierarchy, which makes the destination one of the main stay centers in the Buenos Aires SW (Vaquero et al., 2007). Two distinguishing features of this destination are: the absence of shadow cones due to the E-W direction of the coast having both sunrises and sunsets over the sea, and the water temperature, 5 °C warmer than other coastal destinations on the Atlantic coast of Buenos Aires (Del Pozo & Bróndolo, 2003; Huamantinco, 2012).

Tourism is the main economic activity of Monte Hermoso, its peak demand is during the months of January and February (austral summer). In relation to this, Caruso (2019) establishes the difference between the stable population of the town and its summer population. According to her projection for 2019, the permanent population of Monte Hermoso was 7,665 habitants, while in the summer season it is estimated that it amounted to 74,000 people, which represents a population increase of over 700% concentrated in only two months. In recent years, in order to mitigate the marked seasonal pattern, the destination has diversified its offer from sports tourism. Finally, residential tourism is the main type for the implementation of the activity, which implies that tourist flows are represented by family units that stay in second homes for long periods of time, in this case over 30 consecutive days.

METHODOLOGY

Data base

The database used in this article includes the most relevant characteristics of the tourists who vacationed in Monte Hermoso during the 2020 summer season. This primary information was obtained in the field between January and February 2020 through targeted surveys aimed at this population. Respondents were selected by simple random sampling. The sample size was determined in 1,473 individuals with a confidence level of 95% and 5%

error. However, prior to the multi-varied analysis, the records with incomplete information were removed, so the database was reduced to 1,117 valid questionnaires.

The questionnaire was divided into two sections. The first part corresponds to the survey of the characteristics of the demand that help to build the profile in greater detail. Among the variables included in this section are the following: gender of the respondent, number of people per group, type of group, number of people by age range, place of origin, length of stay, educational level, occupation, type of accommodation, ways of booking accommodation services, conveyance used, monthly income, total tourist expenditure, reason for choosing the destination, attractions visited, and price level perception. The second part of the questionnaire includes an evaluation grid to determine the level of satisfaction with respect to different variables related to the quality of the destination's services and attention received. For the purposes of this study, the variables of the first section were used.

Variables and model

The dependent variable in this study is the total tourist expenditure reported by the respondents. It is expressed in national currency, i.e., the Argentine peso ($ ARS). The Kolmogorov-Smirnov normality test showed that the variable does not have a normal distribution, so the natural logarithm (ln) of total tourist expenditure (log-lin model) was used. In addition, as Thrane (2014) points out, the logarithmic transformation of expenditure contributes to mitigating heteroscedasticity and reducing the influence of outliers, thus leading to a better model fit. The Ordinary Least Squares (OLS) method was applied to explain the determinants of total expenditure, because the dependent variable is continuous and responds to the cross-sectional nature of the data base.

The least squares regression method aims to generate the function that best fits the general trend of the data and is the simplest to understand a complex phenomenon (Burton, 2020). For this reason, in this case the method was used to find out which are the main variables that explain the expenditure behavior of Monte Hermoso's tourists. The OLS is a useful technique when the parameters are unknown and the relationships between the dependent variable and the regressors are hypotheses that requires to be tested. The method consists of minimizing the sum of the squared residuals, that is the differences between observed and expected values according to the results of the model (Dismuke & Lindrooth, 2006).

Among its main advantages it can mention i) it is objective, ii) it is reproducible as provides the same equation no matter who performs the analysis, and iii) allows to get a probabilistic estimate of the equation representing experimental data (Burton, 2020). To this end, the Statistical Package for the Social Science (SPSS) software (version 23.0) was used. The regression model is presented in equation 1.

$$Ln\ Y_i = \beta_0 + \sum \beta_j\ X_{ij} + \varepsilon_i \quad [equation\ 1]$$

Where Ln Y_i is the natural logarithm of the total tourist expenditure made by the i-th observation; β_0 is the intercept or ordinate to the origin; β_j is the coefficient associated with the j-th regressors; X_{ij} j-th regressors associated with the i-th observation and ε_i is the random error.

According to the reference authors cited in section 2, the independent variables or regressors are grouped into two categories: socioeconomic and travel-related (Table 2). Most of the explanatory variables are categorical, so they were transformed into binary variables to be included in the model. Due to the number of categories contained in the categorical variables, the reference variables are family (group composition); primary (educational level); student (occupation); $ 16,000 to $ 24,000 (household income); second home (type of accommodation).

Table 2. *Independent variables*

Independent variables	**Descriptions**
Socio economic	
Gender (dummy variable)	1 = male; 0 = female
Income (dummy variable)	
$ 32,000 to 48,000	1 = monthly income corresponds to the range; 0 = otherwise.
$ 48,000 to 64,000	
$ 64,000 to 80,000	
$ > 80,000	
Educational level (dummy variable)	
Secondary	1 = if high school is completed; 0 = otherwise.
Tertiary	1 = if holds tertiary degree; 0 = otherwise.
University	1 = if holds a university degree; 0 = otherwise.
Occupation (dummy variable)	
Professional	1 = if is a professional; 0 = otherwise.
Public employee	1 = if is a public employee; 0 = otherwise.
Private employee	1 = if is a private employee; 0 = otherwise
Retiree	1 = if is a retiree; 0 = otherwise
Origin (dummy variable)	
Bahía Blanca	1= if is from Bahía Blanca; 0 = otherwise.
Southwest of Buenos Aires province	1= if is from Southwest of Buenos Aires province; 0= otherwise

Related to the trip	
Travel party size	Number of members of the group.
Children	Number of children in the group.
Length of stay	Number of the days at the destination.
Type of accommodation (dummy variable)	
Hotel	1 = if stay at a hotel; 0 = otherwise.
Rental housing	1 = if stay at rental housing; 0 = otherwise.
Cottage	1 = if stay at cottage; 0= otherwise.
Apart hotel	1 = if stay at apart hotel; 0 = otherwise.
Camping	1 = if stay at camping; 0 = otherwise.
Motivation	
Rest and quiet	1 = choose MH for rest and quiet; 0 = otherwise.
Second house	1 = choose MH because has a house; 0 = otherwise.
Safety	1 = choose MH because its safety; 0 = otherwise.

RESULTS AND DISCUSSION

Characteristics of the tourist demand

The demand in Monte Hermoso (Table 3) is mainly made up of families (72%). In terms of age, the 26 to 55 age group is the most representative (44%), followed by minors (0 to 18 years old) who represent 34%, which is conclusive with the most frequent type of group. The level of education of those surveyed is high with 70% having completed their higher studies (Tertiary and/or University) and 29% completed secondary studies. Regarding to occupation, tourists are mostly in the private employee (32%) and professional (27%) categories. The sea and the beach, as well as tranquility and proximity are the key features in the choice of the destination. 25% of the sample comes from the city of Bahía Blanca, maintaining its status as the most relevant issuing center, although losing seven percentage points compared to the previous year (Rodriguez et al., 2019). The Patagonia region contributes 24% of tourists, doubling its percentage share compared to the 2019 summer season.

The average stay was 10 days, and the most frequent type of accommodation was rental housing (60%). Accommodation was booked through a real estate agency (55%) and to a lesser extent privately (35%) or through the Internet (10%). The average total expenditure by tourists was $ 50,460.90, which in US dollars is equivalent to US $ 783.80 according to the official exchange rate of March 2020 (Central Bank of the Argentine Republic, 2020). The average daily expense was $ 5,041.53 (US $ 78.30). In sum, it can be stated that the characteristics of the demand for the 2020 summer season are not far from the results obtained for the 2019 season (Rodriguez et al., 2019).

Table 3. *Summary of data*

Variable	Percentage (%)	Variable	Mean	St. deviation
Gender		Length of stay (days)	10	8.9
Male	54			
Female	46			
Type of group		Group size	5	35424.8
Couple	17.2			
Family	72.3			
Excursionist	0.0			
Day tripper	7.7			
Single person	2.8			
Educational level		Total expenditure ($ ARS)	50.600	
Primary	1			
Secondary	28.8			
Tertiary	23.6			
University	45.8			
Occupation				
Professional	26.8			
Public employee	9.6			
Private employee	31.8			
Retiree	7.7			
Student	1.6			
Other occupation	20.5			
Origin				
Bahía Blanca	24.7			
SW of Buenos Aires province	12.1			
Buenos Aires province and Autonomous city of Buenos Aires	17.6			
Patagonia region	24			
Norte region	1			
Litoral region	4			
Cuyo region	10.6			
Córdoba region	6			
Type of accommodation				
Hotel	10.8			
Rental housing	60			
Second home	21			
Cottage	1.2			
Apart hotel	3.1			
Camping	3.4			
Transportation				
Car	95			
Bus	3.5			
Minibus	1.2			
Monthly household income [2]				
≤ $16,000	0			
$16,000 a $32,000	2			
$32,000 a $48,000	10			
$48,000 a 64,000	26			
$64,000 a $80,000	39			
≥ $80,000	24			

[2] The data on average monthly income per household expressed in U.S. dollars (according to the bilateral exchange rate as of March 2020) represent the following ranges: ≤ 245 (U$S); 245 to 491 (U$S); 491 to 736 (U$S); 736 to 982 (U$S); 982 to 1,227 (U$S) and ≥1,227 (U$S).

Components of tourism expenditure

The questionnaire administered to tourists, in addition to inquiring about the total expenditure made during their stay at the destination, also asks about the percentage of the total budget allocated to five main components: accommodation, food and beverages, entertainment, excursions, and shopping. The transportation component is excluded from the analysis as it is an expense usually incurred in the city of origin, so it has no impact on the destination. Figure 2 shows the composition of expenditure for the 2020 season.

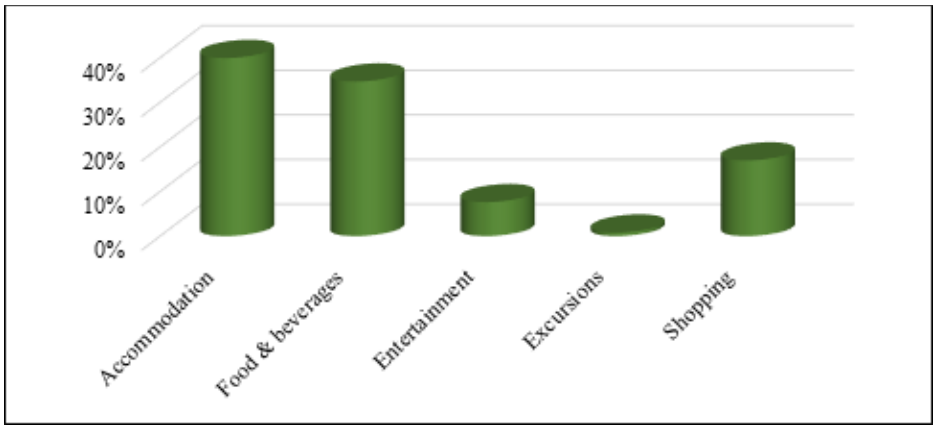

Figure 2. *Composition of tourist expenditure in Monte Hermoso during 2020 summer season*

According to the information summarized in Figure 2, it can be observed that 75% of the total expenditure is allocated to the accommodation and food and beverages. This is related to the structure of the tourism supply in Monte Hermoso, since they are the fastest growing services while entertainment, although the offer is varied, does not represent a substantial component in the tourists' budget (8% in the season). Shopping accounts for 17% of total tourist expenditure and excursions for only 1%. The latter is since the beach is the main offer of the destination and the attractions that complement it can be visited individually. In addition, there is no receptive tourism agency in the town that markets excursions.

Determinants of tourism expenditure

Table 4 shows the results obtained from the OLS regression method, taking as the dependent variable the ln of total tourism expenditure per group. According to the estimation, the key explanatory variables are income level, origin, group size and type of accommodation chosen.

Table 4. *Basic model for total expenditure. Dependent variable: total expenditure per group (ln)*

Variables	Coefficients (β)	t	Confidence interval for β (95%)	
			Lower limit	Upper limit
Constant (β_0)	9.032	106.542	8.865	9.198
Socio-economic				
Gender	0.083*	2.769	.024	.142
Income (*ref. $16,000 to $32,000*)				
Between $32,000 and 48,000(ARS)	.071	1.067	-.060	.200
Between $ 48,000 and 64,000 (ARS)	.150*	2.829	.046	.254
Between $ 64,000 and 80,000 (ARS)	.230**	4.500	.130	.330
Over $ 80,000 (ARS)	.345**	6.059	.232	.454
Occupation (*ref. student*)				
Professional	.049	.259	-.037	.134
Public employee	-.042	.455	-.152	.070
Private employee	-.052	.218	-.134	.029
Retiree	-.043	.521	-.175	.088
Origin *(ref. rest of the country)*				
Bahía Blanca	-.236**	-5.770	-.316	-.155
Southwest of Buenos Aires	-.280**	-5.946	-.374	-.189
Related to the trip				
Travel party size	.058**	5.749	.038	.078
N° of children per group	.043*	2.453	.009	.078
Length of stay	.036**	17.246	.032	.040
Type of accommodation (*ref. second home*)				
Hotel	.754**	10.838	.618	.891
Rental housing	.954**	16.489	.840	1.067
Apart hotel	1.238**	11.944	1.035	1.441
Cottage	.988**	7.267	.721	1.254
Camping	.450*	4.467	.252	.647
Type of group (*ref. family*)				
Couple	-.096*	.521	-.186	-.005
Friends	.033	.218	-.099	.163
Single person	-.324*	-3.351	-.516	-.140
Motivation (*ref. sea, beach, and weather*)				
Rest and quiet	.094*	3.018	.033	.155
Safety	.054	1.200	-.030	.138
Has a second home	.065	.947	-.071	.202

Notes: * p value < 0.05. ** p value < 0.001. The model explains 61.3% of the variance (R^2) of the dependent variable. According to the value obtained for the Durbin-Watson statistic (1.777), the assumption of independent errors is fulfilled.

In relation to socioeconomic variables, it is evident that gender has a significant influence on spending. Men spend on average 15.8% more than women. Contradictory and inconclusive evidence has been found in the literature. For example, the studies by M. Saayman and A. Saayman (2012) and Park et al. (2019) determine that men spend more than women, while Craggs and Schofield (2009) identify an inverse relationship. For their part, Jang et al. (2004), Alegre et al. (2011), Vasco et al. (2014), and Aguiló et al. (2017) find that this variable is not significant in explaining tourism expenditure. However, it is important to mention that each author applies

a different regression model on different population samples and in destinations that do not necessarily respond to the sun and sand model.

The level of income of tourists also appears as a significant regressor to explain the tourist expenditure in Monte Hermoso. The higher the income level, the higher the total expenditure. The sample set, whose monthly income is over 80,000 (ARS $), spends 79% more than tourists reporting an income level between 32,000 and 48,000 (ARS $). In literature, income is one of the most relevant regressors to explain tourism expenditure and one of the main variables of the subset of economic restrictions (Marrocu et al., 2015; Gómez-Déniz et al., 2020). These results allow us to accept hypothesis 1 (H_1) for group (i) of determinants. Research by Jang et al. (2004), Nicolau and Mas-Ruiz (2007), Rabahy et al. (2009), Kruger et al. (2010), Marcussen (2011), Lin et al. (2015), and Aguiló et al. (2017), among other authors, confirm the hypothesis based on that higher income levels are associated with higher tourist expenditure. In opposition, Craggs and Schofield (2009), while not making direct reference to income, affirm that the socioeconomic status of tourists is not a significant regressor to explain total expenditure, which is remarkable in light of the other findings.

Regarding the occupation variable, the categories "public employee", "private employee", and "retiree" show a negative relationship with respect to spending. This behavior is due to the relationship between i) the average salary and pension corresponding to the categories and ii) the cost of the basic food basket. Public employees, according to the latest available report from December 2018, received an average real salary equivalent to ARS $ 56,320 in August 2019, the private employees had an average salary of ARS $ 93,000 (National Ministry of Labor, Employment and Social Security, 2020), and the minimum salary of retirees was equivalent to ARS $ 12,937 in October 2019 (Pagano, 2020). For its part, the price of the basic food basket for a typical family was ARS $ 34,784.75 in September 2019 (Télam, 2019), while for retirees it amounted to ARS $ 37,815 in October of that same year (Bermúdez, 2019). These data allow us to suggest that, for these population groups, the budget available for tourism is low. The hypothesis 2 (H_2) is rejected because there are differences between the occupation categories. The professionals demonstrate a positive relationship with respect to tourist expenditure as opposed to the rest ones. However, the applied model shows that occupation is not a significant regressor to explain the dependent variable. This contrasts with the results obtained by Fredman (2008), Craggs and

Schofield (2009), Alegre et al. (2011), and Park et al. (2019), who found that occupation is a statistically significant variable.

Origin is also a strongly significant variable in the estimation of the model. Tourists whose place of residence is the city of Bahía Blanca or the towns of SW Buenos Aires spend less than those coming from other regions of the country. Comparatively, tourists belonging to the "SW Bonaerense" category spend 57% less while those from Bahía Blanca 41% less. These results cannot be contrasted with other studies due to the differences with respect to the geographical location of the destination and the origin of the demand. However, different authors (Nicolau & Mas-Ruiz, 2007; Wu et al., 2013) consider the distance between origin and destination as an explanatory variable. In this regard, they state that the relationship between distance and expenditure is positive since their stay tends to be longer. Accordingly, it can be inferred that tourists from Bahía Blanca and the SW Buenos Aires region spend less since they are the closest outbound tourist centers to Monte Hermoso. In effect, the hypothesis 4 (H_4), relative to group iii of the determinants of tourist expenditure, is accepted. In general, the visitors from other tourist regions of Argentina (Norte, Litoral, Patagonia, Centro-Córdoba and Cuyo) travel more than 300 km.

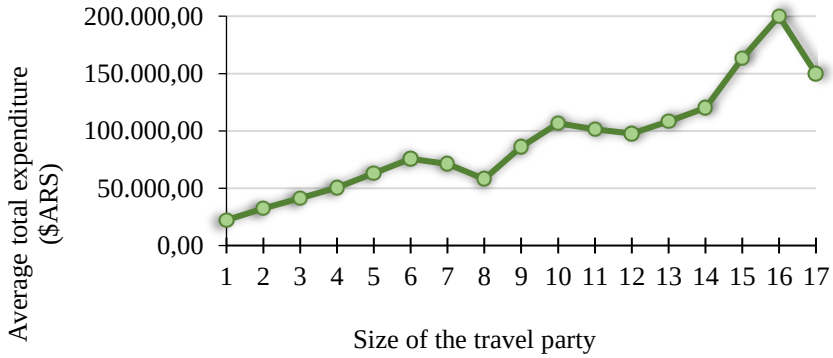

Figure 3. *Total tourism expenditure by size of the travel party*

Within the set of travel-related variables, the travel party size (Figure 3) has a positive and highly significant influence on total expenditure. The studies reviewed do not show homogeneous results in this regard. Nicolau and Mas-Ruiz (2007) accept the hypothesis that larger household size increases tourist expenditure, although they also state that the effects of this variable are uncertain according to another research. In this sense, Anderson (2010) establishes that the increase in group size by one unit is reflected by the increase in total expenditure, but Wang et al. (2006) and Gómez-Déniz et al. (2020) argue that the size of the group negatively influences the expenditure made by both per person and per group. Even

though Jang et al. (2004) do not focus on size, they identify that tourist who travels in groups spend more than those who travel alone, establishing impulse purchase prompted by group dynamics as a likely cause.

The presence and number of children in the travel group (Figure 4) also has a positive and significant impact on the behavior of the dependent variable. According to the processed data, a single child in the group represents a 30% increase in total tourism expenditure. However, it is also observed that from the presence of seven children per group, the average total tourist expenditure decreases 26% with respect to a group with six children. These findings are not consistent with those of Wang et al. (2006) and Nicolau and Mas-Ruiz (2007), whose studies show that this variable is not a significant regressor. For their part, Alegre et al. (2011) and Haq et al. (2019) affirm that the presence and number of children are explanatory regressors of the variable, although their relationship with it is negative. Finally, Jang et al. (2004) also find that the number of children in the group is set up as a determining variable of expenditure, despite not having a significant impact on the total amount.

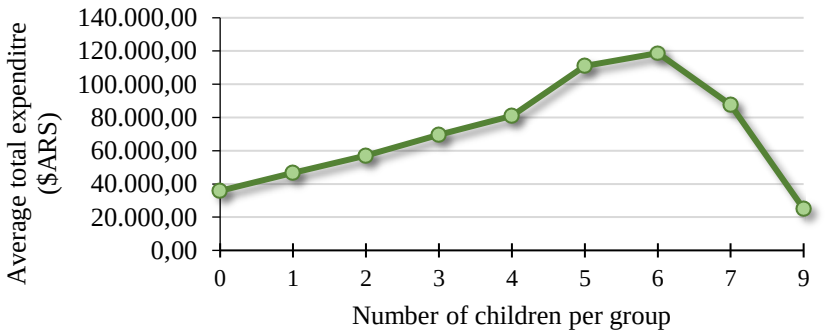

Figure 4. *Average total expenditure by groups with children*

Length of stay is also a significant regressor with respect to expenditure. In the case of Monte Hermoso, tourist expenditure increases progressively up to a 13-day stay while, after 14 days the dependent variable decreases. In accordance with this, the hypothesis 3 of group ii is rejected. In this case, as they are domestic tourists, stays longer than 15 days are usually related to residential tourism, which means no expense in the accommodation component. However, the relation of this regressor could be different in coastal destinations with international tourism. Other authors like Gómez-Déniz et al. (2020) obtain that the coefficient for length of stay is positive and statistically significant. Likewise, Vasco et al. (2014) find a positive relationship between these variables, each additional night during the first two days increases spending by 70% and from that point on

it decreases by 13%. In contrast, Alegre et al. (2011) find that the length of stay has a negative impact on spending; with a greater number of days at the destination, the group spends less. However, they do not specify whether this behavior responds to a directly proportional relationship.

Accommodation, except for the camping modality, is a highly significant regressor in the explanation of the variable analyzed. This is explained by the difference in prices between the camping and other modalities. The apart hotel substantially influences the level of total expenditure made by the group. This is due to its location in the eastern sector of Monte Hermoso where the price of land is the highest. Espasa et al. (2010) establish that, on average, a vacant lot costs between US $ 120,000 and US $ 150,000. These establishments provide quality services and personalized attention in modern facilities. Cottages also have a significant weight on tourist spending, as the services and location are like those of the apart hotel. Accommodation in rental houses has a high incidence in total expenditure since it responds to the main modality of the destination. Regarding hotels, unlike other sun and sand destinations, Monte Hermoso has low category establishments (1 to 3 stars). The behavior of these last two types of accommodation is consistent with the evidence presented by Aguiló et al. (2017). In their study on the visiting population of Palma de Majorca, they identify that those who stay in low-category hotels and apartments spend more than tourists staying in higher-category hotels. On the other hand, Gómez-Déniz et al. (2020) studied the determinants of spending by tourists from the Canary Islands. They found that the modality with the highest incidence is the hotel, stating a difference between high and low category hotels. Due to the services included in the rate, the higher the category, the lower the expenditure.

The type of travel group is a significant regressor, particularly categories such as “couples” and “single person”; however, their relationship with spending is negative. These groups spend less than the “friends” groups and the reference variable. This behavior is consistent with that of the variable “group size” since a positive relationship was identified between the number of members of the group and total expenditure. These results can be associated with those of Craggs and Schofield (2009). According to these authors, traveling with a family implies higher expenditure than traveling without family or with another group. However, in the literature reviewed this variable is not presented explicitly nor are these analytical categories, so it is not possible to open a discussion. Finally, in relation to tourist motivation, the study reveals that it is not a determinant of expenditure, although all categories show a positive

relationship. The only one that presents a significant coefficient is "rest and quiet". This regressor is not compared with other results because the motivations considered respond directly to the characteristics of the destination, which, as for the previous variable, prevents any discussion. No other research has been found in a study area that provides similar features to those observed in Monte Hermoso. In the absence of a significant relationship between the variables, it is not possible to accept or reject hypothesis 5 (H_5) established for group iv.

CONCLUSIONS

Monte Hermoso is a sun and sand destination in South-west Buenos Aires and its main economic activity is tourism. According to the data collected through surveys administered to tourists during the 2020 summer season (austral summer), it is determined that the tourist demand of the destination is made up of families (72%) and couples (17%). Their level of education is high, as 70% have completed their higher education. Regarding occupation, 32% are private employees and 27% are professionals. The demand for the destination comes from the interior of Argentina, mainly from the city of Bahía Blanca (25%) and from the Patagonia tourist region (24%). The sea and the beach, as well as the tranquility and proximity are the main features for which tourists choose Monte Hermoso for their holidays. The average stay is 10 days, and the most frequent type of accommodation is rental housing (60%). The average total expenditure made by tourists was US $ 783.80.

In order to establish the relationship between tourist expenditure and its determinants, an Ordinary Least Squares regression model was applied. For this purpose, the dependent variable was expressed as the natural logarithm of total tourism expenditure and the independent variables were organized into two categories: socioeconomic and travel related. From the results obtained, the answers to the questions posed at the beginning can be settled showing that the determinants in coastal destination, where the main demand are domestic, are gender, income, origin, travel of the party size, the number of children per group, the length of stay, and the type of the group and accommodation. According to the limitations presented in the results section, it is possible to affirm that the regressors considered in this study are related to the findings of other investigations carried out in destinations with distinct tourism types.

The relationship between expenditure and all the explanatory variables is not in the same direction. Income level, origin, group size, and

type of accommodation explain the behavior of the dependent variable in the coastal destination of the SW Buenos Aires. However, it is not possible to determine for all regressors the same sense of relationship with the explained variable. In the case of socioeconomic variables, it is evident that gender has a significant influence on total tourism expenditure, with men spending on average 15.8% more than women. In turn, the higher the income level, the higher the total expenditure. The sample set as a whole, where monthly income is higher than 80,000 (ARS $), spends 79% more than tourists who declare an income level between 32,000 and 48,000 (ARS $). With respect to the occupation variable, the categories "public employee", "private employee", and "retiree" present a negative relationship related to spending, which is attributed to the relationship between low purchasing power and the cost of the basic food basket. Origin is a highly significant variable in the estimation of the model, tourists from Bahía Blanca and the SW of Buenos Aires spend less time than those coming from other regions of the country.

In the case of variables related to the trip, it was identified that the travel party size has a positive and highly significant influence on total spending. In addition, the presence and number of children also had a positive and significant influence on the behavior of the dependent variable; a single child in the group represents a 30% increase in total tourist expenditure. Regarding the length of stay, it was found that expenditure increases progressively up to 13 days, while, after 14 days, the dependent variable decreases. In relation to accommodation, the apart hotel and cottage categories have a substantial influence on the level of total expenditure made by the group. On the other hand, rental houses have a high incidence in the total expenditure since it responds to the main modality of accommodation of the destination. The type of travel group is a significant regressor, particularly "couples" and "single person" categories, although its relationship with expenditure is negative.

The results obtained in this work constitute a first approach towards a more comprehensive understanding of the behavior of tourist expenditure in the demand for Monte Hermoso. They make it possible to identify the variables that explain tourist expenditure and from there, to know the categories that may be more attractive for the destination. Therefore, it represents a starting point to design strategic guidelines oriented to the different market segments. Nevertheless, it is important to continue this kind of analysis with updated data because the results respond to a static regression model. Furthermore, in the absence of studies in coastal destinations with similar features to the tourism demand for

Monte Hermoso, it is necessary to generate analyzes in this regard to determine the scope and degree of explanation of the regressors that in this paper were significant.

Regarding the strategic actions that destination managers and marketing organizations can carry out, the following can be mentioned: with respect to origin, its efforts on attracting other issuing markets (national tourist regions) that generate higher income for the destination, to the detriment of attracting demand from the SW of Buenos Aires. In this sense, it is also important to address accessibility and connectivity to the destination. Design marketing campaigns to attract tourists on weekends since short stays show a higher level of expenditure than longer ones. They should be aimed at the "friends" market niche due it shows a relatively higher expense than couples and single people. To reach this niche, it is advisable to use social media. Another strategy is bet on improving the quality of accommodation services, with special emphasis on the apart hotel and rental housing, since are the categories with the highest level of expenditure. Therefore, to capture a demand segment with a higher level of spending, it is relevant to add hotels of a higher category than the current ones. Lastly, promoting the development of activities and recreational facilities for children can be profitable since families with children reveal a higher expenditure level.

Finally, it is relevant to point out the practical limitations of the results achieved:

- The instrument used for gathering the information is not analogous to the questionnaires used in another research. In effect, the use of different variables and categories in the statistical analysis determine the interpretation of the results.
- In relation to the previous point, sometimes, the discussion of the findings is limited due to the contrasts between the analysis unit and the selected regressors.
- The OLS method provides a static model, therefore it must be considered that the results have a transitory nature. As the features of demand change (an increasingly frequent situation), it is possible that the determinants will also be modified.
- Studies carried out for international destinations are the most frequent in the literature, so the results of this study are not generalizable. In addition, as the research scope is exploratory there is no other findings that allows to determine more relationships between the regressors.

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THE RELATIONSHIP BETWEEN TOURISM AND ECONOMIC GROWTH IN THE SCOPE OF ECONOMIC FREEDOM AND FREEDOM OF INVESTMENT

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ABSTRACT

Tourism is one of the sectors to which countries have recently given importance as a means of ensuring economic growth, and the relationship between the two has been the subject of many study in economic literature within the framework of four hypotheses; being tourism-oriented growth, feedback, protection, and neutrality. In the present study, the relationship between tourism and economic growth is investigated for Mediterranean countries in the 2006–2019 period. A Dumitrescu-Hurlin Panel Causality Analysis was carried out in the study in which economic growth, tourism revenues, economic freedom, and investment freedom data were used as variables. The analysis was carried out both across the panel and on the basis of countries. Panel analysis results showed that tourism revenues are the cause of economic growth, which confirms the tourism-oriented growth hypothesis. That said, the causality relationship between economic growth, tourism revenues, and economic freedom cannot be determined based on the panel-wide results, as the results differ from country to country. Finally, a two-way causality between economic growth and freedom of investment, and a one-way causality from tourism revenues to freedom of investment has been identified.

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INTRODUCTION

One of the most important targets for countries in the international platform is economic growth. Theories developed related to economic growth have sought to identify the determinants of growth through the assertion of various instruments. Since the 1980s, instruments such as R&D activity,

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technological development, information, qualified labor force, and human capital have been accepted as determining factors in economic growth, and at the same time, these factors also determine the level of development of countries (Akyol & Mete, 2021). Countries that attain new products and production methods with the said factors achieve superiority over other countries, securing economic development, and counties can be divided into groups on the international platform in this regard, as developed, developing, and underdeveloped.

Developing countries cannot gain a competitive advantage due to the lack of sufficient technological development, and thus remain devoid of adequate market share in the international markets. Countries that cannot export quality products with added value, that is, high-technology products, at sufficient levels become increasingly more dependent on developed countries for their technologies, and this insufficient export of quality products and increase in technology imports lead to a foreign trade deficit, and thus a current account deficit. The export and import of services are important in keeping the current account at a positive level, and one of the most important resources of countries through which they can keep their service export account at a positive level is tourism revenues. Tourism revenues contribute to increasing foreign exchange revenues for developed countries while improving the current account of developing countries.

The geopolitical and geographical location of countries, together with their natural beauties and cultural legacies, create the potential for tourism revenue. If the tourism sector is revived to make use of the existing potential, the sector can make various connections with other industries and make a positive contribution to economic development (Fahimi et al., 2018). Aside from providing inflows of currency, the tourism sector also revives other sectors of the economy, both directly and indirectly, such as accommodation and retail, restaurants, travel agencies, insurance agencies, food, and health. As a services industry, tourism drives technology and innovation according to its needs and is thus accepted to encourage physical and human capital accumulation, and in turn, to make a positive contribution to the process of economic growth (Brida et al., 2020). The development of the tourism sector encourages other investments, such as for the construction of highways, airports and buildings, and the associated transportation and sewer system infrastructure (Şengönül et al., 2018). Such conditions support the development level of a country. By acting as a catalyst in the public and private sectors, the tourism sector has a broad range, and also makes a significant contribution to employment.

When tourism's impact on the economy is investigated it can be seen to have connections to infrastructure investments in the public dimension and almost all industries in the private sector dimension, and this diversity of production and investment channels leads to an increase in employment. While the relationship between tourism and economic growth has been studied for different groups of countries and periods in economic literature, there is a lack of consistency in literature charting the relationship between tourism development and economic growth, which is studied within the framework of four different hypotheses in literature, being the growth or Tourism-led Growth (TLEG), conservation, bi-directional causality and neutrality hypotheses (Tuğcu, 2014).

According to the TLEG hypothesis, the development of tourism revives economic growth, and the increase in tourist arrivals and/or tourism revenues leads to further economic growth. This hypothesis suggests that investments in the tourism sector increase the income of the existing workforce, while at the same time creating new jobs inside and outside the sector, triggering economic growth. The hypothesis implies further that since tourism is a significant building block of the general economy, any decrease in tourism activity could lead to economic recession, and so countries must use tourism to improve their economies.

The conservation hypothesis suggests that economic growth stimulates the development of tourism, with growth in the general economy increasing the demand for tourism, while any decrease in economic activity lowers the demand for tourism significantly. Accordingly, the increase in revenues brought about by investments in other sectors would create new jobs, and thus lead to an increase in tourism demand.

The bi-directional causality hypothesis asserts that economic growth and tourism are strongly interconnected and can serve as complementary, with any general growth in a national economy encouraging the development of tourism, and vice versa. The bi-directional causality hypothesis argues that capital investments in other industries in an economy pave the way for the development of tourism, while investments in tourism encourage growth in the general economy.

Finally, the neutrality hypothesis claims that no relationships exist between the development of tourism and economic growth. According to this hypothesis, as tourism is not a significant component of general economic activity, policies to develop tourism or the provision of incentives

to encourage tourism investments would not affect economic growth (Doğru & Bulut, 2018).

If tourism is to develop and contribute to economic development, certain factors must exist in the country in question, and one such factor, economic freedom, is the focus of the present study. In general, economic freedom refers to the ability to perform all economic activities including, primarily, production, investment, and consumption, without governmental intervention (Ceatano & Calerio, 2009; Tunçsiper & Biçen, 2014; Şahin, 2018). The Index of Economic Freedom (IEF) published by The Heritage Foundation determines the level of economic freedom of a country based on 12 social, political, and economic parameters.[2] Each parameter is scored on a scale of 0–100 according to its specific criteria, and the average is calculated to give the IEF. A higher score indicates a higher level of freedom (Miller et al., 2021). The level of economic freedom level can determine the number of tourists that arrive and the level of tourism-focused investments realized by a country.

The level of economic freedom can determine the number of tourists that visit and the level of tourism-focused investments made in a country. Tourists perceive countries with low levels of freedom as problematic for tourism, and travel anxiety may lead them to cancel their trip or to opt for other destinations. A low level of economic freedom may also have a negative effect on tourist experiences, creating a negative impression about the country (Akar & Özcan, 2020). Regarding the issue of tourism-focused investment growth, economic freedom would motivate not only local but also international investments, and when considered from this perspective, economic freedom would provide the opportunity to make effective use of resources; ensure the fulfillment of legal obligations, such as intellectual property rights and judicial independence; enable the application of stable macroeconomic policies; and encourage the enactment of business, credit and labor regulations that would ensure the regular processing of international procedures and commerce, thus contributing to an increase in investments (Anwar & Mughal, 2012; Şahin, 2018).

Freedom of investment, as a category of economic freedom, is the indicator of international capital movement in some way. Direct investments are portfolio investments that account for a significant proportion of the international movements of capital, prioritizing the

[2] Property Rights, Government Integrity, Judicial Effectiveness, Tax Burden, Government Spending, Fiscal Health, Business Freedom, Labor Freedom, Monetary Freedom, Trade Freedom, Freedom of investment, Financial Freedom

suitability of the country to be invested in the conditions of a liberal economy. Negative factors such as different rules applied to investments by locals and foreigners, restrictions on profit transfers, and speculative activities in the financial and economic markets obstruct capital movements. In this regard, the investment freedom, the attitude of the country towards capital movements, the property rules and regulations, the investment restrictions applied in some sectors, and such instruments as controls on foreign exchange and the financial markets must be studied and calculated, as any unfavorable conditions in the said instruments decreases the freedom of investment index score, with a negative effect on all other investments, starting with tourism-focused investments. Economic freedom is broader in scope due to its social, political and legal dimensions, all of which influence tourist numbers, and consequently, tourism revenues. Freedom of investment, with its narrow scope, may affect all of the investments that can be made in a country.

In the present study, the relationship between economic freedom, investment freedom, and tourism and economic growth in 16 countries bordering the Mediterranean Sea is investigated for the 2006–2019 period, making use of a panel data analysis approach. The study's contribution to literature is in its contribution to the low number of studies to date identified in a review of literature on the relationship between labor, economic freedom, and tourism and economic growth. Freedom of investment, being the level of international mobility of capital, is also taken into account in the present study considering its contribution to increasing economic growth by supporting all investments, starting with tourism-focused investments. After the introduction of the study, the second section presents a review of the literature, while the third section introduces the adopted dataset approach. The fourth section presents an analysis of the results, while the study is concluded in the fifth and final section with the results and an evaluation of the study findings.

LITERATURE REVIEW

The body of literature on tourism revenues and economic growth is still under comprehensive review for various countries and/or regions, making use of diverse empirical methods, due to the significant global increase in travel and tourism in recent years. In previous studies, the nexus between tourism and economic growth is analyzed based on four different hypotheses, as described in the introduction, which increases the interest in the subject.

In their study testing the TLEG hypothesis, Balaguer and Cantavella-Jorda (2002) carried out an analysis of Spain for the 1975–1997 period employing a co-integration analysis approach and found tourism to have a positive effect on growth in the period in question. Oh (2005) studied the relationship between economic growth and tourism in South Korea in the 1975–2001 period, employing a co-integration and causality analysis approach, and identified a causative relationship between economic growth and tourism. For their study of the relationship between economic growth and tourism in Turkey in the 1992–2006 period, Kızılgöl and Erbaykal (2008) carried out a causality analysis and identified a unidirectional causality from economic growth to tourism revenues. Samimi et al. (2011) assessed the relationship between tourism revenues and economic growth for 20 developing countries for the 1995–2009 period, carried out a P-VAR and causality analysis, and identified a long-term positive relationship between tourism and economic growth, as well as a bidirectional causative relationship.

In Chou's (2013) study of 10 transition economies for the 1988–2011 period assessing the relationship between tourism and economic growth, a panel causality test revealed no causality for Bulgaria Romania, and Slovenia; TLEG in Cyprus, Latvia, and Slovakia; bidirectional causality in Estonia and Hungary; and causality from growth to tourism in the Czech Republic and Poland. In his causality analysis of the relationship between tourism and economic growth in Mediterranean countries for the 1995–2010 period, Aslan (2013) reported the TLEG hypothesis to be relevant. For his study of the relationship between economic growth and tourism, Tuğcu (2014) assessed 21 countries bordering the Mediterranean from the Asian (4 countries), European (12 countries), and African (5 countries) continents in 1998–2011 period. Panel causality analysis was applied in the study and it was assessed in the framework of hypotheses, and it was concluded that there was no causality between tourism and economic growth in three of the Asian countries and all of the African countries, supporting the neutrality hypothesis, while in the European countries a causality relationship was established between tourism and economic growth in all but four of the studied European countries.

In the study of Malaysia by Tang and Tan (2015) for the 1991–2014 period, co-integration and causality analyses were conducted to test the TLEG hypothesis, from which it was determined that tourism and economic growth were co-integrated and that a unidirectional causality from tourism to economic growth existed. Yalçınkaya and Karabulut (2017) studied the impact of tourism revenues on economic growth in Turkey separately for

the 1965–2016 and 1980–2016 periods. They concluded that tourism revenues had a positive impact on economic growth, with a greater impact noted in the 1980–2016 period. Furthermore, a causality analysis revealed no causality in the 1965–2016 period, but a bidirectional causality between tourism revenues and economic growth in the 1980–2016 period.

De Vita and Kyaw (2017) assessed the relationship between tourism and economic growth in 129 countries around the world for the 1995–2011 period, employing a generalized moment method that demonstrated that specialization in the tourism sector had decreasing returns in economic growth, especially in countries that had completed their financial development. Shahzad et al. (2017) studied the 10 countries that attract the highest number of tourists in the 1990–2015 period to test the validity of the TLEG hypothesis. The results of the analysis, for which a quantile-quantile regression model was applied, revealed a positive relationship between tourism and economic growth in all 10 countries, although the relationship was weaker for Germany and China.

Şahin (2018) studied the relationship between economic freedom and direct capital investments in the BRICS countries, applying a causality analysis for the 1995–2014 period, and identified causality from economic freedom to invest only in Turkey, with no causality relationship established for the other countries. Fahimi et al. (2018) studied the relationship between tourism, human capital, and economic growth in the 1995–2015 period for 10 small countries using a panel causality analysis, and reported identifying TLEG, tourism-led development of human capital, and human capital development-led growth. In their study, Doğru and Bulut (2018) assessed the relationship between tourism development and economic growth with panel causality analysis for two European countries based on 1996–2014 data, the results of which indicated the existence of bi-directional causality between increased tourism revenues and economic growth and revealed that the development of tourism and economic growth mutually revive each other.

Zortuk and Yıldız (2018) studied the relationship between economic growth and tourism in the E7 countries, and the results of their asymmetric causality analysis applied for the 1995–2016 period demonstrated the existence of a causal relationship between the two variables. Gövdeli (2018a) studied the relationship between economic freedom, tourism, and economic growth in his study of BRICS countries. Based on the results of a causality analysis conducted covering the 1995–2016 period, identified the existence of causality between economic freedom, tourism revenues, and

economic growth. Gövdeli (2018b) studied the relationship between tourism, exports, and economic growth for Turkey in the 1963–2015 period, and it was determined from the results of co-integration and causality analyses that the three factors are co-integrated, that is, they liaise in the long term, although no causal relationship was found between tourism and economic growth. Altıner (2019) studied the relationship between tourism and economic growth for Turkey in the 1969-2018 period, applying an ARDL approach that revealed the existence of both a short- and long-term relationship between tourism and economic growth.

Pata (2020) studied the relationship between tourism revenues and the development of the tourism, industrial and service sectors in Turkey, applying a co-integration and causality analysis to data covering the 1963–2017 period. The author determined that for Turkey, the TLEG hypothesis was valid for the agriculture and service sectors. Akar and Özcan (2020) studied the relationship between economic freedom and tourism in 32 OECD-member countries in the 1996–2017 period, the results of which showed that economic freedom had a significant effect on the number of tourists, while a causality analysis identified a bidirectional causality between economic freedom and the number of tourists.

Among the studies in literature, Balaguer and Cantavella-Jorda (2002), Aslan (2013), Tang and Tan (2015), Fahimi et al. (2018), and Pata (2020) all confirm the TLEG hypothesis; Zortuk and Yıldız (2018), Doğru and Bulut (2018), Yalçınkaya and Karabulut (2017) and Samimi et al. (2011) all confirm the feedback hypothesis; Oh (2005), and Kızılgöl and Erbaykal (2008) confirm the conservation hypothesis; and Gövdeli (2018) confirms the neutrality hypothesis.

DATASET AND METHODOLOGY

In this study of the relationship between tourism revenue, economic growth, economic freedom, and investment freedom, the data of 16 countries bordering the Mediterranean Sea[3] for the 2006–2019 period were used. UNWTO, from where the tourism data used in the analysis were obtained, keeps data only from 2006, which limits the scope of the analysis. Furthermore, as the data of all Mediterranean countries were irregular, only 16 countries were included in the analysis. Generally, three variables are used in literature to measure the impact of tourism on economic growth

[3] Spain, France, Italy, Slovenia, Croatia, Albania, Turkey, Cyprus, Israel, Lebanon, Egypt, Greece, Malta, Tunisia, Algeria and Morocco

and other economic indicators, being tourism revenues, tourism expenditures, and the number of arriving tourists. These three variables cannot be used in the same model as they are highly correlated, leading to problems of multicollinearity. The economic growth variable was included in the model as it represents the revenue dimension of the tourism economy in terms of value (fixed 2010 US$), while the tourism revenues variable was included in the model due to its direct impact on economic growth (Shahzad et al. 2017; Balaguer & Cantavella-Jorda 2002; Fahimi et al. 2018; Tuğcu 2014; Doğru & Bulut 2018). The variables used in the study and subjected to a panel data analysis are presented in Table 1, along with explanations of the variables.

Table 1. *Dataset*

Variable Code	Variable	Explanation	Source
LGDP	GDP	Constant US$ 2010	WDI
LTOUR	Tourism Revenues	Current US$	UNWTO
ECFREE	Economic Freedom	Index value	The Heritage Foundation
INFREE	Investment Freedom	Index value	The Heritage Foundation

Table 2 presents a summary of the descriptive statistics of every variable used. Each variable is based on 224 observations. For LGDP, LTOUR, ECFREE, and INFREE, the average values for the variables are 11.161, 9.804, 61.596, and 63.147 respectively. The standard deviations of the variables vary between 0.661 and 15.648.

Table 2. *Descriptive Statistics*

Variables	Obs	Mean	Std. Dev.	Min.	Max.
LGDP	224	11.161	0.746	9.900	12.473
LTOUR	224	9.804	0.661	8	10.912
ECFREE	224	61.596	5.498	44.7	73.3
INFREE	224	63.147	15.648	20	85

Table 3 presents the correlation matrix of the variables. The relationship between the economic growth variable, and the tourism revenues and freedom of investment variables are positive, while the relationship between economic growth and economic freedom is negative.

Table 3. *Correlation Matrix*

	LGDP	LTOUR	ECFREE	INFREE
LGDP	1			
LTOUR	0.7340	1		
ECFREE	-0.0326	0.2491	1	
INFREE	0.1557	0.4318	0.6665	1

The model established to identify the relationship between economic freedom, investment freedom, tourism and economic growth with a natural logarithm of variables is as follows:

$$LGDP_{it} = \beta_0 + \beta_1 LTOUR_{it} + \beta_2 ECFREE_{it} + \beta_3 INFREE_{it} + \varepsilon_{it} \quad (1)$$

Subindices at variables, *i* represents countries, *t* represents time, and ε represents the error term. Whether the variable sets are static or not is important for the reliability of results due to the false regression problem. In the panel data analysis, static data sets were tested using unit root tests, separated as first and second generation. Which of the first- and second-generation unit root tests were to be used was determined by an inter-unit correlation (cross-sectional dependency) test. Cross-sectional dependency was determined from a Breusch and Pagan (1980) LM test and Pesaran's (2004) test. Whether the unit dimension (N) was larger or smaller than the time dimension (T) determines which test is to be used. The most appropriate test in the event of N>T is Pesaran's (2004) test. The Pesaran (2004) CD test is as follows:

$$CD = \left(\frac{2T}{N(N-1)}\right)\sum_{i=1}^{N-1}\sum_{j=i+1}^{N-1}(\hat{p}_{ij} - 1) \sim N(0,1) \quad (2)$$

After the determination of cross-sectional dependency, the stationarity of the series is tested with a suitable unit root test. For the analysis, a second-generation unit root test, defined as a co-integrated augmented Dickey-Fuller (CADF) test, as developed by Pesaran (2007), was used due to the existence of cross-sectional dependency. The CADF test statistic is used to produce an augmented version of the Im Pesaran and Shin (IPS) statistic and the cross-sectional augmented version of the IPS test. The CIPS statistic is as follows:

$$CIPS = N^{-1}\sum_{i=1}^{N} CADF_i \quad (3)$$

t value of the Pesaran CADF unit root test that is tested by Pesaran (2007) to be valid when N>T and N<T is as follows:

$$t_1(N,T) = \frac{\Delta Y_i' \bar{M}_w Y_{i-1}}{\hat{\sigma}(Y_{i-1}' \bar{M}_w Y_{i-1})^{1/2}} \quad (4)$$

For series in a stationary state after the unit root test has been determined and applied based on the results of a cross-sectional dependency test, a panel causality analysis can be carried out. To determine which causality analysis should be applied, however, it must first be identified whether the constant and slope parameters are homogenous or

heterogeneous. An appropriate causality analysis would be determined based on homogeneity. Pesaran and Yamagata (2008) determined that if the case unit dimension is larger than the time dimension, a Delta test is most appropriate for the determination of homogeneity. The Pesaran and Yamagata' (2008) delta test statistic is as follows:

$$\hat{\Delta}= \sqrt{N}\frac{N^{-1}S-k}{\sqrt{2k}} \quad (5)$$

$$\hat{\Delta}_{adj}= \sqrt{N}\frac{N^{-1}S-E(\tilde{Z}_{it})}{\sqrt{Var(\tilde{Z}_{it})}} \quad (6)$$

As the series have cross-sectional dependency, are stationary and have heterogeneous slope parameters, a Dumitrescu and Hurlin (2012) panel causality analysis may be preferred as the most suitable causality analysis approach. A Dumitrescu and Hurlin (2012) panel causality analysis is also preferred for giving different statistics for N>T and N<T situations. Accordingly, the Wald statistic, found by dividing the means of each cross-sectional unit by itself, the ($Z_{N,T}^{HNC}$) statistic with asymptotic distribution used in N <T situations, and the (Z_{N}^{HNC}) statistic with semi-asymptotic distribution used in T<N situations are as follows:

$$W_{N,T}^{Hnc} = \frac{1}{N}\sum_{i=1}^{N} W_{i,T} \quad (7)$$

$$Z_{N}^{HNC} = \frac{\sqrt{N\left[W_{N,T}^{HNC} - N^{-1}\sum_{i=1}^{N} E(W_{i,T})\right]}}{\sqrt{N^{-1}\sum_{i=1}^{N} Var(W_{i,T})}} \quad (8)$$

$$Z_{N,T}^{HNC} = \sqrt{\frac{N}{2K}}\left(W_{N,T}^{HNC} - K\right) \quad (9)$$

The hypotheses suggested in this study according to tests and analyses that are theoretically explained are as follows:

Hypothesis 1 (H1): Increases in tourism revenues increase economic growth.

Hypothesis 2 (H2): Positive developments in economic freedom increase economic growth.

Hypothesis 3 (H3): Positive developments in economic freedom increase tourism revenues.

Hypothesis 4 (H4): Positive developments in freedom of investment increase economic growth.

Hypothesis 5 (H5): Positive developments in freedom of investment increase tourism revenues.

ANALYSIS RESULTS

In the first stage of the analysis, the existence of cross-section dependence was tested with a Pesaran (2004) CD test, the results of which are presented in Table 4.

Table 4. *Test Results of Cross-Sectional Dependence*

Variables	CD Test	Coefficient	P value
LGDP			
LTOUR	3.83	0.094	0.000*
ECFREE			
INFREE			

*indicates a 1% level of significance.

According to results presented in Table 2, interunit correlation, that is, cross-section dependence, was determined for the whole model, with a Correlation coefficient of 0.09. After the cross-section dependence was determined, cross-section augmented Im Pesaran and Shin (CIPS) panel unit root tests were selected from among the second-generation unit root tests for the determination of stationarity, the results of which are presented in Table 5.

Table 5. *Unit Root Test Results*

				Level values		
Variables	t-bar	cv10	cv5	cv1	Z[t-bar]	P value
LGDP	-1.660	-2.110	-2.220	-2.450	0.182	0.572
LTOUR	-1.155	-2.110	-2.220	-2.450	2.035	0.979
ECFREE	-1.330	-2.110	-2.220	-2.450	1.395	0.918
INFREE	-2.126	-2.110	-2.220	-2.450	-1.527	0.063***
				Values of difference		
LGDP	-2.485	-2.110	-2.220	-2.450	-2.844	0.002*
LTOUR	-2.466	-2.110	-2.220	-2.450	-2.776	0.003*
ECFREE	-2.871	-2.110	-2.220	-2.450	-4.262	0.000*
INFREE	-2.549	-2.110	-2.220	-2.450	-3.079	0.001*

Note 1: *, *** indicate 1% and 10% levels of significance, respectively.
Note 2: Only constant and lags (1) are considered.

Based on results presented in Table 5, in level values, the absolute t-bar values of all variables other than the (INFREE) variable were smaller

than the cv10, cv5, and cv1 critical values, which led to the determination that they were not stationary, and the probability value of the Z[t-bar] statistic was also determined to be non-stationary. The absolute value of the INFREE variable was higher than the cv10 critical value and was thus stationary at level. When the values of different variables were considered, it was noted that the absolute values of all valuables were higher than the cv10, cv5, and cv1 critical values, while the probability value of the Z[t-bar] statistic suggested that the series was stationary. After the series was made stationary, the Delta test suggested by Pesaran and Yamagata (2008) in N>T cases was conducted to test the homogeneity of the constant and slope parameters. The results of the test are given in Table 6.

Table 6. *Results of Homogeneity Test*

Delta Test	**Statistic**	**P value**
$\widehat{\Delta}$	8.731	0.000*
$\widehat{\Delta}_{adj}$	10.890	0.000*

* indicates 1% level of significance.

According to statistical results given in Table 6, the constant and slope parameters were determined to be heterogeneous. Constraints of existence of cross-sectional dependence, stationarity of series and heterogeneous slope and constant parameters enable the application of a Dumitrescu and Hurlin (2012) panel causality analysis, the results of which are given in Table 7.

Table 7. *Results of Dumitrescu and Hurlin (2012) panel causality analysis (Results from General Panel)*

			W-Stat	Z-bar Stat	Prob	Causality
dLGDP	≠>	dLTOUR	1.7486	-0.9633	0.3354	No
dLTOUR	=>	dLGDP	2.4457**	2.0175	0.0436	Yes
dLGDP	≠>	dECFREE	3.3548	0.2731	0.7848	No
dECFREE	≠>	dLGDP	3.5732	0.4413	0.6590	No
dLGDP	=>	INFREE	5.8193*	7.8847	0.0000	Yes
INFREE	=>	dLGDP	6.1537**	2.4277	0.0152	Yes
dLTOUR	=>	INFREE	2.6389**	2.3535	0.0186	Yes
INFREE	≠>	dLTOUR	2.5282	-0.3632	0.7165	No
dLTOUR	≠>	dECFREE	1.3198	0.0593	0.9527	No
dECFREE	≠>	dLTOUR	1.9809	-0.7845	0.4327	No

*, ** indicate 1% and 5% levels of significance, respectively.

It was determined from the results of the analysis presented in Table 7 that tourism revenues (LTOUR) are a cause of economic growth (LGDP); that a bi-directional causality exists between investment freedom (INFREE) and economic growth (LGDP), that is, they are mutually dependent; that

tourism revenues (LTOUR) are the cause of investment freedom (INFREE). An analysis of the results of the panel validates the H1 and H4 hypotheses suggested in this study. The country-specific causality relationship results identified in the general panel are presented in Table 8.

Table 8. *Causality Results of Tourism Revenue-Economic Growth According to Units*

	LTOUR => LGDP		**LGDP => LTOUR**
	W-Stat	**Hypothesis**	**W-Stat**
Spain	1.20	Neutrality	0.23
France	8.32**	Tourism-Led Growth	0.34
Italy	2.98	Neutrality	0.31
Slovenia	0.95	Neutrality	0.54
Croatia	1.57	Conservation	7.41***
Albania	2.21	Neutrality	2.75
Turkey	4.14***	Tourism-Led Growth	0.13
Cyprus	3.52***	Tourism-Led Growth	0.01
Israel	3.15	Neutrality	0.84
Lebanon	6.33**	Tourism-Led Growth	1.02
Egypt	0.55	Neutrality	1.19
Greece	0.68	Neutrality	5.95
Malta	1.18	Neutrality	2.68
Tunisia	0.10	Neutrality	2.61
Algeria	0.09	Neutrality	0.01
Morocco	2.09	Neutrality	1.89

*, **, and *** indicate 1%, 5% and 10% levels of significance, respectively.

According to the results presented in Table 8;

- The countries in which tourism revenues were the cause of economic growth were France, Turkey, Cyprus, and Lebanon. In these countries, the TLEG hypothesis and the H1 hypothesis were validated.
- In Croatia, economic growth was determined to be the cause of tourism revenues, and thus the conservation hypothesis was deemed valid.
- In other countries, no relationship was identified between economic growth and tourism revenues, thus the neutrality hypothesis was valid.

The unit-specific causality relationships between economic freedom, investment freedom, tourism revenues, and economic growth are presented in Table 9. According to results presented in Table 9,

- In France, Italy, Slovenia, Croatia, Cyprus, and Greece, economic growth was determined to be the cause of investment freedom,
- In Italy, Croatia, and Malta, investment freedom was determined to be the cause of economic growth, and the H4 hypothesis was thus valid,

- In Slovenia, Croatia, Greece, Malta, and Morocco, tourisms revenues were determined as the cause of investment freedom, and the H5 hypothesis was thus valid,
- In Croatia and Lebanon, investment freedom was determined to be the cause of tourism revenues, and the H5 hypothesis was thus valid,
- Only in Turkey was economic growth the cause of economic freedom,
- In Lebanon and Tunisia, economic freedom was determined to be the cause of economic growth, and the H2 hypothesis was thus valid,
- In Cyprus and Israel, tourism revenues were determined to be the cause of economic freedom,
- In no country was economic freedom determined to be the cause of tourism revenues.

Table 9. *Causality Results of Economic Freedom-Investment Freedom-Economic Growth by Units*

	LGGDP => INFREE W-Stat	**INFREE => LGDP** W-Stat	**LTOUR => INFREE** W-Stat	**INFREE => LTOUR** W-Stat	**LGDP => ECFREE** W-Stat	**ECFREE => LGDP** W-Stat	**LTOUR => ECFREE** W-Stat	**ECFREE ≠> LTOUR** W-Stat
Spain	0.17	6.56	0.01	4.95	0.11	1.09	0.18	3.24
France	7.92**	6.87	0.65	4.07	0.57	5.89	0.01	0.57
Italy	27.00*	34.92*	1.57	1.35	2.80	0.38	0.46	4.74
Slovenia	11.25*	5.92	3.77***	0.36	1.25	0.06	2.46	0.05
Croatia	29.70*	11.68**	6.61**	7.26***	5.56	1.83	0.71	2.32
Albania	0.01	4.77	1.57	0.93	5.02	0.18	0.98	2.66
Turkey	0.50	0.95	0.81	0.26	18.98*	1.40	1.19	0.29
Cyprus	4.36***	0.25	0.04	4.04	2.42	4.11	4.14***	2.07
Israel	1.65	5.54	1.03	0.71	0.43	0.76	3.23***	3.19
Lebanon	0.90	5.00	0.81	11.90**	2.80	19.72*	0.14	2.43
Egypt	0.26	0.12	0.52	0.09	2.87	1.79	2.96	2.29
Greece	6.31**	3.16	9.44**	2.03	2.91	4.39	0.22	1.51
Malta	1.03	6.93***	10.35*	0.80	4.37	1.04	2.00	2.91
Tunisia	0.16	2.74	0.16	0.69	1.54	7.97***	0.09	0.82
Algeria	0.77	0.16	0.03	0.37	1.36	0.86	1.85	0.88
Morocco	1.06	2.83	4.79***	0.57	0.62	5.63	0.42	1.67

*, **, and *** indicate 1%, 5% and 10% levels of significance, respectively.

CONCLUSIONS

The existence of a relationship between tourism and economic growth, and the statistical direction of this relationship have kept economic literature quite busy in recent years. Addressing this issue, a number of hypotheses have been developed related to the effect of tourism on economic growth, the influence of economic growth on tourism, the mutual interdependence

of tourism and economic growth, and the lack of any statistical relationship between the two, and have been termed the TLEG, conservation, bi-directional causality and neutrality hypotheses. The results of this empirical research covering specific periods and countries are based on these four hypotheses.

In the present study, the relationship between tourism revenues, economic growth, economic freedom, and investment freedom was investigated using a panel causality analysis method, involving the study of countries bordering the Mediterranean Sea for the 2006–2019 period. The causality analysis was made both in panel general and on a country basis. Based on the results of the causality analysis between tourism revenues and economic growth in panel general, it was determined that tourism revenues were the cause of economic growth, and thus the TLEG hypothesis was deemed valid. The results of the analysis on a country basis validate the TLEG hypothesis for France, Turkey, Cyprus, and Lebanon, while in Croatia, economic growth was determined to be the cause of tourism revenues, and thus the conservation hypothesis was deemed valid.

The causality relationships between economic freedom and investment freedom, and tourism revenues and economic growth were noted both in panel general and on the basis of countries. An analysis of the results in panel general reveals that no causal relationship exists between economic growth and economic freedom, that bi-directional causality exists between economic growth and investment freedom, that no causal relationship exists between tourism revenues and economic freedom, and lastly, that tourism revenues are the cause of investment freedom. The finding that economic growth and increased tourism revenues lead to an increase in freedom of investment can be attributed to the opening of countries to international markets through increased exports and imports, resulting from the said increases in revenues and consequent intensification of mutual economic relationships. The long-term effect of international capital mobility, on the other hand, can be seen in foreign direct investments. It can thus be argued that freedom of investment, developing as a result of its suitability to the conditions of the liberal economy of the financial and real markets, will increase foreign direct investment, and thus spur economic growth.

The results of the country-based analysis revealed freedom of investment in Italy, Croatia, and Malta to be a driver of economic growth, and further, that freedom of investment was the cause of freedom of investment in Croatia and Lebanon, while in Lebanon and Tunisia,

economic freedom was found to be the cause of economic growth. Such results demonstrate that the increasing freedoms in the said countries linked to the establishment of liberal economic conditions served to improve tourism revenues, leading thus to economic growth. Lastly, according to the results of the analysis, only in Turkey was economic growth determined to be the cause of economic freedom. Increases in production and yields support an increase in the international markets, leading to increased compatibility with the global markets.

The finding in the present study that tourism revenues lead to economic growth concur with those of all studies validating the TLEG hypothesis, while Balaguer and Cantavella-Jorda (2002), Oh (2005), Tuğcu (2014), and Tang and Tan (2015) at literature section of the study correspond to study results. On the other hand, while previous studies have identified a causal relationship between economic freedom, tourism and economic growth, as detailed in the literature review (Gövdeli, 2018; Akar & Özcan, 2020; Şahin, 2018), in the present study no causal relationship was established in panel general between economic freedom, economic growth, and tourism revenues, while in contrast, a country-based analysis revealed a causal relationship in some countries.

Lastly, the overall results of the analysis conducted at panel suggest that when tourism revenues are considered as being the cause of economic growth, the country in question should divert its efforts to support and promote tourism, being a sector that encourages investments in infrastructure and sectoral competition, while also creating employment and acting as a catalyst for the activation of other sectors. Furthermore, public spending on tourism must be increased, while branding and marketing campaigns must be supported. It should be noted that regulations that increase economic freedom and freedom of investment are important for policymakers, and so the rules and regulations related to property, the limitations placed on investments in certain sectors, and the controls applied to foreign exchange and the financial markets must be adjusted to suit the conditions of a liberal economy, as this would ensure an increase in investments to the country, beginning with the tourism sector.

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USE OF THE RESOURCE CONSUMPTION ACCOUNTING METHOD IN CUSTOMER PROFITABILITY ANALYSIS: A CASE STUDY OF A 5-STAR HOTEL

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ABSTRACT

This study was designed to illustrate the implementation of customer profitability analysis (CPA) using resource consumption accounting (RCA) for a hotel. A case study was performed at a 5-star hotel in Antalya, Turkey whose room capacity is 350. Interviews, direct observations, and document collection were used to obtain data while seeking to understand how the RCA method affects analysis results by applying the case study method for a hotel. Results indicated that some customer segments, which are unprofitable by the traditional costing method, are profitable while using RCA. The cost of idle resources devoted to activities in the hotel was also put forth with the case study. Utilizing these results, the hotel management is better able to understand the profitability of different customer segments and implement appropriate strategies. There are limited studies in the literature on profitability analysis in hotel companies and, to the best of author's knowledge, no other research has used the case study method to analyze customer profitability with the RCA method in this field. Therefore, this paper contributes to the literature by analyzing the use of the RCA method for CPA in the real-life case of an actual hotel.

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INTRODUCTION

Advances in technology and increasing access to information have fostered the development of new strategic models intended to increase profits. In the 20th century, as the industrial era emerged, companies began to adopt productivity models. The profitability of mass production depended on the ability to achieve cost-effective production and distribution, meaning that

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the focus was on costs and capacities (Schafer, 1999). These developments in manufacturing companies have also been experienced by service companies, and especially hotels.

Accommodation companies, like other businesses, aim to satisfy and retain their customers by increasing and differentiating the products and services they offer. The ability to provide high-quality service to existing and potential customers increases customer satisfaction and loyalty and ensures that the company is preferred by those customers in the future. Companies have accordingly started to develop various programs to retain their profitable customers by analyzing the profitability of their customers in addition to the product profitability (Gündüz, 2002; Koşan, 2008).

The customers and customer groups of companies are not homogeneous. Each customer demands different types of products or services, causes different costs, and contributes differently to the operating profit. For this reason, customer profitability is an important concept for service companies (Acar & Süklüm, 2016; Gül & Yaslıdağ, 2020).

In customer profitability analysis (CPA), in addition to the revenues of the company, the costs must be managed effectively and calculated accurately. Many approaches to cost and management accounting have been developed recently. One of these newly emerging cost approaches is resource consumption accounting (RCA), which is a contemporary management accounting method (Cengiz, 2011; Öztürk et al., 2019).

The aim of this paper is to illustrate the implementation of CPA with the RCA method in a hotel. A case study was conducted in a 5-star hotel with 350-room capacity operating in Antalya, Turkey. In this process, the aim was to understand how the RCA method affects analysis results by applying the case study method for a hotel. In this context, first, the relevant literature will be reviewed. Information will then be provided about CPA, the stages of the analysis, the RCA method used in this implementation, and the calculation process. The benefits of this analysis for the company and the necessity of CPA will be explained and the research process and results for a 5-star hotel operating in Antalya will subsequently be provided. Results of this study provides both theoretical and practical contributions.

LITERATURE REVIEW

Customer Profitability Analysis

The contribution of each customer to sales revenue is often not equal to the contribution to operating profitability. When calculating customer profitability, it is frequently seen that customers with smaller sales volume have higher profit shares, while customers with larger sales volume have lower profit shares. For this reason, it is necessary to determine the costs of each customer or customer group and compare those costs with the revenue obtained from them. In this way, the profitability of customers or customer groups is revealed (Yükçü, 2007). CPA is the process of determining revenues and costs based on customers or customer groups and revealing their profitability. With this analysis, it is possible to prevent less profitable customers from using business resources in inefficient ways (Dalcı et al., 2010; Datar & Rajan, 2018).

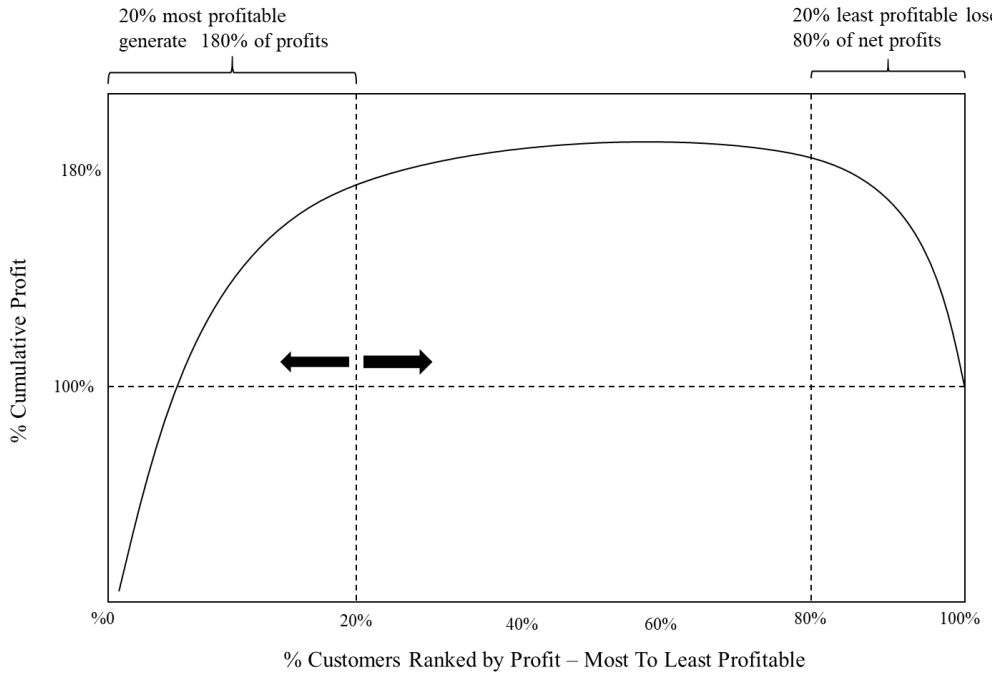

Figure 1. *Cumulative Customer Profitability Curve (Whale Curve)*
Source: Kaplan and Narayanan (2001, p. 15)

Although the sales volume of customers is considered as an important factor determining profit, different types of service costs incurred for different customers similarly affect operating profit. Customers do not use the same amounts of resources associated with business activities and so selling to some customers may be more costly than selling to others. Therefore, individually calculated customer costs represent different

customer profits (Özpeynirci & Kalaycı, 2016). Kaplan and Narayanan (2001) showed the different levels of customer profitability provided by customer groups and their shares in total profit as in Figure 1.

As seen in Figure 1, 20% of customers generate approximately 180% of the operating profit. The other 80% of customers reduce this profit. The customers to the left of the line drawn at 20% in Figure 1 can be considered as highly profitable customers who should definitely be retained, yielding a profit approximately two times higher than normal. On the other hand, the group to the right of the line drawn at 20% begins lowering the profit achieved by the previous group, eventually reducing it to 100%. This means that some customers create more value for companies than others (Özpeynirci & Kalaycı, 2016).

The goal of CPA is to relate the revenues, costs, assets, and resources of companies to their customers. The starting point of this analysis is the calculation of product or service costs. In the next stage, costs are assigned to customers according to marketing and sales processes and then the total cost of each customer is calculated. Finally, these calculated total costs are compared with the revenues obtained from the customers, and customer profitability is thus calculated. CPA, combining revenue and cost data, provides important information to management on a per-customer basis, and this information can help shape long-term decisions. In particular, it provides company managers with material to prepare micro-strategies to increase the profitability of each customer (Yükçü & Yüksel, 2016).

In this context, CPA assists business management in making many different strategic decisions. It ensures that companies retain existing profitable customers, allows for the re-pricing of highly paid services, and facilitates price reductions to serve low-cost customers. It also enables high-profit customers to be diverted from competitors. It ensures that the customers who constantly create losses are left to competitors, reveals processes related to cost management and profit development, and guarantees that the most appropriate price decisions are made for customers. Finally, it allows management to group customers according to profits and costs within the framework of strategic planning (Ekergil & Polat, 2020; Pazarçeviren & Aydın, 2020).

In order to carry out CPA, some specific steps must be followed. These are the creation of customer profiles and the identification of active customers, determination of the revenues generated from each customer or customer group, calculation of the costs of products and services offered to customers, calculation of customer profitability by comparing revenue and

cost information, and application of the information obtained as a result of CPA for strategic decision-making (Koşan, 2008; Ören & Tetik, 2012).

At the stage of calculating customer profitability, revenues and costs need to be analyzed very carefully. Particularly when analyzing costs, there is a need to apply costing methods that will calculate costs accurately and give realistic results. This highlights the importance of contemporary costing methods that eliminate the inadequacies of traditional costing methods and enable effective cost control (Öncel & Büyükmirza, 2019).

According to Kaplan and Narayanan (2001), it is critical that service companies understand the value of the CPA method due to the increasing sizes and organizational complexity of these companies. CPA is more significant for service companies than for manufacturing companies due to the cost of a service being usually determined by the behavior of the customer. According to Zeithaml and Bitner (1996), the cost of finding and acquiring new customers is five times higher for service companies than the cost of retaining existing customers. Nordling and Wheeler (1992) carried out an application of CPA at the Las Vegas Hilton Hotel, but they concluded that they were not able to allocate fixed costs to activities effectively in that study. Noone and Griffin (1999) conducted a case study at a hotel located in the city center of Dublin in order to test the viability of a system developed by them. Activities were identified at the macro and micro levels, and activity-based costing (ABC) was used to assign activity costs to customers. The authors put forth that the hotel's management had not any conception of profits and losses linked with certain customer groups. Menu engineering and the ABC method were employed by Raab and Mayer (2007) to analyze a menu at a restaurant in Hong Kong to calculate the profitability of each item on the menu. They found only 3 of 20 main courses profitable. These findings of earlier studies point out the need for developing an understanding of customer profitability analysis for service companies.

Resource Consumption Accounting

Accurate financial information will enable a company to make the right decisions, calculate costs accurately, and plan for the future. RCA is a method developed to serve these purposes (Öğünç & Tekşen, 2018). Company managers need more accurate cost and production information due to developments in production processes and increasing competition. RCA has an important role in achieving the determined targets in both

short-term and long-term investment decisions (Tanış & Demircioğlu, 2017).

RCA is a contemporary management accounting system that combines the importance attributed to resources by the German management accounting system (GPK: *Grenzplankostenrechnung*) and the activity perspective of ABC accounting (Aksu, 2013; Kayıhan & Tepeli, 2016). As a result of RCA being a resource-oriented and quantity-based model, it requires detailed cost analysis. When the decision-making phase is taken into account, it supports managers at the resource level, but not at the product level (Köse & Ağdeniz, 2015).

One of the most well-known contemporary costing methods is ABC. However, this method, frequently used in studies conducted to date, has not been able to provide a solution for cost analysis for most companies in the market, because its implementation requires significant time and cost. In the mid-1990s, the search for alternatives to ABC began, and the time-driven ABC (TDABC) and RCA approaches emerged (Tse & Gong, 2009). Although RCA and ABC are similar in terms of the distribution of resources, they have differences in terms of methods used. RCA is resource-oriented and focuses on the short term for consideration of more responsibilities, marginal analyses, and expenses, while the ABC method focuses more on long-term resource consumption. In addition, in the ABC method, idle capacity is ignored in the distribution of costs (Aktaş, 2013).

There are several significant advantages of the RCA method, as described by various authors (Clinton & Webber, 2004; Öğünç & Tekşen, 2018; Tutkavul, 2016). First, the RCA method results in accurate cost assignments and associations established based on specific production processes and their outputs. Second, accurate cost assignments in the RCA method provide the ability to undertake resource planning using only the relevant costs. Third, the use of the replacement cost-based depreciation method in RCA removes the problem of unequal cost distributions for similar products requiring support activities. Fourth, cost assignments based on the causality principle in RCA prevent irrelevant costs from being included in product costs. Fifth, the RCA method enables managers to improve their skills in understanding resource relations and using the necessary information in the decisions they will make.

On the other hand, there are also disadvantages of the RCA method as described by Erkuş et al. (2014) and Öktem (2016). First, ERP software programs such as SAP are required. Second, idle capacity costs are an uncertain factor for businesses. Third, RCA is a complex and costly system.

Fourth, the RCA method is difficult to update because it contains detailed calculations and is difficult to understand.

The application stages of RCA are as follows (Küçük & Karaca, 2017): In the first stage, the relationships between resources are examined and resource pools are determined. Control and planning are done at the resource level. Thus, resource pools are created by determining the relations of resources with each other. The second stage entails the determination of primary and secondary costs. These costs, if any, are determined for each research pool and total costs are calculated. In the third stage, the costs collected in the resource pools are divided proportionally and fixed. The reason for this fixed and proportional separation of costs is that fixed costs depend on theoretical capacity and proportional costs are allocated according to the output amount of the resource pool. Next, in the fourth stage, activities are determined. Fixed and proportional costs collected in resource pools are distributed to activities through resource cost drivers, and the costs of activities are determined in this way. By comparing the capacity of each resource pool with the theoretical capacity, idle capacity and idle cost are determined. Finally, in the fifth stage, the activity costs determined in the previous stage are distributed to products or services in proportion to the amount of use of the activities, and the product or service cost is thus determined.

The literature review shows that the RCA method was not used earlier in CPA for hotel companies. The lack of studies on the application of the RCA method in the accommodation sector and using the RCA method in CPA represents a significant gap in the literature, and the present study aims to contribute to the literature by filling this gap. In addition, it is expected that the findings of this study will help hotel managers in making decisions regarding pricing, marketing, capacity management, cost management, and other managerial functions.

METHODOLOGY

Case Study

The case study method, as one of the methods used in the social sciences, was applied at the hotel selected for this analysis. Case studies are among the most suitable research methods for those working in the fields of cost and management accounting (Koşan, 2008). In this context, a descriptive case study was carried out at the selected hotel, the hotel's existing service

production and cost system was examined, and efforts were made to understand the relevant profitability calculations.

Data Collection

The data used in this analysis are real-world data covering a one-year period from January 2019 to December 2019. During the data collection phase, interviews and various observations were held with both employees and senior managers. All financial data given in this study are expressed in Turkish lira (TL). In the calculations, two digits after the decimal point were taken into account.

General Information about the Hotel

The hotel is located 12 km from Alanya and 45 km from Gazipaşa Airport and is open all year. Providing service with an all-inclusive concept, this family-oriented hotel was established on 24,000 m^2 with a large green area, consisting of 6 blocks and a total of 350 rooms (with 700-bed capacity). The services offered by the hotel include food, beverages, accommodation, Turkish bath/sauna, spa, bars, swimming pools, sporting activities, convention centers, and entertainment activities.

The research presented here is based on 2019 data, when the average length of stay for customers was 7 days. The hotel had an 80% occupancy rate in 2019. Children accounted for approximately 10% of the room occupancy rate, and additional beds were used by 10% of the customers. More explicit details are as follows:

Room occupancy rate = 350 × 0.80 = 280 rooms
Bed occupancy rate = 700 × 0.80 = 560 people (adults)
Number of children = 280 × 0.10 = 28 children
Number of customers utilizing additional beds = 280 × 0.10 = 28 people (adults)
Total number of customers per week = 616 people (560 + 28 + 28)
Total number of customers per month = 616 × 4 = 2,464 people
Total number of customers per year = 2,464 × 12 = 29,568 people
Number of overnight (O/N) stays per month = 2,464 × 7 = 17,248 O/N stays
Number of overnight (O/N) stays per year = 17,248 × 12 = 206,976 O/N stays

The number of personnel at the hotel varies during peak periods. However, in practice, it is assumed that an average of 245 personnel are working. The number of personnel on the basis of departments and square meters occupied by hotel areas are shown in Table 1.

Table 1. *Number of personnel and square meters of areas of the hotel*

Departments	Number of Personnel	Area	Square Meters of Area (m^2)
Front Office	16	Front Office	80
Housekeeping	47	Rooms	8,000
Service	38	Park and Garden	7,500
Kitchen	38	Beach	5,000
Animation	15	Service	200
Park and Garden	14	Kitchen	400
Laundry	10	Restaurant	660
Doctor	1	Laundry	60
Security	12	Bars (Pool/Lobby)	900
Administrative	18	Amphitheater	300
Technical Service	21	Turkish Bath/Sauna	250
Purchasing	5	Convention Centers	500
Accounting/Finance	10	Management Office	150
TOTAL	**245**	**TOTAL**	**24,000**

Determination of Customer Groups

The hotel's customers were categorized within four groups as a result of the conducted interviews:

Group 1: This group comprises customers brought to the hotel by travel agencies and tour operators. It has the highest sales mix percentage (85%) among the determined groups. The customers clustered in this group prefer the all-inclusive services of the hotel.

Group 2: These are "walk-in" customers who arrive at the hotel without advance reservations. These customers use the all-inclusive services and have an 8% share in the total.

Group 3: This group includes customers organizing events or wedding ceremonies in the hotel and has a 5% share in the total sales mix. Guests in this group receive catering and entertainment services and they stay in the hotel for 1 or 2 days.

Group 4: These customers hold meetings, seminars, and conferences in the hotel. Customers in this group receive catering and might stay in the hotel for 1 or 2 days. This group has a 2% percent share in the total.

Revenues of the Hotel

The revenue-generating departments in the hotel are generally those that are in direct contact with customers. In practice, the main revenues of the hotel examined here are reported as arising from accommodations, bars, the restaurant, meetings, and banquet revenues. The hotel's annual revenue distribution is summarized in Table 2 on the basis of customer groups.

Table 2. *Annual revenues of the hotel*

Customer Groups	Revenues (TL)					TOTAL (TL)
	Accommodations	Bars	Restaurant	Meetings	Banquets or Ceremonies	
Group 1	6,879,681	1,036,664	1,507,875			9,424,220
Group 2	3,914,301	589,826	857,929			5,362,056
Group 3	24,373				788,060	812,433
Group 4	45,496			584,952	19,498	649,946
TOTAL	**10,863,851**	**1,626,490**	**2,365,804**	**584,952**	**807,558**	**16,248,656**

The "accommodations" revenues presented in Table 2 generally consist of room sales. Bar and restaurant revenues, excluding the all-inclusive system, consist of a la carte restaurant revenues and some beverage revenues not included in the all-inclusive package system. Meeting revenues are generated from organized events such as conferences, seminars, panels, and workshops. Banquet and ceremony revenues are from social groups such as weddings and parties.

Implementation of the Resource Consumption Accounting Method for the Hotel

In this study, an application was carried out to show how RCA using contemporary costing methods in cost calculations can be applied for the CPA of a hotel. The RCA process performed in this application with the data obtained from the hotel is shown in Figure 2.

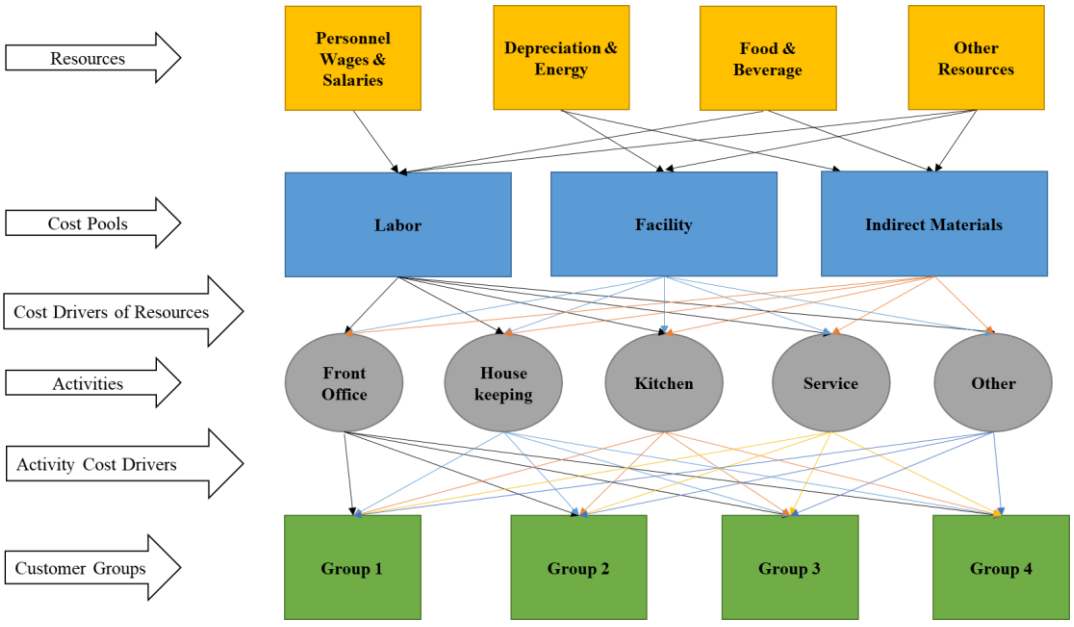

Figure 2. *Implementation process of resource consumption accounting for the hotel*

Costs assigned from resources to activities according to resource cost drivers are distributed to cost objects from activities through activity cost drivers (the criterion for using the activities of cost objects). This flow of resource costs to cost objects in RCA is shown in Figure 2.

In the implementation stages of RCA, six steps are undertaken as explained in more detail above. Briefly, these steps are: 1) Identification of resources and costs of resources; 2) Creation of resource pools by considering the relationships between each resource and determination of cost drivers; 3) Classification of costs in resource pools; 4) Identification of activities and allocation of resource costs to activities; 5) Assigning activity costs to cost objects; and 6) Cost control and management.

Identification of Resources and Costs of Resources

As the first step of RCA, the types of resources and total resource costs of the hotel were determined, as shown in Table 3.

Table 3. *Resources and total costs of the hotel*

Resources	**Costs (TL)**	**Share in the Total (%)**
Staff Food and Beverage	240,858.28	1.85%
Personnel Transport and Lodging Expenses	166,382.82	1.28%
Electricity	171,834.30	1.32%
Water	45,391.89	0.35%
Landscaping and Pool Maintenance	59,946.58	0.46%
Laundry	18,154.66	0.14%
Phones	55,387.83	0.42%
Depreciation	1,455,363.15	11.16%
Food	2,463,079.37	18.89%
Beverages	1,569,465.42	12.04%
Cleaning Equipment	136,370.03	1.05%
Stationery and Printed Forms	35,532.78	0.27%
Chemical Materials	73,206.63	0.56%
Boucle Materials	23,429.21	0.18%
LPG	258,339.39	1.98%
Vehicle Fuel	93,385.48	0.72%
Service Materials	11,906.45	0.09%
Maintenance	45,564.08	0.35%
Spare Parts	33,213.17	0.25%
Electrical Materials	37,700.00	0.29%
Plumbing Materials	12,989.99	0.10%
Personnel Wages	5,991,587.73	45.96%
Insurance	38,546.73	0.30%
TOTAL	**13,037,636.00**	**100%**

The hotel's costs for 2019 are detailed in Table 3. The total resource costs for that year reached 13,037,636 TL, and the largest share of that total belonged to personnel wages at 45.96%. In addition, since an all-inclusive system is applied in this hotel, food and beverage expenses also have an important share in the total cost. The share of food expenditures in the total is 18.89% and that of beverage expenditures is 12.04%.

Creating Resource Pools and Determination of Cost Drivers

RCA envisages a homogeneous combination of resources in resource pools within the framework of cause-and-effect relationships, monitoring them according to their structures, behaviors, and capacities. For the hotel in this case study, in light of the relations between resources, a total of three resource pools were created for labor, facility, and indirect materials, respectively. These resource pools were created based on the nature of the resource costs and their relationships with each other, as shown in Table 4.

Table 4. *Resource pools*

Resources	**Costs (TL)**	**Resource Pools**
Staff Food and Beverage	240,858.28	Labor
Personnel Transport and Lodging Expenses	166,382.82	Labor
Electricity	171,834.30	Facility
Water	45,391.89	Facility
Landscaping and Pool Maintenance	59,946.58	Facility
Laundry	18,154.66	Facility
Phones	55,387.83	Labor
Depreciation	1,455,363.15	Facility
Food	2,463,079.37	Indirect Materials
Beverages	1,569,465.42	Indirect Materials
Cleaning Equipment	136,370.03	Indirect Materials
Stationery and Printed Forms	35,532.78	Indirect Materials
Chemical Materials	73,206.63	Indirect Materials
Boucle Materials	23,429.21	Indirect Materials
LPG	258,339.39	Facility
Vehicle Fuel	93,385.48	Facility
Service Materials	11,906.45	Indirect Materials
Maintenance	45,564.08	Facility
Spare Parts	33,213.17	Facility
Electrical Materials	37,700.00	Facility
Plumbing Materials	12,989.99	Facility
Personnel Wages	5,991,587.73	Labor
Insurance	38,546.73	Facility
TOTAL	**13,037,636.00**	

In Table 4, expenses such as wages, transportation, lodging, phones, and staff food and beverage costs are assigned to the labor resource pool. Costs such as electricity, water, pool maintenance, landscaping, laundry, depreciation, LPG, vehicle fuels, insurance, and various materials related to the facility in general are grouped in the facility resource pool. Finally, costs such as food, beverages, cleaning equipment, stationery, chemical materials, and boucle materials are categorized within the indirect materials resource pool. Table 5 further summarizes the total costs for each resource pool and the cost drivers to be used in the distribution of resource pools to activity centers.

Table 5. *Total costs of resource pools and cost drivers*

Resource Pools	**Total Amount (TL)**	**Cost Drivers**
Labor	6,454,216.67	Labor Hours
Facility	2,270,429.42	Square Meters of Area
Indirect Materials	4,312,989.90	Kilograms
TOTAL	**13,037,636.00**	

In the labor resource pool, "labor hours" was taken as the most appropriate cost driver due to the changes in the number of personnel over a calendar year and the inability to employ them steadily. In the facility resource pool, "square meters of area" was chosen as the cost driver in the distribution of the related expenses. Finally, in the indirect materials resource pool, "kilograms" was chosen as the cost driver.

Classification of Costs in Resource Pools

After determining the resource pools, the fixed and proportional (variable) parts of the resources within the resource pools should be determined. It is important to distinguish between fixed and proportional costs in the calculation of idle capacity cost, which is one of the features that makes the RCA method superior to other contemporary costing methods. The distribution of fixed and proportional costs incurred in the resource pools of the hotel is summarized in Table 6.

Table 6. *Fixed and proportional costs by resource pools*

Resource Pools	**Fixed Costs (TL)**	**Proportional Costs (TL)**	**TOTAL (TL)**
Labor	462,628.94	5,991,587.73	6,454,216.67
Facility	1,577,813.03	692,616.39	2,270,429.42
Indirect Materials	-	4,312,989.90	4,312,989.90

In Table 6, while the labor resource pool and facility resource pool include both proportional and fixed costs, the indirect materials resource pool includes only proportional costs. The costs for these resource pools were calculated as fixed and/or proportional according to resource cost drivers as follows:

Labor Resource Pool: Although the daily number varies throughout the year, a total of 245 personnel work in the hotel. The distribution of these personnel by departments was shown in Table 1. While the food and beverage, personnel transportation, lodging, and phone expenses related to the personnel are considered as fixed costs, their wages are defined as proportional costs.

Facility Resource Pool: Depreciation, spare parts, electrical materials, plumbing materials, and insurance expenses are defined as fixed costs. Electricity, water, landscaping, pool maintenance, laundry, LPG, vehicle fuel, and maintenance costs are considered as proportional costs.

Indirect Materials Resource Pool: The costs in the indirect materials resource pool are classified as completely proportional.

As stated above, final costs are calculated based on theoretical and practical capacity in the RCA method. "Theoretical capacity" refers here to the current capacity of the resource pools, while "practical capacity" refers to the output amount. Fixed and proportional cost rates of the resource pools were calculated based on theoretical and practical capacity amounts, respectively. The fixed cost ratio was calculated by dividing the fixed costs by the theoretical capacity and the proportional cost ratio was calculated by dividing the proportional costs by the practical capacity.

Table 7. *Theoretical and practical capacities and rates of resource pools*

Resource Pools	Theoretical Capacity	Practical Capacity	Fixed Cost Ratio	Proportional Cost Ratio
Labor	804,825	684,102	0.57	8.76
Facility	24,000	24,000	65.74	28.86
Indirect Materials	-	10,695,500	0.00	0.40

In Table 7, the theoretical capacity is provided according to the fixed cost while practical capacity is determined according to proportional costs. Theoretical capacity emerges as a result of working at the maximum level and practical capacity is considered as the capacity desired to be reached within a specified period. The theoretical and practical capacities of the labor resource pool were determined according to annual labor hours, the capacities of the facility resource pool were determined according to the area used (square meters), and the capacity of the indirect material resource pool was determined according to the amount of material in kilograms. The

fixed and proportional cost ratios described below were calculated to obtain the values seen in Table 7.

Labor Resource Pool

Labor Fixed Cost Ratio = Labor Fixed Cost / Labor Theoretical Capacity

In general, when the maximum working time of an employee is 9 hours per day, one year of total working time is accordingly 3,285 hours (=9 × 365). The theoretical working capacity of 245 personnel was thus calculated as 804,825 labor hours (=3,285 × 245).

Labor Fixed Cost Ratio = 462,628.94 / 804,825 = 0.57 TL/Labor Hour

When the annual leave of the personnel, public holidays, breaks, and idle time are deducted from the theoretical capacity, the practical capacity corresponds to approximately 85% of the theoretical capacity, which is 684,102 labor hours in the present case.

Labor Proportional Cost Ratio = Labor Proportional Cost / Labor Practical Capacity

Labor Proportional Cost Ratio = 5,991,587.73 / 684,102 = 8.76 TL/Labor Hour

Facility Resource Pool

The areas used in the hotel encompass 24,000 m^2 in total and the theoretical and practical capacity is equal.

Facility Fixed Cost Ratio = Facility Fixed Cost / Facility Theoretical Capacity

Facility Fixed Cost Ratio = 1,577,813.03 / 24,000 = 65.74 TL/m^2

Facility Proportional Cost Ratio = Facility Proportional Cost / Facility Practical Capacity

Facility Proportional Cost Ratio = 692,616.39 / 24,000 = 28.86 TL/m^2

Indirect Materials Resource Pool

Since the materials in the indirect resource pool are directly related to service costs, this pool does not have a theoretical capacity. The practical capacity was determined as 10,695,500 kilograms per year.

Ind. Mat. Proportional Cost Ratio = Ind. Mat. Proportional Cost / Ind. Mat. Practical Capacity

Ind. Mat. Proportional Cost Ratio = 4,312,989.90 / 10,695,500 = 0.40 TL/kg

Identification of Activities and Allocation of Resource Costs to Activities

As a result of the observations carried out in the hotel and face-to-face interviews with hotel personnel, including managers, it was determined that four main activities (front office, housekeeping, service, and kitchen) and one "other" activity category (general and administrative expenses) were carried out. While determining these activity centers, similar activities were carefully gathered within a single activity pool. Thus, unnecessary activity centers were avoided. The determined activity centers and the amount of resources consumed by these centers are shown in Table 8.

Table 8. *Resources consumed by activities*

Resource Pools	Front Office	Housekeeping	Kitchen	Service	Other	TOTAL
Labor	44,676	131,236	106,106	106,106	295,978	684,102
Facility	80	8,060	400	1,760	13,700	24,000
Indirect Materials	700,000	2,750,000	3,500,000	2,500,000	1,245,500	10,695,500

The calculations of the values shown in Table 8 are shown below.

Labor Resource Pool

As detailed in Table 1, the hotel employs 16 workers in the front office activity center, 47 workers in the housekeeping activity center, 38 workers in the service activity center, 38 workers in the kitchen activity center, and 106 workers in the "other" activity center.

Resource Consumption in the Labor Resource Pool of the Front Office Activity Center

= (Labor Practical Capacity / Total Number of Personnel in the Hotel) × Number of Front Office Personnel

= (684,102 / 245) × 16 = 44,676 Labor Hours

Resource Consumption in the Labor Resource Pool of the Housekeeping Activity Center

= (Labor Practical Capacity / Total Number of Personnel) × Number of Housekeeping Personnel

= (684,102 / 245) × 47 = 131,236 Labor Hours

Resource Consumption in the Labor Resource Pool of the Kitchen Activity Center

= (Labor Practical Capacity / Total Number of Personnel) × Number of Kitchen Personnel

= (684,102 / 245) × 38 = 106,106 Labor Hours

Resource Consumption in the Labor Resource Pool of the Service Activity Center

= (Labor Practical Capacity / Total Number of Personnel) × Number of Service Personnel

= (684,102 / 245) × 38 = 106,106 Labor Hours

Resource Consumption in the Labor Resource Pool of the "Other" Activity Center

= (Labor Practical Capacity / Total Number of Personnel) × Number of "Other" Activity Personnel

= (684,102 / 245) × 106 = 295,978 Labor Hours

Data on the area (m^2) used by the activities in the facility resource pool and the amount of material (kg) are as follows according to information received from management: Inside the hotel, the front office activities take place in an area of 80 m^2, housekeeping activities in an area of 8,060 m^2, kitchen activities in an area of 400 m^2, service activities in an area of 1,760 m^2, and other activities in an area of 13,700 m^2 in total. Furthermore, 700,000 kg of resources are consumed in front office activities, 2,750,000 kg in housekeeping activities, 3,500,000 kg in kitchen activities, 2,500,000 kg in service activities, and 1,245,500 kg in other activities as indirect materials in the course of a year.

In the next stage of analysis, the costs in the resource pools are distributed to activities as seen in Table 9.

Table 9. *Distribution of costs collected in resource pools to activities*

Resource Pools	**Front Office (TL)**	**Housekeeping (TL)**	**Kitchen (TL)**	**Service (TL)**	**Other (TL)**	**TOTAL (TL)**
Labor	416,968	1,224,844	990,303	990,303	2,762,405	6,384,822
Facility	7,568	762,486	37,840	166,498	1,296,037	2,270,429
Indirect Materials	282,277	1,108,945	1,411,385	1,008,132	502,251	4,312,990
TOTAL	**706,813**	**3,096,275**	**2,439,528**	**2,164,933**	**4,560,694**	**12,968,241**

Table 9 provides data related to the distribution of the costs collected in the resource pools to activities. The calculations of these values were performed as follows:

Labor Resource Pool

Front Office Activity Center = 44,676 × (0.57 + 8.76) = 416,968 TL

Housekeeping Activity Center = 131,236 × (0.57 + 8.76) = 1,224,844 TL

Kitchen Activity Center = 106,106 × (0.57 + 8.76) = 990,303 TL

Service Activity Center = 106,106 × (0.57 + 8.76) = 990,303 TL

"Other" Activity Center = 295,978 × (0.57 + 8.76) = 2,762,405 TL

Facility Resource Pool

Front Office Activity Center = 80 × (65.74 + 28.86) = 7,568 TL

Housekeeping Activity Center = 8,060 × (65.74 + 28.86) = 762,486 TL

Kitchen Activity Center = 400 × (65.74 + 28.86) = 37,840 TL

Service Activity Center = 1,760 × (65.74 + 28.86) = 166,498 TL

"Other" Activity Center = 13,700 × (65.74 + 28.86) = 1,296,037 TL

Indirect Materials Resource Pool

Front Office Activity Center = 700,000 × (0 + 0.40) = 282,277 TL

Housekeeping Activity Center = 2,750,000 × (0 + 0.40) = 1,108,945 TL

Kitchen Activity Center = 3,500,000 × (0 + 0.40) = 1,411,385 TL

Service Activity Center = 2,500,000 × (0 + 0.40) = 1,008,132 TL

"Other" Activity Center = 1,245,500 × (0 + 0.40) = 502,251 TL

Assigning Activity Costs to Cost Objects

In the fifth step of the RCA method, the activity cost drivers and the amount of resources consumed by the activities within the cost objects are determined. The costs accumulated in the activity centers are then distributed to the cost objects by allocation rates. Table 10 shows the activity centers and activity drivers to be used in the distribution of the costs collected in these centers to the customer groups.

Table 10. *Determining activity cost drivers and consumed resources by cost objects*

Activities	Activity Cost Drivers	Group 1	Group 2	Group 3	Group 4	TOTAL
Front Office	Number of Customers	25,133	2,365	1,478	591	29,568
Housekeeping	Number of Activities	3,302,338	2,101,488	420,298	180,128	6,004,250
Kitchen	Number of O/N Stays	113,837	72,442	14,488	6,209	206,976
Service	Number of O/N Stays	113,837	72,442	14,488	6,209	206,976
Other	Number of O/N Stays	113,837	72,442	14,488	6,209	206,976

In Table 10, the activity cost drivers to be used in the distribution of the costs in the activity pools to the cost objects and the customer groups defined as the cost objects are indicated. The resources consumed by these activities were determined. Accordingly, the distribution of costs collected in the front office activity center will be based on "number of customers," the distribution of costs collected in the housekeeping activity center will be based on "number of activities," and the distribution of costs collected in

the remaining activity centers (kitchen, service, and "other") will be based on "number of O/N stays" as activity cost drivers.

Table 11 provides data on the distribution of costs collected in activity centers to customer groups.

Table 11. *Distribution of costs collected in activities to customer groups*

Activities	**Group 1 (TL)**	**Group 2 (TL)**	**Group 3 (TL)**	**Group 4 (TL)**	**TOTAL (TL)**
Front Office	600,791	56,545	35,341	14,136	706,813
Housekeeping	1,702,951	1,083,696	216,739	92,888	3,096,275
Kitchen	1,341,740	853,835	170,767	73,186	2,439,528
Service	1,190,713	757,726	151,545	64,948	2,164,933
Other	2,508,381	1,596,243	319,249	136,821	4,560,694
TOTAL	**7,344,576**	**4,348,045**	**893,641**	**381,979**	**12,968,241**

The calculations made for each activity center were performed as follows:

Front Office Activity Center

In the distribution of the costs collected in the front office activity center to customer groups, "number of customers" is determined as the activity cost driver. The allocation rate for this activity center is as follows:

Allocation Rate = 706,813 / 29,568 = 23.91 TL/person

By using the calculated allocation rate, the costs in the front office activity center are allocated to customer groups as follows:

Customer Group 1 = 23.91 × 25,133 = 600,791 TL

Customer Group 2 = 23.91 × 2,365 = 56,545 TL

Customer Group 3 = 23.91 × 1,478 = 35,341 TL

Customer Group 4 = 23.91 × 591 = 14,136 TL

Housekeeping Activity Center

In the distribution of the costs collected in the housekeeping activity center to customer groups, "number of activities" is determined as the activity cost driver. The allocation rate for this activity center is calculated as follows:

Allocation Rate = 3,096,275 / 6,004,250 = 0.52 TL/activity

By using the calculated allocation rate, the costs in the housekeeping activity center are allocated to customer groups as follows:

Customer Group 1 = 0.52 × 3,302,338 = 1,702,951 TL

Customer Group 2 = 0.52 × 2,101,488 = 1,083,696 TL

Customer Group 3 = 0.52 × 420,298 = 216,739 TL

Customer Group 4 = 0.52 × 180,128 = 92,888 TL

Kitchen Activity Center

In the distribution of the costs collected in the kitchen activity center to customer groups, "number of O/N stays" is determined as the activity cost driver. The allocation rate for the activity center is calculated as follows:

Allocation Rate = 2,439,528 / 206,976 = 11.79 TL/ON Stay

By using the calculated allocation rate, the costs in the housekeeping activity center are allocated to customer groups as follows:

Customer Group 1 = 11.79 × 113,837 = 1,341,740 TL

Customer Group 2 = 11.79 × 72,442 = 853,835 TL

Customer Group 3 = 11.79 × 14,488 = 170,767 TL

Customer Group 4 = 11.79 × 6,209 = 73,186 TL

Calculations for the remaining activity centers were carried out similarly. In Table 12, the distributed cost amounts and idle capacity amounts are summarized.

Table 12. *Cost allocation summary*

Resource Pools	**Costs Incurred (TL)**	**Distributed Costs (TL)**	**Idle Resource Cost (TL)**
Labor	6,454,217	6,384,822	69,395
Facility	2,270,429	2,270,429	0
Indirect Materials	4,312,990	4,312,990	0
TOTAL	**13,037,636**	**12,968,241**	**69,395**

Idle capacity is calculated as follows based on the data provided in Table 12:

Idle Resource Cost = Costs Incurred – Distributed Costs

Thus, as a result of the RCA application, the total idle capacity of the hotel selected for this case study was calculated as 69,395 TL. Therefore, 69,395 TL was not included in the cost objects.

RESEARCH FINDINGS

Costs are allocated to customer groups with the RCA method and the profitability of the customer groups emerges as a result of subtracting the costs of those groups from the revenues obtained from the customer groups. As a result of the application of the RCA method in the present study, customer profitability was determined by the comparison of costs and revenues calculated by the distribution of costs to the customer groups as shown in Table 13.

Table 13. *Profitability of customer groups*

Customer Groups	Revenue (TL)	Costs (TL)	Profit / Loss (TL)	Relative Profitability
Group 1	9,424,220	7,344,576	2,079,644	63.40%
Group 2	5,362,056	4,348,045	1,014,011	30.91%
Group 3	812,433	893,641	-81,208	-2.48%
Group 4	649,946	381,979	267,967	8.17%
TOTAL	**16,248,656**	**12,968,241**	**3,280,415**	**100.00%**

In Table 13, the previously calculated idle capacity cost of 69,395 TL was not included in the calculations. This difference is caused by the unused capacity that emerges from activities. In other words, it results from the distribution of costs to customer groups after the costs of the unused capacity are subtracted. This cost difference is crucial information that should be used by managers in decision-making processes.

When the results of the CPA conducted with the RCA method are examined, it is seen that only one of the customer groups (Group 3) causes a loss for the hotel. This may be due to the selection of activity cost drivers used in the allocation of costs belonging to this group. Group 1, on the other hand, is the most profitable customer group with a 63.40% share in profitability analysis. This customer group is followed by Group 2 with a share of 30.91%. Group 4, comprising customers who come for meetings, has the lowest profitability level among the customer groups.

The costs allocated according to the traditional costing method used by the hotel and those obtained via the RCA method differ although the revenues of the customer groups are the same. This difference is due to the fact that idle capacity is not distributed to the customer groups in contrary with the traditional costing method, and that reveals the change in profitability ratios.

As shown in detail in the previous sections, the costs of the hotel, customer group costs, and customer group revenues were calculated. After

determining the revenues and costs, the profit and profitability ratios of the customer groups were calculated. Considering the current value and future economic benefits for the company, the hotel management may direct the focus of service toward high-value customers because such customers contribute the highest profits for the hotel. CPA explains customer profitability in a certain past accounting period and thus contributes to the evaluation of the effectiveness of hotel investments. By combining CPA and RCA, management may obtain more comprehensive data regarding its customers and might subsequently be able to make better decisions about customer relationship management and improve the value of the company.

CONCLUSION

CPA is a technique that has entered the management accounting literature in recent years. In brief, it determines the revenues of customers or customer groups, the costs necessary to obtain those revenues, and the profits as a result. With CPA, the contributions of customer groups to the company are determined instead of the profits obtained from products or services. Therefore, managers can make customer-oriented decisions and increase the necessary attention paid to profitable customers.

In terms of hotel businesses, the contribution of each customer can be calculated using the CPA method. However, this is a very difficult and time demanding analytical process. Analyzing customer groups is more applicable for hotel managers than analyzing individuals. Since customers come to hotels for different reasons, it is easier and more effective in terms of strategic decisions to perform collective analysis by grouping the customers instead of performing customer-based analysis one by one.

The RCA method has emerged as a dynamic, comprehensive, and integrated management accounting approach that combines the process perspective of the ABC method and the resource perspective of GPK. The RCA method is accepted by many academics and practitioners as a costing method that not only eliminates the inadequacies of many methods developed before but it also provides the most advanced and accurate information. With the RCA method, business managers are supported in both short-term and long-term decision-making processes, and it helps to identify inefficient resources and activities by calculating idle capacity costs.

The RCA method considers consumption relations between resources and cost objects on the basis of cause and effect. Many factors are

taken into account in determining idle capacity and idle capacity costs. The RCA method is defined as a superior method as it eliminates the deficiencies of other costing methods that lead to distorted and erroneous cost information. The traditional costing method only calculates the average cost, the ABC method ignores idle capacity, and the TDABC method takes time as the only factor when calculating the idle costs. If the RCA method is used, significant differences in costs for manufacturing or service companies can be expected. This, in turn, will have a significant positive impact on the pricing policies of the companies.

In the present study, a CPA application was performed for a hotel that did not previously apply CPA and had assumed that all customers provide the same profits. The purpose of this application was to examine the usability of the RCA method in CPA and determine whether it can provide accurate results. In this regard, using the RCA method provides managers to access more precise CPA information and reveals the idle capacity as well.

Five activities in the hotel were emphasized in this case study and the contributions to the hotel of the customer groups belonging to those activity groups were calculated. Clear evidence was obtained to show that these five activity centers have idle capacity. Labor-intensive aspect of hospitality sector is well known and it is also known that staff have a significant influence on the profitability of a hotel. Concordantly, hotel managers should focus on determining proper strategies to maximize capacity utilization. For example, managers might provide the necessary training and motivation to personnel to follow up on and respond to customers' needs and expectations to attract more customers and remove idle capacity in the future. With the RCA approach, hotel managers will be better equipped to comprehend if the capacity is sufficient to meet future needs. This will enable them to plan workforce better, which in turn will encourage the efficient use of human resources. With better workforce planning, management will be able to hire the right type of employees who are aligned with the hotel's needs and they will also be able to anticipate personnel training demands more efficaciously.

In this research, the profitability of different customer groups was calculated and it was found that, with a share of 63.40%, "Customer Group 1" comprising customers who visited the hotel through travel agencies and tour operators, was the most profitable and made the highest contribution. On the other hand, it was observed that "Customer Group 3" caused a loss in hotel revenues. This finding should be reviewed by the hotel managers

and necessary decisions should be made. In this context, hotel management should adapt appropriate programs to manage customer relations. For example, hotel managers could carry out different promotional programs or campaigns to attract more profitable customers in several periods. The hotel can divert low-profit customer groups to low seasons and focus on serving high-income groups during peak times. On the other hand, the hotel must also consider measures to retain "Customer Group 1", the most profitable group, in order to maintain profits in future periods. For this reason, the hotel management should establish the marketing strategies required to enhance guest loyalty among this group. This will then allow the hotel to subsidize low-profit contributors with profits from high-profit contributors. In addition, the hotel management will be able to better designate the customer mix that will provide the highest return in the future after obtaining results via RCA analysis.

In addition to the practical results, this study contributes to the literature in some aspects. Earlier, Dalcı et al. (2010) aimed to show the implementation of CPA using TDABC in a four-star hotel. They conducted a case study that also revealed the cost of idle resources devoted to front office, housekeeping, food preparation, and marketing activities. The results showed that some customer groups were determined profitable using TDABC method in CPA contrary with the traditional costing method. However, the estimation of the time equations that used in TDABC method can be subjective during the application of the method to the hotel business. Therefore, in this study, it was predicted that choosing the RCA model would yield more accurate results. In addition, it is determined that the RCA model, which has been applied in many different sectors, differs according to the results produced by the ABC and TDABC methods. In fact, in most studies, it has been determined that accurate and reliable information is provided with the newly emerged RCA model comparing to other methods (Clinton & Webber, 2004; Küçük & Karaca, 2017; Öğünç & Tekşen, 2018; Öncel & Büyükmirza, 2019).

In conclusion, this study aimed to provide guidance for hotel managers in terms of the analysis of the contributions of customer groups and to demonstrate the applicability of the RCA method in CPA for accommodation companies as well as manufacturing companies. This analysis will also help hotel managers make accurate decisions about the investments to be made in their hotels. CPA studies have been previously conducted with both ABC and TDABC methods, which are widely used in the literature. However, with the use of RCA, which is one of the most advanced costing and cost management techniques, the present work has

contributed to the literature in terms of both showing the usability of new methods with CPA and increasing the recognition of RCA. The findings obtained here were collected from a case study conducted at a 5-star hotel in Turkey. While the results of this research cannot be generalized to the accommodation sector entirely at this point, they may shed light on hotel cost practices from the perspective of the RCA model. In future research, this work should be replicated at other hotels both in Turkey and abroad, as well as hotels of different stars to determine whether the present results are generalizable.

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EXAMINING THE RELATIONSHIP BETWEEN SUBJECTIVE VITALITY AS A PERSONALITY TRAIT, EXPERIENCE QUALITY, AND ENVIRONMENTAL STEWARDSHIP OF TOURISTS VISITING ATATÜRK ARBORETUM

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ABSTRACT

Subjective vitality is usually discussed theoretically in a business context but it has important practical implications as well. This study examines subjective vitality as a trait and personal resource, in the context of outdoor recreation and garden tourism. Visitors of Atatürk Arboretum, Istanbul were surveyed, and a model was proposed and tested to examine the relationship between subjective vitality and experience quality based on conservation of resources theory and environmental stewardship (attitudinal stewardship and behavioral intentions). The results confirm that subjective vitality has a significant and positive effect on experience quality. Further, experience quality has a significant and positive effect on attitudinal stewardship, which, in turn, has the same effect on behavioral intentions. This implies that, after having a good experience, a visitor may feel more connected to the park, more willing to help, and more inclined to revisit and advocate.

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INTRODUCTION

Vitality is a widely popular subject and a favorite of science fiction novels. Crake, a brilliant character in Margaret Atwood's utopian novel *Oryx and Crake*, develops a drug to minimize the harm caused by homo sapiens to themselves and the world. This medicine would provide, among other

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features, a generalized sense of energy and well-being and prolonged youth. Crake claims that people are helpless against this drug because of the desire for more (Atwood, 2010). In other words, vitality and youthfulness are important in the understanding of such aspects. Sinan Şamil Sam, an intercontinental heavyweight champion, drew attention to this idea in an interview he gave before he died of liver failure in 2015:

> *After all, human beings are born, live, and die. Boxing is also like this. I would like to be Sinan Şamil Sam in those days when I was popular, to be healthier, more vigorous, more aggressive, and make more money, not a lie, but ... I did it and it is finished* (TRT Belgesel, 2015).

Indeed, scholarly reports suggest that "subjective feeling of aliveness and energy" is a significant indicator of personal well-being (Ryan & Frederick, 1997, pp. 533) and people have general desires/wishes to stay alive and young, reflected in their wish to minimize the effects of aging that diminish health and vitality (Hertzog et al., 2008).

In the literature, many different concepts related to personal energy, such as vigor/activity, liveliness, enthusiasm, zest have been developed (McNair et al., 1971; Ryan & Frederick, 1997; Thayer, 1987). One of these, subjective vitality (SV), was first considered as a separate title by Ryan and Frederick (1997). According to these researchers, SV is "the energy available to one's self" and defined as "one's conscious experience of possessing energy." (Ryan & Frederick, 1997, pp. 530–533) The concept refers to the physical and mental energy of a person, and vital people are said to "experience a sense of enthusiasm" (Ryan et al., 2010, pp. 159).

The relationship between SV and many different variables has been investigated in different disciplines. According to organizational behavior literature, businesses prefer that employees have high positive vitality. In one of the non-empirical preliminary studies, Shirom (2007) suggested that physical, emotional, and cognitive vigor have potential effects on life satisfaction, physical and mental health, job satisfaction, job performance, and organizational effectiveness. Dubreuil et al. (2014) pointed out that SV has a significant and positive effect on work performance. Similarly, Carmeli et al. (2009) claimed that vigor has an impact on job performance. Furthermore, Kark and Carmeli (2009) concluded that employees who are lively and energetic in the workplace are more inclined to jobs that require creativity. Porath et al. (2012) determined that thriving, which includes a sense of vitality and learning, affects burnouts negatively; additionally, a positive effect is noticeable on individual job performance, general health, and leadership effectiveness. These studies emphasize that employees with

high energy levels are more motivated, and have a greater capacity to accomplish their jobs and make significant contributions to the business (Shirom, 2007).

In studies regarding the medical sciences, an emphasis is placed on the importance of SV and relevant human wellbeing concepts. According to Penninx et al. (2000), in disabled older women, emotional vitality has positive effects on their disability and mortality. Likewise, Polk et al. (2005) determined that the trait negative affect is associated with higher concentrations of total cortisol which is main stress hormone of human body. In another study, vitality was reported to be a significant predictor of weight change since lower level of vitality ends up with less weight loss (Swencionis et al., 2013). Finally, Deen et al. (2020) discovered that an increase in emotional vitality resulted in a subsequent decrease in allostatic load.

Some studies have investigated the effect of SV on life satisfaction. Lucas et al. (2019) highlighted that vitality positively and significantly affects four domains of life satisfaction (i.e., psychological and physical health, environment, and social relationship), where they treated vitality as a mediator variable between hope and life satisfaction. Salama-Younes and Hashim (2018) also suggested that vitality positively and significantly affects life satisfaction, and they consider SV as a mediator variable between passion (i.e., harmonious and obsessive) and life satisfaction. Further, Çelik (2017) reports that vitality plays the role of a mediator between proactive personality and life satisfaction, and therefore significantly affects life satisfaction.

Notably, the concept of vitality may answer questions such as "how can I do my job with higher performance and quality", and "how can I live a healthy, high quality, and satisfactory life". People with higher vitality appear to be more successful in various areas of life. Vitality can manifest as a trait -enduring, related to an individual's characteristics- or a state -increasing temporarily due to factors such as physical activities/meaning in life- (Ju, 2017), social interactions (Chang & Kao, 2019), socializing time (Kheiraoui et al., 2012), outdoor experience (Ryan et al., 2010), and mindfulness (Allen & Kiburz, 2012; Martin-Cuellar et al., 2019).

Individuals' desires for life satisfaction are inextricably linked to their occupations (Erdoğan et al., 2012). Vacations are also attributed great significance as affecting life satisfaction the most (Nawijn & Veenhoven, 2011). Working life and vacations are two central elements of life (Altunel et al., 2017). Through performance and healthy relationships in workplace,

a person wants to experience satisfaction in business life. Similarly, considering tourism activities as one of the most common sources of pleasure in daily life, it is understandable for tourists to want to have a good experience during holiday. However, the quality of this experience seems related to the individual characteristics of tourists, as well as the quality of provided services (Altunel & Koçak, 2017). Thus, this study's primary purpose is to investigate the effect of SV, as an original subject in tourism, on the experience quality of tourists.

Destinations and businesses want to constantly increase the experience and satisfaction of tourists. If the level of vitality affects the quality of experience, it would not be correct to suggest or offer the same services to tourists with both low and high vitality. Therefore, destinations and businesses should be able to use SV as a segmentation criterion.

Accordingly, the study attempts to investigate the relationship between SV, experience quality (EQ), attitudinal stewardship (AS), and behavioral intentions (BI) through a model. Since the vitality level is considered to be imperative, especially in tourism or recreational activities that require a certain level of physical engagement, the data were collected from the visitors of the Atatürk Arboretum. The primary aim of the study is to examine the effect of SV on EQ and the mediation effect of EQ in the relationship between SV and AS. The secondary aim is to investigate the effect of EQ on AS and the effect of AS on BI. Understanding these relationships is valuable in assisting tourism establishments to provide a better quality of experience by delivering services in line with their customer profile. In addition, the theoretical foundation of this relationship has been missing in previous studies investigating the effect of SV on EQ (Altunel & Koçak, 2017; Su et al., 2020), a gap that this study intends to fill.

LITERATURE REVIEW

Subjective Vitality

Vitality is derived from the Latin word vita (i.e., life) and is understood as a dynamic phenomenon that affects both mental and physical components of functioning, such as activity, and so refers to an individual who is alive and energetic (Ryan & Bernstein, 2004). However, it is known that activity levels vary in mammals and are associated with both genetic and environmental factors. Expression of the motor activity is fundamental for both animals and humans to explore their environment for food and social contact (Kas et al., 2009).

As in other mammals, energy levels differ among humans. Different individuals exposed to the same stimulus react with varied responses. This variability, influenced by genetic factors, is a personality trait described as temperament (Qiu et al., 2017). Contribution of cultural factors such as degree of modernization, child-rearing practices, maternal orientation, ecological setting, and specific early life events influencing temperament, and the interaction between affective temperaments and cultural dimensions have been previously described (DeVries & Sameroff, 1984; Gonda et al., 2011). For instance, individuals with hyperthymic temperaments are described as cheerful, overoptimistic, overtalkative, warm, people-seeking, extroverted, and with high energy levels. This state is also considered to be linked with positive emotions and protective against suicidal ideation and behavior (Kobayashi et al., 2019). Additionally, psychological factors in individuals' daily life (i.e., being in love) may affect their vitality and as a result, in certain circumstances or events, make them feel either alive or drained (Ryan & Frederick, 1997).

Throughout history, the concept of psychic energy has been approached differently in western and eastern civilizations. For example, in the psychoanalytic theory established by Freud, the economy of psychic energy varies depending on how the person invests, but energy can be gained and lost; spending psychic energy to deal with conflict and tension reduces the energy available (Freud, 1962). The eastern tradition mentions unlimited energy that can be reached with the help of Qi (Jou, 1981).

Until recently, the subjective experience was usually neglected in scientific research because the data were only considered scientific if it was reproducible and collected by an external, neutral, and objective observer or experimenter. Despite this basic principle of experimental psychology, the so-called "third-person data", a considerable amount of cognitive science researchers have recently concluded that to study cognition, a researcher can no longer be limited to data that can be observed and recorded from the outside, and that it is essential to pay regard to its subjective qualities as experienced in the internal world (Petitmengin, 2006). Stable personality traits have been confirmed to predispose people to experience moderately stable levels of favorable and adverse life events and also moderately stable levels of subjective wellbeing (Headey & Wearing, 1989). Individuals with high levels of vitality are inclined to improve, prolong, or re-enact the conditions wherein their vital energies are increased, and to view events positively and patiently (Kark & Carmeli, 2009). Further, SV affects the effort that people invest in wellbeing-inducive activities and can indicate the positivity of the overall experience (Ryan &

Frederick, 1997). Moreover, increased physical activity, supplemented by SV, is an element of enjoyment and directly associated with psychological wellbeing; it is also correlated to better cognitive and intellectual performance (Biddle & Mutrie, 2007). Consequentially, SV is defined as a dynamic reflection of well-being by Ryan and Frederick (1997) and considered a personality trait that is reported directly by an individual (Lucas et al., 2019). This cardinal characteristic can have significant impacts on the experience of life events and may provide a better understanding of individualized tourism services.

Experience Quality

In the marketing space, a good-centered view has been substituted by service-dominant philosophy (Vargo & Lusch, 2004). SERVQUAL and SERVPERF, known as the scales of service-dominant logic, do not fit well with the experience side of services (Fick & Ritchie, 1991). Therefore, in certain ways, EQ differs from service quality. Otto and Ritchie (1996) assert that in terms of measurement, it is subjective, it has a generalized scope, and its evaluation is not attribute-based but holistic/gestalt. Besides, it is noted to bestow experiential/hedonic/symbolic benefits, and the psychological representation is affective and not cognitive/attitudinal. However, the evaluation of the experience is not just concerned with emotions, although a great emphasis is placed on emotional or affective nature (Chang & Horng, 2010). Similarly, Gentile et al. (2007) consider that experience is subjective and involvement of the customer's may be at a rational, emotional, sensorial, physical, and/or spiritual level.

Tourism experience is defined as a continuous flow of ideas and feelings during periods of consciousness that emerge as a result of highly complex psychological, sociological, and cognitive interactions (Kang & Gretzel, 2012). The dimensions of EQ are detailed as hedonic, peace of mind, involvement, and recognition in an early study (Otto & Ritchie, 1996). In another preliminary study, Pine and Gilmore (1998) offer an EQ scale encompassing four dimensions: entertainment, aesthetic, educational, and escapism. Binkhorst (2007) considers that a sense of escape is essential in the creation of personal experience. Furthermore, Kao et al. (2008) stated that experiential quality composes four dimensions (i.e., immersion, surprise, participation, and fun). Suhartanto et al. (2020) discussed the EQ in terms of learning, peace of mind, involvement, recognition, and escape. Lastly, Kang and Gretzel (2012) conducted a three-dimensional examination of the construct (i.e., enjoyment, learning, and escape). In the present study, we prefer the Kang and Gretzel's (2012) classification

because it highlights the principal components of the experience in the arboretum. Learning is related to the requirement of information (Pearce, 2005); for example, visitors obtain information about trees. Enjoyment is related to the requirement of fun (Davis et al., 1992); for example, visitors can experience a sense of fun due to the beauty of trees and plants, relevant and interesting stories shared about them, or participation in events organized within the arboretum. Lastly escape is related to the feeling of deviating from the routine (Pearce, 2005), as visitors have the opportunity to get rid of the noise and stress of the city.

Environmental Stewardship: Attitudinal and Behavioral Intentions

Environmentalism, originated from industrial revelation, encompasses a diverse spectrum of perspectives on the interaction between humans and their natural environment, and the strengthening of the environmental stewardship is related with the expansion in the international environmental agenda (Falkner & Buzan, 2019). Environmental stewardship relates to being accountable for the earth and can be defined as "a type of resource management; a behavior change; an educational process; or a conservation technique" (Norman, 1999, pp. 34). It entails a commitment to the protection, preservation, and improvement of our natural resources regardless of economic gain (Hancock, 2007). Similarly, Lopez (2020) stated that environmental stewardship refers to individual or communal action directed toward the protection and/or promotion of the environment.

One of the fundamental goals of arboretums and national parks is to contribute to the development of environmental awareness (Atatürk Arboretum Web Site, n.d). For this purpose, they can organize educational programs in cooperation with universities, ministries, other arboretums, and botanical gardens. Through interpretive services and educational programs, visitors can join in volunteering, training, and teaching activities and projects (Department of Conservation of the New Zealand Government, n.d.). Furthermore, through such mechanisms, empathy for environmental protection can be nurtured (Stewart et al., 1998) and ordinary visitors can become active supporters (Kang & Gretzel, 2012).

Environmental stewardship may be examined in two levels: attitudinal and behavioral stewardship (Stern et al., 2008). Attitudes "refer to the evaluation of a specific object, quality, or behavior" and are derived from and reflect abstract values (Leiserowitz et al., 2006, pp. 414). On the other hand, behavior is a function of attitudes and subjective norms

(Polonsky et al., 2012). Thus, researchers generally seek to predict the intentions behind the behaviors rather than the behaviors themselves (Ajzen & Fishbein, 1980).

Hypothesis Development and Conceptual Model

The study proposes that the preliminary level of visitors' vitality and energy affects the quality of the overall experience. Correspondingly, Martin-Ruiz et al. (2010) considered the concept of effort sacrifice as an element of visitor's evaluation index because one of the criteria that the visitor of an archaeological site will use to evaluate their own experience is the perception of effort involved in the service delivery. The idea of effort sacrifice is central because people have limited energy levels. Visitors will be happy to use their energies to experience the service's core benefit, but many will not want to use their energies to the maximum. Especially, if all of the energy is consumed at the beginning or in the middle of the touristic activity, it will be problematic to enjoy the rest of the day or to have a good experience. Hence, while choosing an activity, visitors will be able to partake and enjoy it according to their energy levels. Although the SV can increase in certain conditions (e.g., being in nature), the quality of the experience is predominantly dependent on a person's initial vitality level. In outdoor recreational activities, such as archaeological or other cultural tourism sites, tourists' energy levels are most likely to influence the quality of the experience (Altunel & Koçak, 2017).

Conservation of Resources Theory (CoR) contends that individuals seek to protect and sustain the resources valuable for them and instinctively avoid losing those resources, especially in negative events (Hobfoll, 2011). Hobfoll (1998, pp. 80–83) proposes that the basic principles of CoR lead to corollaries and some of them are:

"(i) Those with greater resources are less vulnerable to resource loss and more capable of orchestrating resource gain. Conversely, those with fewer resources are more vulnerable to resource loss and less capable of achieving resource gain. (ii) Those who lack resources are likely to adopt a defensive posture to guard their resources."

It is suggested in this study that these two corollaries are essential to explaining the relationship between SV and EQ. In this context, vigor is one of the resources that has an internal locus (Holmgrenn et al., 2017). In line with CoR, individuals with fewer resources are more deeply affected by the stress of losing their job than individuals with more resources (Holmgrenn

et al., 2017). Csikszentmihalyi (1990) states that when some information contradicts with the purpose of the person, it disrupts consciousness, and some level of attention (attention is also a type of energy) is spent to eliminate the danger, leaving less attention for other tasks. If the person had invested more in increasing his energy (resources -such as more self-confidence-), he would be less affected by such barriers (Csikszentmihalyi, 1990). So, we can argue that individuals with less vitality, as a trait, are more vulnerable to various difficulties in life than individuals with more vitality because they have fewer resources at their disposal. They may not be able to focus all their energies on a specific goal during recreational activities, because they ultimately spend a significant part of their psychic energies on internal stimuli and conflicts.

Therefore, it is inevitable that people have less psychic energy to experience and stimulate the outside world. However, to have quality experience, a person needs focus and attention, and that is psychic energy (Csikszentmihalyi, 1990). Therefore, if the individual has limited resources to enrich EQ (vigor and mental energy), they are likely to have lower EQ eventually. Conversely, individuals with more resources will be able to allocate more resources to enrich their EQ. As stated in corollary (i), individuals with more resources are more capable of orchestrating resource gain, which enhances EQ. As Csikszentmihalyi (1990) states vigorous individuals are receptive to new experiences, continue to learn until they die, have deep links and commitments to other people and the environment in which they live, and they take pleasure in whatever they do.

As for defensive posture to guard one's own resources, it is necessary to use various psychic and physical energy resources specific to an activity to get a good experience. For example, while a video game requires more intensive use of cognitive resources such as attention, concentration, and quick decision-making (such as war games), an arboretum requires significant physical energy resources as well as cognitive resources (attention and focus) for a better quality of experience. Since people want to protect their limited resources, individuals with insufficient cognitive resources will use less resources in their video games and similarly, individuals with inadequate physical resources will similarly use less in arboretum activities. Therefore, these individuals are likely to leave the activities with low EQ.

This study examines the three dimensions of EQ: learning, enjoyment, and escape. According to Fini et al. (2010), cheerful and vibrant people are more likely to be fresh and alert. Additionally, Balaguer et al.

(2018) stated that when youngs feel SV, they have a pleasant feeling, they are active, they have a forward-thinking mentality, and they are eager in developing their talents and opportunities. Besides, energetic people can more easily focus their attention on the task at hand (Ryan & Frederick, 1997). Furthermore, Tsoi et al. (2018) reveal that SV directly influences lifelong learning. Consequently, it is hypothesized that individuals with high vitality levels can learn exceedingly fast. Individuals with a high vitality level also tend to experience more joy. According to Arkes et al. (1988) individuals who experience high levels of vitality are more likely to see events positively and assume that favorable events will continue to occur. Ryan and Frederick (1997) state that individual efforts invested in the activities are affected by vitality, and vitality can indicate the positivity of their experiences and their personal well-being. Besides, vital people are more active, more resilient to stress, report better mental health (Penninx et al., 2000), and have a desire to feel excitement (Ryan & Frederick, 1997). Consequently, it is hypothesized that individuals with high vitality levels shall be easily entertained. Brown and Ryan (2004) examined the correlation between the concept of mindfulness, which they measured with presence (i.e., present-centered attention and awareness) and acceptance subfactors, and SV and found a significant relationship between the two. Presence emphasizes the ability of an individual to experience the moment so that they can isolate themselves and find determination by focusing on that moment. Since persons with high vitality can experience a sense of escape by focusing more easily on the moment, it is hypothesized that vitality will affect the likelihood and success of the escape. Altunel and Koçak (2017) and Su et al. (2020) demonstrate that SV positively affects EQ. So it is hypothesized that:

H1: SV positively affects EQ.

The effects of interpretive services and educational programs organized in national parks or arboretums on environmental stewardship have been widely examined. For example, at the end of the three-day nature-learning trip for schoolkids to Table Mountain National Park, it was determined that environmental interpretive programs had a reasonable effect on pro-environmental attitudes (Ferreira, 2012). Similarly, Wolf et al. (2015) investigated visitor experiences in a special model of thematically connected and guided walking, biking, and four-wheel drive tours in Australian national parks and stated that the experience strengthened participants' attachment to national parks and their sense of environmental stewardship. Halliwell (2019) focused on the concept of "citizen science" in his research and found that there is a shift toward stronger stewardship

desires following the experience. The citizen science concept is defined as "engagement of non-professionals in the scientific investigation" (Miller-Rushing et al., 2012, pp. 286). Dopko et al. (2019) found in their experimental study that children who experience 4-hour nature develop a higher attitude towards nature than other children who visit museums. In conclusion, Kang and Gretzel (2012) found that EQ positively affects AS. Hence it is hypothesized that:

H2: EQ positively affects AS.

Several studies suggest that attitudes towards the environment affect environmental behaviors. For instance, studying samples from 27 different countries, Oreg and Katz-Gerro (2006) found that pro-environmental attitudes (i.e., environmental concern and perceived threat) affect pro-environmental behavior (i.e., recycling, refraining from driving, and environmental citizenship). In a study of outdoor recreation activities, Thapa (2010) specified that the participants' attitudes exhibited stronger direct relationships with their behaviors, while Polonsky et al. (2012) claimed that attitude towards the environment has an impact on general and carbon-specific behaviors. Likewise, in their study conducted on adults participating in municipally sponsored volunteer work in Portland, Dresner et al. (2015) validated that environmental identity predicted pro-environmental behaviors. Finally, in Hoover's (2021) study on high school students, it was stated that the environmental attitude significantly affected environmental citizenship behaviors. Hence it is hypothesized that:

H3: AS positively affects BI.

In the existing literature, no scholars have looked into the EQ as a mediator between SV and AS. However, experience is investigated as a mediator in several studies. For example, Altunel and Erkut (2015) found the mediation effect of EQ on involvement and recommendation intention in the cultural tourism context. Additonaly, Su et al. (2020) discovered that authenticity experience (AE) partially mediates the relationship between SV and EQ, and emphasized that AE increases the impact of SV on EQ. So, we have grounds to suspect that EQ increases the impact of SV on AS. As a result, it is suggested that:

H4: EQ mediates the relationship between SV and AS.

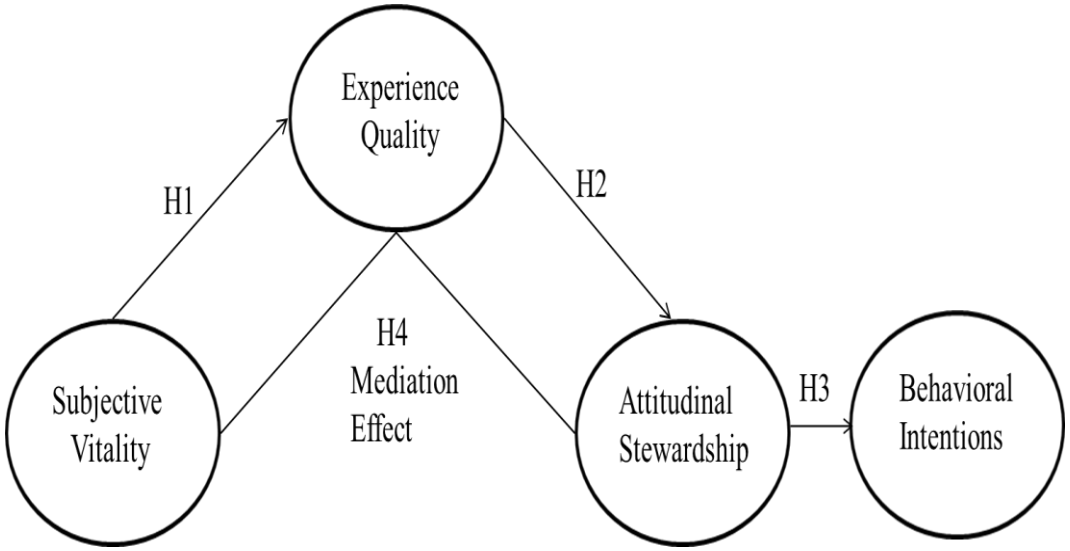

Figure 1. *Hypothesized Research Model*

METHODS

This study was conducted on individuals visiting Atatürk Arboretum. Arboretums are part of the public gardens which also include botanical gardens and privately owned gardens open to the public (Ki, 2016). According to the Cambridge Dictionary, an arboretum is a vast garden where a variety of tree species are grown for public enjoyment and scientific study. In tourism literature, arboretum can be observed within the scope of garden tourism or outdoor recreational space but there are few studies on them specifically (Čakovská, 2018; Connell, 2004; Lipovská, 2013).

There are around 1700 botanic gardens and arboretums worldwide (BGCI, 2020), with over six million accessions, and about 80,000 species, thousands of which are endangered in the wild (Chen & Sun, 2018). As a result, these gardens play an important role in the ex-situ conservation and investigation of regional and worldwide plant biodiversity (Mounce et al., 2017).

According to a global analysis of botanical garden attendance, the United States leads the pack with 80 million visitors each year, followed by Germany with 37 million, the United Kingdom with 31 million, and Canada with 27 million (Benfield, 2013). In 2017, 209.521 individuals visited Istanbul Atatürk Arboretum, compared to 198.300 in 2018 (Ok & Koç, 2019). Although the exact number of visitors who participate in this sort of tourism in the globe and Turkey is unknown, the number of activities has increased dramatically (Sayılan, 2008).

Study Area

Atatürk arboretum covers an area of 296 ha (730 acres) in the southeast of Belgrad Forest, Istanbul. The installation has been used by many institutions with the aim of recreation, scientific research, environmental protection awareness, such as The Faculty of Forestry, Istanbul University, and relevant agencies of the Ministry of Forest and Water Management. Ataturk Arboretum hosts 2000 types of plants from all over the world and can be visited for wedding photography, nature photography, walking, film and advertisement shooting, education, scientific research, leisure time, and bird watching activities (Zeleke, 2018).

Data Collection

The researchers organized a trip to Atatürk Arboretum to mark a route that respondents would follow. A short route was planned to minimalize the increase in the vitality level of respondents during the tour. Trees positioned close to each other with exciting stories or striking beauty were included in the tour. Five trees, namely Gingko Biloba, Liriodendron tulipfera, Lagerstroemia indica, Liquidambar orientalis, Sequoiadendron giganteum, were selected after careful consideration. Next, the script of trees was prepared. General vegetative information and interesting facts about the trees were provided to participants. For instance, the information about the endurance of Gingko Biloba was explained through the example of trees that were not affected by the nuclear bomb explosion in Hiroshima. Finally, the script was recorded in an audio file.

Immediately after entering the arboretum, the respondents were asked whether they would like to volunteer to answer the questionnaire. The respondents who agreed to participate were introduced to this study, the route, and briefly informed about the trees. Then, they responded to the questionnaire's second section (T1), the SV scale. Subsequently, the researchers sent the audio file to the respondents so that they could listen to the file on their smartphones during the route. After the excursion, respondents completed the rest of the questionnaire (T2). This data collection procedure was repeated for each respondent individually to prevent any possible interaction between the respondents. That is, when one respondent completed all the processes, researchers went to the entrance of the arboretum to find a new respondent and repeat the same procedure.

The survey was administered by two researchers in Atatürk Arboretum during May and June 2019. 384 questionnaires were collected, and there were no incomplete surveys. About a quarter of those asked whether they would like to participate in the survey stated that they could not participate, often citing time constraints. A convenience sampling method was preferred as random sampling would not suit the present study due to time and financial resource constraints. In this, the respondents were guided through the research process individually and each researcher was responsible for the respondent they discovered until the end of the data collection process

Research Instruments

The self-administered questionnaire survey consisted of five parts. Part I included questions about demographic information. Part II measured a trait version of the SV scale, with seven items developed by Ryan and Frederick (1997), using a five-point Likert scale (1 = not at all true; 5 = very true). Part III measured the EQ scale with nine items and Part IV contains seven items about environmental stewardship, namely AS and BI toward stewardship. Part 3 and Part 4 items were derived from a prior research study (Kang & Gretzel, 2012); a five-point Likert scale was used to measure the constructs (1 = totally disagree; 5 = totally agree). The language of the questionnaire was Turkish.

Data Analysis

Structural equation modeling (SEM) was used to test the proposed model, to identify the causal relationship among key constructs and one possible mediating effect with the bootstrap method. SEM belongs to a family of statistical models used to simultaneously test and explain the relationships among multiple variables (Hair et al., 2010). IBM SPSS Statistics version 22 and AMOS 22 were used to analyze the collected data.

Originally, as part of the measurement model, 6 latent variables and 24 observed variables were included. The second-order latent construct, EQ, was integrated with latent variables of learning, enjoyment, and escape. They all aggregated to generate one measure of EQ.

Before the model was tested, some preliminary statistical tests were conducted. First, the linearity of the constructs was checked and it was determined whether the relationships are sufficiently linear to be tested through SEM. Second, skewness and kurtosis values were examined to

check normality. According to Hair et al. (2006), the range outside of -1 to +1 value implies a skewed distribution. Consequently, three items of EQ scale, one item of AS, and one item of BI scale were removed due to the improper skewness values. The remained items had kurtosis values lower than the cut-off value of 3.0. Thereafter, the researchers retained three items with skewness values outside -1 to +1 range (-1.01, -1.26 and – 1.17) in this study after meticulously deliberating on theoretical justifications and methodological limitations.

RESULTS

Descriptive Statistics

The analysis of demographic information denoted that 57.6% of the respondents were female, 66.9% of them were single, and 68% held an undergraduate degree or higher. The mean score of age was 30.4 years, and 64.6% had a monthly income between 1001-6000 Turkish Liras (1 TRY=0.18 USD). The respondents spend 2.5 hours on average in their trips and 39% visited arboretum at least once a year. Table 1 summarizes the sample's demographic characteristics.

Table 1. *Demographic Profile of the Sample*

Demographic	Frequency	Percentage
Gender		
Male	163	42.4
Female	221	57.6
Marital Status		
Married	127	33.1
Single	257	66.9
Education		
High school diploma	77	20.1
2-year degree	46	12
Undergraduate	212	55.2
Postgraduate	49	12.8
Income		
<1000	90	23.4
1001-3000	120	31.3
3001-6000	128	33.3
6001-9000	28	7.3
>9000	18	4.7

Testing Assumptions of Multivariate Analysis and Common Method Bias

Table 2 presents some of the central tendency/dispersion measures, skewness, and kurtosis values of the remaining 17 items after the confirmatory factor analysis. Also, tolerance and VIF values are calculated. The VIF values are less than 3 (Kock, 2015).

Table 2. *Mean, Standard Deviation, Normality*

Construct and Indicators	Mean	SD	Skewness	Kurtosis	Tolerance	VIF
SV					.917	1.090
I feel alive and vital.	3.87	1.0	-1.01	.58		
I don't feel very energetic.	3.91	1.0	-.81	.04		
I have energy and spirit.	3.80	.97	-.90	.64		
I look forward to each new day.	3.32	1.0	-.38	-.12		
I feel energized	3.69	.92	-.55	.18		
Learning					.561	1.782
I expanded my understanding of the arboretum and the trees.	4.29	.77	-1.26	2.66		
My curiosity about the arboretum and trees was enhanced.	4.09	.82	-.76	.49		
Enjoyment					.562	1.780
I had fun.	4.28	.65	-.54	.05		
I derived a lot of pleasure from the tour.	4.26	.71	-.78	.71		
Escape					.613	1.630
I felt like I was in another world.	4.00	.93	-.78	.22		
I got away from it all.	3.94	.98	-,62	-.29		
I got so involved that I forgot everything else.	3.52	1.00	-.37	-.27		
AS					.645	1.551
I feel more connected to the park.	3.83	.89	-.41	-.24		
I have more respect for the work of the park employees.	4.18	.76	-.81	.77		
I feel more inclined to help this park.	3.97	.84	-.71	.61		
BI						
I feel more inclined to visit this park on a regular basis.	4.07	.86	-.89	.92		
I will more likely tell others about this park.	4.41	.68	-1.17	2.03		

Harman's (1976) single factor-test approach is utilized in this investigation to see if common method variance is a problem with this sample. If the interpretation coefficient of the first factor that is not rotated does not surpass 50% in exploratory factor analysis of all items, it is generally assumed that the common method variance is typically regarded to be within acceptable limits. The interpretation factor found is 29.7%, which is significantly less than the standard of 50%. Hence, it was expected that there would be no concerns with common method variance in this study.

Confirmatory Factor Analysis (CFA)

Under the recommended two-step approach to SEM (Anderson & Gerbing, 1988), CFA was performed at first. Further, to ensure the suitability of the research instrument, reliability and construct validity scores were examined. Cronbach's alpha and Fornell's composite reliability (CR) scores were used to check the internal consistency for reliability (Fornell & Larcker, 1981). Two items in the vitality scale were deleted because the standardized loadings were below the recommended cut-off level of 0.60 (Bagozzi & Yi, 1988), and the remaining 17 items and constructs were reanalyzed. The results of CFA suggested that the model was a good fit except for the significant chi-square value (x^2= 220.17; df= 110; p<0.001; CMIN/df=2.000), which could be influenced by sample size. The other indices were listed as GFI=0.94; AGFI= 0.91; CFI= 0.96; TLI= 0.95; RMSEA= 0.051. Table 3 shows factor loadings, t-values, Cronbach's alpha, Fornell's CR scores, and average variance extracted (AVE) values. The results indicated adequate internal consistency and convergent validity except for the "learning" construct, which was barely below the specified cut-off points for AVE and CR. As it is one of the fundamental elements of the second-order construct, the "learning" variable was not excluded from the analysis.

Table 3. *Reliability and Convergent Validity*

Construct and Items	Factor Loading	t-value	Cronbach's Alpha	CR	AVE
First-order					
SV			.84	.85	.53
I feel alive and vital.	.80	λ set to 1			
I don't feel very energetic.	.77	15.1			
I have energy and spirit.	.78	15.4			
I look forward to each new day.	.56	10.8			
I feel energized	.70	13.7			

Learning			.65	.66	.49
I expanded my understanding of the arboretum and the trees.	.69	9.9			
My curiosity about the arboretum and trees was enhanced.	.71	λ set to 1			
Enjoyment			.70	.70	.54
I had fun.	.76	11.4			
I derived a lot of pleasure from the tour.	.71	λ set to 1			
Escape			.80	.80	.58
I felt like I was in another world.	.78	13.0			
I got away from it all.	.79	13.2			
I got so involved that I forgot everything else.	.71	λ set to 1			
AS			.79	.79	.56
I feel more connected to the park.	.74	λ set to 1			
I have more respect for the work of the park's administration.	.72	12.8			
I feel more inclined to help this park.	.78	13.7			
BI			.72	.73	.58
I feel more inclined to visit this park regularly.	.71	λ set to 1			
I will more likely tell others about this park.	.81	10.8			
Second-order					
EQ			.83	.88	.70
Learning	.84	λ set to 1			
Enjoyment	.87	9.0			
Escape	.80	8.9			

Discriminant validity (DV) was evaluated by comparing the square root of AVE and inter-construct correlations. Table 4 presents the correlation coefficients and the square root of AVE values. Although the square root of AS's AVE value was slightly above one of the inter-construct correlations, we assumed that DV was achieved.

Table 4. *DV Scores*

	1	**2**	**3**	**4**
BI	.76[a]			
SV	.24	.73		
AS	.72	.23	.75	
EQ	.66	.34	.78	.83

[a] = Diagonal elements are the square root of AVE.
$p < 0.001$

Structural model (SM) and hypothesis testing

Next, the SM was tested using standardized path coefficients, t-statistics, and R^2 estimates. The fit indexes for the SM (x^2= 225.22; df= 112; p<0.001; GFI=0.93; AGFI= 0.91; CFI= 0.95; TLI= 0.95; RMSEA= 0.051) suggest a high model fit to the data. The parameter estimates of the model and R^2 values are presented in Fig. 2 and the results of the three hypotheses are indicated in Table 5. The R^2 of EQ, AS, and BI are 0.11, 0.63, and 0.56, respectively. All values are above the recommended value of 0.10 (Falk & Miller, 1992).

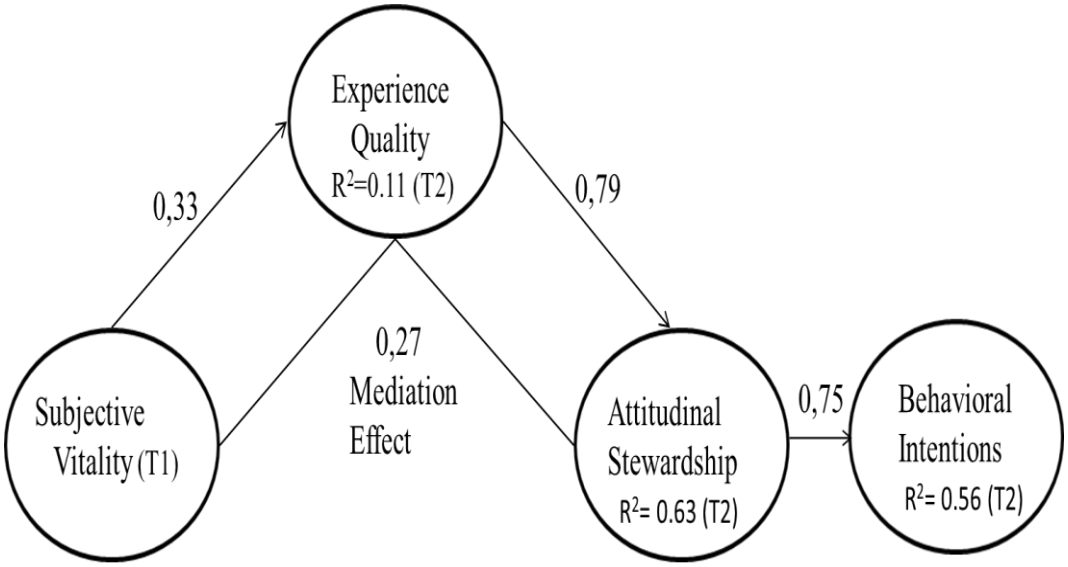

Figure 2. *Estimated Results of the Model*

All of the presented research hypotheses are supported. H1 predicts that SV level affects EQ. The analysis results support H1 because a positive and statistically significant relationship was found (β = 0.33, t = 5.1, p < 0.001). H2 predicts that EQ level affects AS. A positive and statistically significant relationship was found (β =0.79, t = 9.1, p < 0.001), hence the analysis results support H2. H3 predicts that AS level affects BI. The analysis results support H3 with a statistically significant relationship (β = 0.75, t = 9.5, p < 0.001).

Table 5. *Hypotheses Tests*

Hypothesis	Path Coefficient	t-value	Results
H1 SV → EQ	.33	5.1[a]	Supported
H2 EQ → AS	.79	9.1[a]	Supported
H3 AS → BI	.75	9.5[a]	Supported

[a]p < 0.001

The Mediating Role of Experience Quality

The hypothesis that EQ would mediate the relationship between vitality and AS was tested. According to Zhao et al. (2010), when using SEM or regression to discover mediation, only the indirect effects should be significant to demonstrate the whole effect of mediation, however if both the direct and indirect regression coefficients are significant, partial mediations are supported. It is contained in Table 6 that EQ plays a full mediating role between vitality and AS. The direct effect of vitality on AS (β =0.23, t = 3.8, p < 0.001) is no longer significant in the presence of the mediator variable.

Table 6. *The Mediating Effect*

Path	**Effects**		**p value**	**Bias-corrected Percentile 95% CI**		**Mediation**
				Lower	**Upper**	
H4 SV → EQ → AS	Standardized Direct Effects	-.02	.700	-.111	.066	Yes
	Standardized Indirect Effects	.27	.001	.185	.363	

DISCUSSION AND CONCLUSIONS

Theoretical Implications

The level of energy is critical for better life quality. A person with high energy seems to have some advantages in life. For example, he can perform better at work and have a healthier life and higher life satisfaction. Similarly, a person who has high vitality while being engaged in tourism activities, which is considered as one of the biggest sources of entertainment in life, can undergoa better quality of experience. Despite its significant impact, the concept of SV seems to be neglected in the tourism and marketing literature (Altunel & Koçak, 2017; Su et al., 2020). Therefore, the primary objective of this research study was to determine the effect of SV on EQ via CoR theory, the mediation role of EQ between SV and AS, and explore the interrelationship among SV, EQ, AS, and BI.

It would be incorrect to think that the determinative role played by the tourists' SV levels on their experiences is limited to only one type of tourism. However, this effect may be very limited in tourism or recreation types where a low level of physical energy and vitality is sufficient to complete the activity. For this reason, the research was carried out in the

arboretum and outdoor recreational area, which necessitates a certain energy level for participation in activities, such as walking and planting. In previous studies, the effect of positive vitality on experience has not been investigated in this context. Besides, in two previous studies (Altunel & Koçak, 2017; Su et al., 2020) that examined the impact of SV on EQ, the data were collected at a certain moment in time. However, in this study, the SV levels of the volunteers were measured before the audio tour in the arboretum, and thus the temporal precedence of causality was achieved.

The positive effect of SV on experiencing quality is the central finding of the study. This finding reveals that SV is a critical resource of a person and it reaffirms the results of previous studies (Altunel & Koçak, 2017; Su et al., 2020). Moreover, the relationship discussed in the context of cultural tourism in the previous two studies also appears to be confirmed in the visit of the arboretum, which can be handled within the scope of outdoor recreation or garden tourism. Many psychological attributes are both stable and fluctuating over time, and existing research rarely employ theoretical models that account for both stability and change. Hence, SV can be examined in two different ways, traits and states; the first one refers to the enduring characteristics of individuals and the second to the temporary one. In contrast to other studies, the concept of SV in this study was approached as a trait. The trait-based approach of SV covers individual qualities that are temporarily stable and may have a consistent influence on individual experiences.

The study contributes to the existing literature in that it attempts to explain the effect of trait of SV on EQ with a theory. There is no theoretical explanation in previous studies examining this relationship. Su et al. (2020) claimed that their work adds to the theory of SV, but SV is a trait or state property rather than a theory. However, judging from the corrolaries of CoR theory, it can be claimed that people with less vitality have lower EQ, whereas people with higher vitality experience a higher quality of experience. In this way, the theoretical basis of the relationship can be demonstrated.

Additionally, the results demonstrate that the EQ plays a full mediation role in the impact of SV on AS. SV must rely on EQ to have an impact on AS. Although no scholar investigated this specific mediation relationship, this result is following Su et al.'s (2020) study, which discovered that AE partially mediates the relationship between SV and EQ.

Similarly, the significant and positive effect of EQ on the AS (Kang & Gretzel, 2012), and that of the AS on BI, are in line with the literature

(Dresner et al., 2015; Polonsky et al., 2012). A good experience will help the visitor feel more connected to the park, more willing to help, and more inclined to revisit and advocate.

Managerial Implications

In his dissertation on the use of gardens in England for tourism and recreation, Connell (2002) asked the garden owners about the reasons for opening up their gardens to the public. The two most important reasons were found to be charity fund-raising and covering gardening expenses. When garden owners were asked whether their basic motivations in this matter changed over time, they said it shifted towards financial reasons since it is difficult for a garden to survive without visitors. Indeed, private and public gardens, arboretums, and national parks require income from visitors and the work of volunteers to survive. The higher the satisfaction of the visitors regarding their experiences, the more willing they would be to revisit; some may even become volunteers. For this reason, the target group should be determined well concerning the services offered and the activities organized. An incorrectly determined target group will result in dissatisfaction, and this lack of planning may hamper the progress of a well-designed event. As the SV level affects the quality of experience, vitality and energy should be used as a segmentation criterion (Plog, 1979). It would be wise for the parks to prefer people with higher levels of vitality because they have limited staff and budget, are selective in terms of event participation, and need volunteers to work. The parks with more facilities should differentiate the activities according to the vitality levels of the people and ensure that visitors with the targeted vitality level participate in the events.

One study to determine the visitor profile of the Atatürk arboretum found that the visitors mostly visited the arboretum to take a wedding photo or take a walk; they stated that they aimed to rest, feel refreshed, stay away from stressful environments, and spend time with their friends (Zeleke, 2018). These reasons are related to the escape and entertainment aspects of the EQ. However, the visitors mentioned a limited number of reasons related to the learning dimension. One reason might be that no interesting and informative activities were organized around the trees and other life-forms in the arboretum limiting the entertainment and stress-relief value. Visitors who do not know the stories of the trees within the arboretum do not participate in new planting activities; thus, they are not able to connect with nature and are not sensitized enough to protect it. This disassociation may result in more staff being employed to carry out these

duties or risk the debilitation of the park due to a shortage of staff. Nevertheless, it seems reasonable to target different segments than wedding photography by organizing audio tours on the walking routes that introduce all wildlife with interesting stories and by organizing educational and entertaining activities with gamified applications. In this way, visitors with the preferred quality and quantity scores can be incentivized, and nature protection will be undertaken by conscious, nature-loving individuals.

Limitations of the Study

The psychological components that make up the SV concept consist of both permanent and state-specific emotional responses and, therefore, are treated with two different scales: SV trait (permanent) and SV state (state-specific) (Ryan & Frederick, 1997). The state-related features of this concept can increase by being in nature (Ryan, et. al., 2010). However, this study only considered SV as a trait and, therefore, the state-effects of SV were not discussed as an alternative explanation for an increase in the EQ level. To consider the effects of SV as a state, future studies can include "being outdoor" as a control variable.

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TOURISM & HOSPITALITY STUDENTS' PERCEPTION TOWARDS THE USE OF ROBOTS IN SERVICE ORGANIZATIONS: A QUALITATIVE STUDY IN INDIA

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ABSTRACT

The study examined tourism and hospitality (T&H) students' perception of the use of service robots in organizations. Using purposive sampling, 80 students of T&H programs were interviewed online, and data was analyzed through thematic analysis. The findings showed that a majority of respondents had shown a favorable perception of robots. While Indian students think that robots may offer several benefits for organizations, T&H entrepreneurs must make provisions to deal with the obstacles associated with robot adoption. The major challenges are employee resistance, technological glitches, services with no human touch, significant operational costs, human-robot interaction, cost of training & repair, and robot-friendly organizational design. They also believe that service organizations should balance the work of employees and robots in such a way where technologies should perform repetitive tasks while employees could deliver warm and personalized services. They prefer humanoid robots in human-touch service industries to humanize services. The study also recommends that educational institutions must incorporate courses on modern technologies into academic programs to meet future challenges and job requirements of the service sector. The findings have several implications, and further research directions are suggested.

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INTRODUCTION

Growth in guest arrivals, technological advancements, changing preferences of increasingly sophisticated customers, delivering memorable travel experiences, dynamic nature of business operations, and striving for customer loyalty force hospitality managers to differentiate themselves

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from the competition and search for innovative sources of competitive advantage (Kala & Bagri, 2016). After the outbreak of the COVID pandemic, T&H sector is experiencing multifold challenges, including cost reduction, pressure to increase productivity, delivering contactless services, reducing customer perceived risks, and delivering memorable customer experiences to remain competitive. Several authors (Kuo et al., 2017; Bowen & Morosan, 2018; Ivanov et al., 2018a, 2018b; Tung & Au, 2018; Tussyadiah & Park, 2018; Belias & Varelas, 2019; Ivanov & Webster, 2019; Murphy et al., 2019; Ivanov et al., 2020; Qiu et al., 2020; Yu, 2020; Vatan & Dogan, 2021) have recommended that adoption of modern technologies, especially robots, can help T&H organizations to make operations more efficient, deliver distinctive customer experiences, and gain competitive advantage. The usage of robots is evolving swiftly and several service sectors including healthcare, education, tourism, and hospitality are implementing to remain competitive in the changing business landscapes. With noteworthy prospects for the future, innovative technologies such as robotics, augmented reality, virtual reality, and artificial intelligence (AI) are currently progressing, particularly in the T&H settings. The application of robots and contemporary state-of-art technologies could provide intelligent, more automated, individualized, and prophetic practices (Tussyadiah & Park, 2018; Belias & Varelas, 2019).

Although the use of robots in the hospitality sector is in the nascent phase, industry experts believe it will gain momentum and turn into an explosion (Bowen & Morosan, 2018). The Henn-na Hotel in Nagasaki, Japan, was the first hotel in the world to be completely staffed by robots. However, the hotel fired almost half of the robots due to some technical failures (Hertzfeld, 2019). 'Connie' at Hilton Hotel, 'A.L.O.' at Aloft Hotel, 'Dash' at Crowne Plaza, Yobot at Yotel Hotel, and 'Cleo' and 'Leo' at the Hotel EMC2 are some examples of robot adoption in the hospitality sector. In 2019, Alibaba group launched its AI and robot-equipped hotel 'Fly Zoo' in China. These efficient technologies can replace human efforts and perform tasks that are currently performed by individuals even more effectively and accurately (Belias & Varelas, 2019). Although the application of robot creates a more customized and extraordinary experience for hotel guests and reduce labor costs for hotels, these technological disruptions have radically transformed the way business processes are managed and executed.

According to PWC, by the 2030s, 25% of hospitality jobs in the United States will be automated (Gupta, 2018). The CEO of H.I.S. (H.I.S. introduced robots in its Henn-na Hotel), pointed out that more than 50 percent of jobs

in the Japanese hospitality sector be performed by robots and automated technologies (Semuels, 2018). The McKinsey Global Institute estimates that by 2030, between 400 million and 800 million jobs will be automated (Meyer, 2017). A joint study by MIT and the Boston Consulting Group (2017) found that 84 percent of the 3,000+ executives, managers, and analysts interviewed believe that their organizations can gain a sustainable competitive advantage by implementing AI and other automated technologies (Ransbotham et al., 2017). Greater accuracy and accountability, analysis of big data, security improvements, waste reductions, reduce labor cost, and higher guest satisfaction were identified as some of the significant performance benefits of AI and automation to service organizations (Manyika et al., 2017). Further advancements and penetration of robots will make this innovative technology more accessible, affordable, faster, and more trustworthy than humans (Li et al., 2019).

Despite the growth of robots in service organizations, there are few academic researches on the subject. These researches have primarily focused on how customers perceive robots (Ivanov et al., 2018a, 2018b; Ivanov & Webster, 2019; Yu, 2020), human-robot interaction (Tung & Au, 2018; Tussyadiah & Park, 2018), the attitude of hospitality manager's towards robots (Ivanov et al., 2020; Vatan & Dogan; 2021), robot characteristics (Simmons et al., 2011; Mori et al., 2012; Strait et al., 2017; Murphy et al., 2019; Qiu et al,. 2020; Yu, 2020), and other allied issues (Kuo et al., 2017; Choi et al., 2019; Li et al., 2019; Go et al., 2020; Ivkov et al., 2020; Park, 2020; Seyitoğlu & Ivanov, 2020).

Nevertheless, none of the previous studies addressed the Indian T&H perspective on robots, as well as the perception of aspiring professionals toward the adoption of robots in the Indian T&H organizations. Hence, the present work attempts to examine the students' perception of the possible application of robots in T&H sector. A study of this nature is justifiable in the Indian context because of the following reasons. First, the travel and tourism sector is one of the high-performing sectors of India. The Indian travel and tourism sector contributed nearly $194 billion, around 10.3% of GDP during 2019, and provided 8% of total employment (World Travel & Tourism Council, 2020). As per the travel and tourism competitive index of World Economic Forum, the rank of India is 34 (World Economic Forum, 2020). Second, India, one of the fast-growing economies, has witnessed increasing growth in the hotel industry, as evident by the fact that several international hotel brands have already established in the country or are seriously plotting their entry or expansion strategies. Third, India has around 500 million people in the age group of 5-

24 years, which is the largest globally. Majorities of young generation customers are tech-savvy and prefer technological solutions. Webster (2021) emphasized that demographical changes are the major drivers of automation and robotization. Lastly, previous studies have pointed out that the most empirical researches on robot adoption centered in developed economies, whereas the situation in developing countries is somehow neglected. Indeed, understanding the perception of prospective managers towards robot adoption would be significant for service organizations, tourism and hospitality stakeholders, and academicians in developing countries like India. In this way, the researcher expects that the present work will contribute significantly to the literature by addressing the present gap.

LITERATURE REVIEW

Chen and Hu (2013) termed robots as "intelligent physical devices" competent enough to perform intended functions with the capability of autonomy, mobility, and sensory. The Robot Institute of America, a trade association of robot manufacturers and users, defines robots as "a reprogrammable multifunctional manipulator designed to move material, parts, tools, or specialized devices, through variable programmed motions for the performance of a variety of tasks." In recent years, the application of service robots to provide outstanding services has been increasingly gaining attention in T&H organizations (Ivanov et al., 2018a). Several studies have now been undertaken to comprehend the current trends of T&H organizations and the preparedness of guests and industry practitioners to accept robots. Some major studies undertaken within the T&H sector are presented below to know the perception or attitudes of hotel employees, customers, public, and professionals towards robot adoption in hotels.

Kuo et al. (2017) interviewed academicians and practitioners using a SMART SWOT ranking survey and found that the Taiwan hospitality industry has the potential to adopt service robots. They identified six aspects, namely government support, the capability of market development and future development of the robotics industry (demand side), capabilities for technology development, raising money, and talent development (supply side) that influence the development of service robots, and the strategic mindset of service innovation in the Taiwanese hotel industry. This indicates that based on purpose and capabilities, hospitality organizations could reconfigure their unique resources to develop

competitive robotics solutions. The findings of Li et al. (2019) demonstrate that hotel employees having higher perceptions of AI are more likely to have higher turnover intentions. They acknowledged that workplace job characteristics, hours spent, interpersonal interactions, and payment models will be affected by robotization. Interestingly, they found that when the firm provides more employee support, the intention to leave decreases.

Similarly, Vatan and Dogan (2021) found that the word 'robot' elicits negative emotions in Turkish hotel staff. Employees expressed concern about hotel robotization, which they fear will reduce the need for the workforce and increase unemployment. Service robots would be a source of goodwill for hotels, attracting guests and helping hotels to compete in the market. However, increasing the usage of robots will instill fear in employees, potentially leading to a higher attrition rate. Besides offering several benefits and advantages, Vatan and Dogan (2021) discovered that robots might create problems during robot-guest interactions. Ivanov et al. (2020) investigated Bulgarian hotel managers' opinions regarding service robots and discovered that managers were apprehensive to adopt robots because they feared they would diminish service quality. Hotel managers agreed, however, that robots would be appropriate for performing repetitive, dirty, dull, and dangerous tasks in hotels, while employees should perform tasks requiring social skills and emotional intelligence. This indicates that employees would concentrate on establishing the guest relationship by providing individualized services and meaningful interactions.

In addition to organizational and employees' perspectives, several studies have been undertaken to investigate the attitude of customers towards the implementation of robots in hospitality organizations. Ivanov et al. (2018a) revealed that males were more positive than females towards the adoption of service robots in hotels. Contrary to this, Ivanov et al. (2018b) found that females were slightly more favorable towards robots than males in the context of Iran. Compared to older consumers, young respondents were more skeptical towards the memorability, pleasure, and excitement of their interaction with robots. These studies, conducted in Russia and Iran, established that respondents prefer robotization in basic support services such as logistics/transporting goods, providing information, and processing payments. They believed that service robots could provide information in more languages, deliver more accurate information, and calculate better than employees. However, robots' ability to perform only in a programmed setting, misinterpret a command, and malfunction during service were the apprehensions of respondents.

Additionally, participants' attitudes toward robots were significantly and positively associated with their perceptions of the experience of being served by robots and feelings of memorability, pleasure, and excitement (Ivanov et al., 2018a, 2018b).

From a sample of more than 1000 customers representing over 87 countries and territories, Ivanov and Webster (2019) investigated the perceived suitability and intention to use robots in the T&H businesses. The findings revealed that providing information, housekeeping activities, processing bookings, payments, and documentation were perceived as the areas for robots' services. Interestingly, the study found that the application of robots was found unacceptable in activities requiring human-robot interaction, personal touch from service personnel, and requiring the guest to provisionally offer his body to a robot (e.g., massages, or hairdressing). Qiu et al. (2020) indicated that the humanlike and intelligent qualities of robots positively influence the hospitality experience of customers. They also suggested that customers' demand for warm services with a personal touch makes it challenging to replace employees with service robots completely. By working cooperatively, robots and employees could facilitate a distinctive hospitality experience. Researchers suggested that hospitality managers could improve their overall experiences by providing more humanlike and more intelligent robots. According to Reis et al. (2020), robots outperform humans when executing standardized jobs due to their mechanical and analytical nature. They also revealed that, in some cases, robots have not yet reached the technological advancement required to completely replace humans, but AI-enabled robots will be able to substitute employees' intelligence.

Tung and Au (2018) examined 329 customer reviews related to human-robot interactions (HRIs) and customer experiences written on TripAdvisor, Agoda, Yelp, and Booking.com platforms for four robot-enabled hotels (Yotel New York, Aloft Cupertino, Henn-na Hotel Japan, and Marriott Residence Inn LAX). The study found that robotic services significantly influenced human perceptions towards novel experiences and thus, customers were interested to interact with the robots. Researchers also reported some challenges regarding language ability, voice commands, and anthropomorphism. Tung and Au (2018) further caution hospitality managers about guests' feeling of discomfort with robots in terms of interactions and obtaining services, given that HRIs are still relatively new in T&H context. Tussyadiah and Park (2018) also established that the human-robot interaction dimensions of anthropomorphism, perceived

intelligence, and perceived safety all had a substantial impact on robot adoption in hotels.

The appearance of robots is another important characteristic in robot adoption research. If a robot is to execute human-like functions, it is believed that it would be superior if a robot is physically and functionally comparable to an individual. However, some studies found that customers prefer machine-like or zoomorphic robots to humanoid robots. Mori et al. (2012) found that humanoid robots will be observed as creepy and consequently less friendly for the service. Similarly, Strait et al. (2017) also revealed that uncannily humanlike characteristics of robots result in negative perceptions of customers. Using data mining techniques and thematic content analysis of YouTube reviews, Yu (2020) revealed that participants' perceptions were negative towards humanlike robots and generated a feeling of discomfort. However, users were more receptive to robots with machine-like characteristics. According to Fan et al. (2016), when customers are alone, they would choose traditional services to automated services. It implies that in the hospitality sector, the application of humanlike robots could be practical when used in public and vice-versa.

From the students' perspective, a recent study by Ivkov et al. (2020) examined the attitude of T&H students towards the adoption of service robots in hotels. They found that expected business outcomes (e.g., cost reduction, efficiency, improvement in revenue, and greater market share) and robots' performance aspects (swiftness, accuracy, and consistency) are the major significant aspects of service robotization. The application of service robots in T&H organizations would have significant impacts on its business, job requirements, and expectations from future employees. Limited academic studies on students' perception towards adopting robots in T&H organizations motivated the researcher to undertake this work.

To summarize, several drivers have necessitated the use of service robots in T&H organizations. Technological advancements, digital-savvy customers, rapid digitalization, the perceived usefulness of technology, and the reduction of high labor costs have been integral in influencing customers' and organizations' preferences for robotization (Kim et al., 2021). In addition, the COVID-19 pandemic has also influenced the adoption of technological solutions in service organizations. Concurrently, a number of academic studies have focused on the use of service robots in T&H organizations. The majority of the research employed Venkatesh and Davis's (2000) technology acceptance model as theoretical framework for assessing stakeholders' acceptance and adoption of robots. Despite the

rapid expansion of robotics in the T&H industry, research on potential managers' perceptions of new technologies and the role of educational institutions in closing the gap by updating course content is still limited.

METHODOLOGY

Thematic analysis is a widely used technique for investigating the perspectives of various research participants and reporting themes found within the qualitative data set. A thorough thematic analysis can yield reliable and insightful results (Braun & Clarke, 2006). Thematic analysis was employed to explore the perception of 80 respondents, focus more on explanation than measurement of phenomena, and understand the similarities and differences in insights provided by respondents. Thematic analysis helps in summing up the significant elements of a huge dataset by requiring the investigator to take a structured methodology to process data and generate a clear and organized final results (Vatan & Dogan, 2021). The prospective respondents for the study were students of T&H courses. To suit the research context, three recognized Indian Universities offering T&H programs, were chosen. The researcher announced the study context to prospective students. Eighty students were selected and interviewed using purposive sampling.

Semi-structured interviews were conducted. The previous works of Kuo et al. (2017), Bowen and Morosan (2018), Tung and Au (2018), Li et al. (2019), Ivanov (2020), Ivanov et al. (2020), and Vatan & Dogan (2021) were used to develop interview questions. Two professors of tourism, hospitality, and technology adoption domain reviewed the set of interview questions. The following questions were designed to accomplish the objectives of the study:

(a) How do you perceive the adoption of robots in service organizations?

(b) What are the possible advantages/disadvantages of robots' adoption in T&H organizations?

(c) Which hotel/restaurant/airport services do you accept to be delivered by robots?

(d) If a service organization plans to utilize robots for operations, then what should be the appearance of the robot? Why?

(e) Do you have any courses related to robotics and AI in your current academic program?

Over the course of eight weeks, online interviews were conducted (between September-November 2020). Each interview lasted 20-30 minutes. Some interviews were recorded with the consent and later transcribed, whereas others were limited to researcher notes. All of the interviews were conducted in English. Ten pages of notes were prepared during the interviews. The transcript of the interviews consisted of 54 pages. To achieve the research objectives, categories, sub-categories, and statements were analyzed. The six phases of the thematic analysis suggested by Braun and Clarke (2006) were employed correctly to identify insightful themes/categories. In addition, summative content analysis, proposed by Hsieh and Shannon (2005) was used to better comprehend categories and sub-categories. In summative content analysis, keywords are identified before and during data analysis based on the interest of researchers or related literature. Two faculty members and four respondents reviewed the categories to ensure validity, reliability, and consistency. Some statements were taken directly from interviews, while others were taken from researcher notes and reworded as best as possible.

FINDINGS

In Table 1, the demographic characteristics of the respondents are presented. Descriptive analyses indicated that 45 (56.2%) participants were less than 20 years old, 27 (33.8%) were 21-25 years old, and the remaining were older than 25. 60% of the sample were male. Considering the educational level of participants, 65 (81.2%) were in their graduation program, while 15 (18.8%) were pursuing their postgraduate program. The graduation programs include BBA Tourism, BBA Aviation Operations, Bachelor in Hotel Management, and BBA Marketing, whereas the postgraduate programs consist of MBA Tourism and MBA Aviation Management.

Table 1. *Demographic profile (n=80)*

Demographics		**F**	**%**
Age	Less than 20 Years	45	56.2
	21-25 Years	27	33.8
	More than 25 Years	8	10.0
Gender	Male	48	60
	Female	32	40
Level of education	Under Graduate	65	81.2
	Post Graduate	15	18.8

Perception towards Robots

Firstly, the perception of respondents was examined towards robots and how robots will change modern service organizations. In response to this, respondents shared their views towards perceived benefits and challenges in the applications of robots. Table 2 summarized the categories and sub-categories related to perception towards robots. A majority of respondents mentioned the positive perception towards robots by highlighting the benefits like reduced human effort, guests' delight in receiving services from robots, and improved operating efficiency, increase customer experience, deliver error-free services, responsive and prompt service delivery, and contactless services. The following are some of the responses to this sub-category from the respondents:

"I believe it will reduce human efforts. Robots will be able to complete more tasks in less time." (R12).

"Robots will increase guests' excitement. I believe it will also provide error-free services in a timely and responsive manner." (R45).

"It will improve the operational excellence of hotels. It will undoubtedly arouse the customer's curiosity and make them want to experience it. During the pandemic, it will also ensure contactless services." (R50).

Table 2. *Perception towards robots in service organizations*

Category	Sub-category	Frequency
Positive Perception	Reduce human efforts	40
	Increase experience	12
	Error-free services	6
	Exciting to get services from robots	32
	Responsive and prompt service delivery	18
	Contactless services	12
	Increase operational efficiency	23
	Politer than humans	7
Negative Perception	Issues related to operating/giving a command	43
	Resistance by elderly guests	8
	Loss of employment	27
	Provide standardized services only	5
	Service without emotions	15

However, respondents also mentioned negative aspects of robots such as issues related to robots' operations or giving service commands, loss of employment, lack of emotions, and resistance by guests, especially by elderly customers. Based on the frequency, respondents mentioned a reduction in human work and excitement to receive services from robots as significant advantages to robot adoption. On the other hand, they specified

that dealing with robots or giving commands to robots would be a major issue with guests. The following are some of the responses to this sub-category from respondents:

"I believe that robots and similar technological advancements in the service industry will result in job losses." (R2).

"Although robots will increase guests' curiosity, guests, particularly elderly customers, will undoubtedly encounter difficulties in interacting with and commanding robots." (R75).

"Tourism & hospitality is human-touch industry. Emotions in employee-guest interactions are critical to the success of this human-intensive industry. Human emotions contribute to the customer experience. Robots have no emotions and will not provide services with feelings." (R23).

Table 3. *Possible advantages with robot adoption*

Category	Sub-category	Frequency
For Service Organization	Source of competitive advantage	43
	More customers to experience new technological innovation	22
	Multilingual	8
	Attract young customers	19
For Business Operations	Assist humans in delivering correct and prompt services	12
	Error-free services	16
	24×7 services	23
	Reduce unproductive working hours	6
For Guests	Superior customer experience	14
	Responsive and prompt service delivery	30
	Contactless services	17
	Guest satisfaction	10

Possible advantages and Disadvantages of Robots

Tables 3 and 4 summarized the potential advantages and disadvantages of robots in service organizations. There are three categories of possible advantages and disadvantages, namely, service organization, business operations, and guests. Respondents mentioned that competitive advantage, responsive and quick services, 24×7 services, attracting young customers, and contactless services are significant benefits of robots. They also pointed out that superior customer experience, ability to speak many languages, and error-free services will consequently increase guest satisfaction. The following are some of the responses to this sub-category from the respondents:

"*Robots can work 24×7, provide prompt services, and attract more customers for hotels. Consequently, hotels can gain competitive advantages." (R40).*

"Robots can assist hotel employees in delivering correct and prompt services. Robots can speak several languages and thus, can interact with guests more personalized manner." (R58).

"During the pandemic, guests are more concerned about hygiene and contactless services. Robots can be used in hotels to provide safe and hygienic services." (R27).

Table 4. *Possible disadvantages with robot adoption*

Category	Sub-category	Frequency
For Service Organizations	High operating cost	43
	Employee resistance	32
	Cost of training and repair	20
	Changes in organizational design	11
	Lack of competent workforce to handle robots	4
For Business Operations	Unable to give a personal touch to services	15
	Technological malfunctions	27
	Lack of persuasion	9
	Not being able to tackle unique problems promptly	13
For Guests	Lack of human touch in services	56
	Less friendly than human	20
	Customer irritation if the service failure	6
	Resistance by elderly guests	30

Respondents also mentioned the potential disadvantages of robot adoption. The top possible disadvantages of robot adoption were services with no human touch, significant operational costs, resistance from employees and elderly guests, and technological malfunctions. The following are some of the responses to this sub-category from respondents:

"The cost of installing robots is excessively high. Robot adoption necessitates a change in physical facilities, employee training, and the hiring of a workforce to maintain robots." (R78)

"Glitches in technology are fairly common. Robot malfunctions may lead to customer irritation and dissatisfaction." (R30).

"Humans provide warm, personalized, and customized services with emotional aspects. Robots are incapable of feeling emotions or understanding the specific needs of guests. Because of this lack of emotional connection and personalization, it will be difficult to implement robots in service organizations." (R21).

Services delivered by Robots

Results presented in Table 5 clearly show that respondents believe that robots can be used in providing basic, repetitive, and less-human intensive services. In hotels and restaurants, robots should be used in three areas of service operations, namely, reception/customer service, food & beverage

services, and housekeeping. The primary services that can be robotized are welcoming guests, providing information, delivering room orders, cleaning the hotel rooms and facilities, luggage carrying, taking orders in the restaurant, and check-in and check-out. Mirroring the findings of Ivanov and Webster (2019), the study found that students believed that these support services would be easiest to robotized as these activities would face the least resistance from guests.

Table 5. *Services effectively provided by robots*

Service Organizations	**Category**	**Sub-category**	**Frequency**
Hotel/Restaurant	Reception/Customer Service	Welcome guest	62
		Check-in & Check-out	25
		Carrying luggage	47
		Escort to room	15
		Providing Information	27
		Payment	20
	Food & Beverage Service	Room delivery of foods	53
		Taking orders	20
		Serving food & beverage	12
		Making drinks in the bar	6
		Table cleaning	26
	Housekeeping	Cleaning the room	53
		Cleaning hotels areas & facilities	18
		Taking & delivering customer orders	30
Airport	Airport Operations	Provide flight information	60
		Check-in counters	40
		Bag drops	32
		Cafes and other facilities	12
		Airport maintenance (Cleanliness, support activities)	25

Robot Appearance

In tourism and hospitality, the interaction with and evaluation of service robots are more direct. Appearance is an important factor that influences the perceptions of employees and guests towards acceptance of robots in services organizations. Realizing the fact that appearance seems a decisive element in accepting robotic services, several researchers examined the customers' preference towards robot appearance and the impact of appearance on robot adoption (Simmons et al., 2011; Strait et al., 2017; Murphy et al., 2019; Yu, 2020). On enquiring about the appearance of robots, respondents indicated that humanoid robots should be used in T&H organizations. A majority of respondents (90%) prefers humanoid robots.

However, a few respondents stated that machine-looking and animal-looking (zoomorphic) robots could be employed in less interactive services.

Table 6. *Appearance of robot*

Category	Sub-category	Frequency
Robot Appearance	Humanoid	72
	Machine-looking	6
	Zoomorphic	2

The following are some of the responses to this sub-category from the respondents:

"The hospitality industry is known as the 'human-touch industry'. Human-like robots will provide guests with a human-like experience. This will aid in the acceptance of robots by guests." (R70).

"Humanoid robots can be used to develop robot-human interactions and emotional connections. Guests will be less willing to accept machine and animal-like robots in the hospitality industry, and they will be more resistant to the use of non-human robots." (R58).

"I believe that service organizations should use humanoid robots to make it easier for people to interact with them. Because of this, people will find it easier and more comfortable to adopt this technology. Humans are attracted to humans the most beautiful. As a human, I prefer to interact with other humans rather than strange machines or animals." (R65).

"I prefer machine-like robots that accurately represent technology. I find humanoid robots creepy." (R44).

Courses-Related to Robots and Artificial Intelligence

Previous studies (Ivanov, 2020; Ivkov et al., 2020) have emphasized that robots and AI will grow and change employees and businesses. Therefore, it is mandatory for the future workforce of the T&H sector must have sufficient knowledge of robot usages and applications. With this intention, the researcher enquired about the courses related to robots and AI in the educational programs of tourism and hospitality students. Surprisingly, academic programs of students do not have any courses on robots, automation, and AI. Some of them have gained basic knowledge of such technological advancements from MOOCs and workshops. The following are some of the responses to this sub-category from the respondents:

"I am a student of Aviation course. I do not have any subject related to robots and AI. However, in some courses, I have been given an overview of robots, self-checking devices, and artificial intelligence. But, I believe that a full subject on Robots and AI must be taught to me." (R31).

"As an undergraduate student, I believe that the industry will be completely different in the coming 2-3 years. Competitive pressure, technological advancement, the growth of robotics, and the COVID pandemic are some of the drivers of these radical changes in the hospitality sector. Robots are here to stay in service businesses. Therefore, I strongly believe that our course curriculum must have courses related to robots, artificial intelligence, cybersecurity, and emerging technologies. This will certainly help us in getting jobs and performing effectively." (R5).

"I took two Coursera courses to understand emerging technologies better. The course content was extremely beneficial in understanding the impact of modern technologies on business organizations." (R20).

Table 7. *Courses-related to robotics in academic programs*

Category	Sub-category	Frequency
Academic degree	Full dedicated credit course	0
	Not such course	62
	Small coverage in some courses	18
Value-added course	Certificate course	0
	Workshop	4
	MOOC (Coursera etc.)	8

DISCUSSION AND IMPLICATIONS

This study sought to examine how T&H students think about the use of robots in service organizations. Data obtained from the interviews with 80 Indian students of T&H programs were evaluated by thematic analysis and summative content analysis. The results indicate that students are supportive of implementing robots in T&H organizations. The technophile nature of the young generation is the main reason for this perception, as Ivanov et al. (2018a) suggest. The findings show that respondents are not uniformly in favor of or opposed to the introduction of robots but have mixed feelings about their use in organizations. The key sub-categories were reduced human effort, customers' excitement about robot services, and better operational efficiency. However, they highlighted the challenges such as the proper functioning of robots, inhuman services, unemployment, and poor acceptance among elderly customers. Robots could enable smarter and more efficient processes in the post-COVID phase, when every organizations strives to reduce costs, give distinctive customer experiences, and maintain a safe physical environment.

As the adoption of robots in the Indian T&H industry is still in its initial stages, robotization of services would be a matter of competitive differentiation for organizations (such as hotels, restaurants, airports, etc.)

and could attract guests. On the other hand, service firms must plan for difficulties associated with robot implementation, such as staff and guests' reluctance to use robots, technical faults, considerable operational costs, human-robot interaction, and robot-friendly workplace architecture. Supporting the findings of previous researches (Ivanov et al., 2018a, 2018b; Vatan & Dogan, 2021), this study attests that students believe that robots could undertake a variety of routine and simple tasks in the T&H industry. Initially, robots should be introduced in services where service organizations face less employee resistance. It is believed that services that require human and emotional skills would be more challenging to robotize. Robots should be used in other operations gradually, based on feedback, customer acceptance, employee readiness, and adequate technological infrastructure.

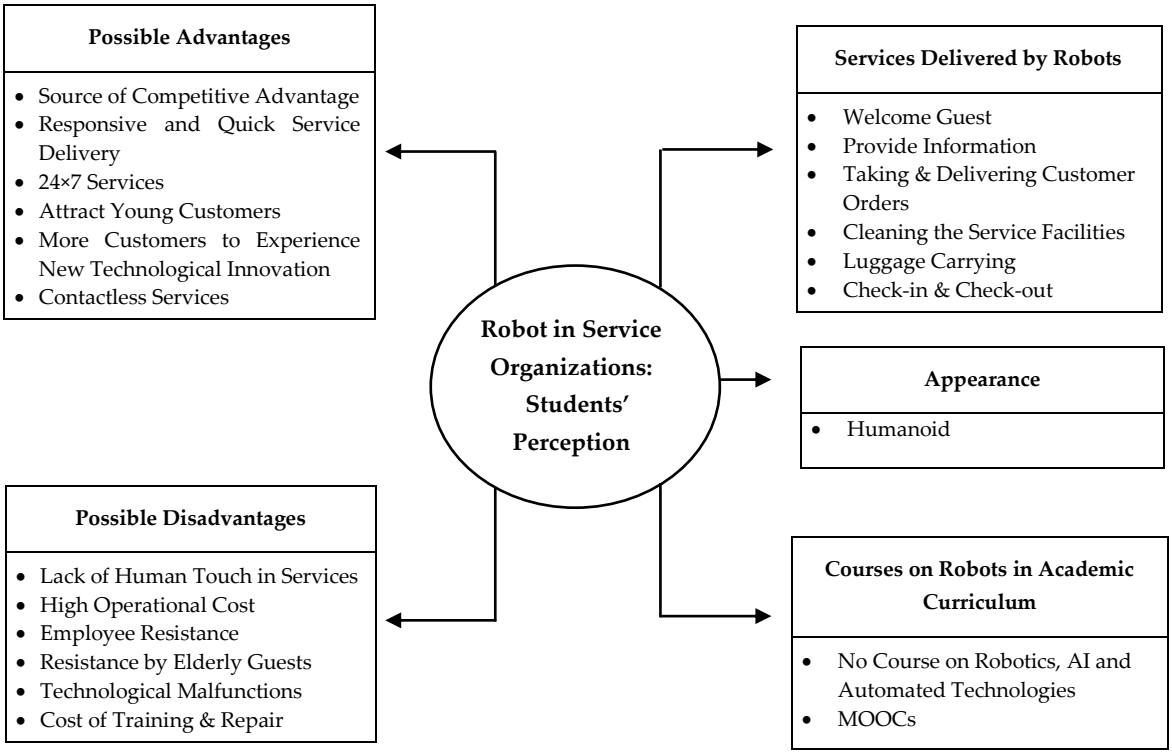

Figure 1. *Robot in service organizations: Summary of findings*

In terms of appearance, humanoid robots were preferred by 90% of respondents. In this high human-touch industry, aspiring professionals support the concept of the humanoid robot to humanize services. It is thought that when a robot has a humanoid appearance, people expect it to behave similarly to humans. Students also perceived that the T&H organizations should use machine-like and zoomorphic robots. In contrast to Bartneck and Kanda (2007), Ivanov et al. (2018b), and Yu (2020), this

study discovered that the more humanoid the robots appear, the more likely customers will be attracted to them. Human-like robots will form emotional bonds with guests, which may result in increased trust. Similar to human-human interaction, Tung and Au (2018) emphasized that humanoid robots can help establish human-robot relationships and social interaction.

Modern technology will transform the nature of work, job positions, and expertise required by the T&H professionals and consequently raise the fear of job loss (Ivanov, 2020). Since advanced technologies such as robotics, AI, machine learning, blockchain, and automation are taking shape every day, today's students must be more prepared for technological changes than any previous generation. Automation would create new technology-based job positions and generate demand for employees with degrees in advanced technologies. Surprisingly, students' academic curriculum does not include any courses on robotics or AI. Students stated that they learned the fundamentals of AI and robotics through MOOCs or workshops. While automation and digitalization trends continue to evolve, higher education institutions must recognize the importance of incorporating technology-related courses into academic programs. Ivanov (2020) flagged up that robotics or AI modules are not incorporated in curricula of tourism/hospitality programs and suggested that it warrants immediate attention. It would be difficult for aspiring managers to match the industry's requirements if they lack sufficient technological knowledge. Incorporation of these courses in the academic curriculum will also reduce the fear of students from technological advancements, changing nature of jobs, and job expectations.

According to the World Economic Forum, a large proportion of organizations will have adopted advanced technologies by 2022, and thus, strongly recommends governments and educational institutions to focus on rapidly improving education and skills, with a particular emphasis on science, technology, engineering, and mathematics. According to a recent Microsoft study, by 2030, students will need to have mastered two aspects of this new world by the time they graduate: (a) the ability to use ever-changing technology such as AI, and (b) the ability to work effectively with others in a team to solve problems. Therefore, to develop a competent workforce for the future, higher education institutions must incorporate courses on modern technologies into academic programs. These courses will help students to realize the requirement and significance of technology for the T&H sector. Webster (2021) opined that the demographic changes are a driver for how governments, industry, and the citizenry will have to

convert into a more robotized economy. Considering the huge labor market, unskilled labors and limited job opportunities, developing and less developed countries should be more careful in framing policies towards increasing automation.

CONCLUSION AND FUTURE DIRECTIONS

Of late, the application of robots and similar other technologies in service organizations has increased. Hence, it is critical to address robot adoption in the T&H settings, as well as its potential marketing implications. In the post-COVID, the T&H organizations should use the robots strategically to provide intelligent solutions, improve efficiency, and deliver memorable customer experiences. Based on the findings, the present study suggests that service organizations should balance the work of employees (high-touch) and robots (high-tech) in such a way where technologies will perform repetitive works, and employees could deliver warm and personalized services. T&H entrepreneurs need to be aware of the fact that human-robot interaction is still relatively new in service organizations and therefore, the preparedness and acceptance of service personnel and customers should be assessed before employing such technologies. Since academic research on robot adoption in the T&H sector of emerging nations is still in the early stage, and there is no specific research on this area in the Indian context, the study is anticipated to fill a critical gap in the literature.

There are several exciting areas for future research. A future study could undertake a longitudinal approach, examining changes in students' perceptions and preparedness over time. In future research, managers could be interviewed to know their perceptions of competitive (dis)advantages of robots and AI in service organizations. Future research might concentrate on analyzing the curriculum of tourism and hospitality programs to assess the inclusion of modern technologies content and students' perceived learning. As the COVID pandemic appears to be recurrent, future studies may investigate the changing perception of managers, employees, and guests toward robotization. In addition, scholars should investigate the influence of robot appearance on guest satisfaction. Lastly, a comparison of robot adoption aspects (such as customer trust, organizational challenges, etc.) in various developed and emerging economies would also be interesting to explore.

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USE *THE SILVER BULLET* ON THE RIGHT BEAST: A GUIDE ON USAGE OF PLS-SEM IN TOURISM AND GASTRONOMY STUDIES

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ABSTRACT

PLS based Structural Equation Modelling approach widens in social research with its benefits to ease some methodological struggles. As a matter of course, tourism and gastronomy fields gladly accept this advantage since the researchers mainly contain end-users in terms of statistical competence. However, this extensive use may come with some misunderstandings and errors during the conduction of the technique. Therefore, this editorial research note aims to point out common misunderstandings that appear while using PLS-SEM in tourism and gastronomy research and to guide to prevent them. The literature offered the basis of these misconductions but detected issues have mostly dug out from the unobtrusive statistical editorial experience of the authors.

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INTRODUCTION

PLS based structural equation modelling approach received a substantial correspondence in social sciences recently (Dash & Paul, 2021; Mateos-Aparicio, 2011). Besides the statistical power of the method, researchers prefer PLS according to perceived ease of the method as convenience with sample size and normality issues, model fit assumptions, and user-friendly usage of softwares (Dash & Paul, 2021; Hair, Hollingsworth, et al., 2017; Hair, Matthews, et al., 2017; Sarstedt et al., 2016; Sarstedt et al., 2014). There is even an understanding which calls the method as *the silver bullet* to

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overcome the struggles faced during research process (Hair et al., 2011). The most popular software to conduct PLS-SEM, SmartPLS is the common trigger to use this silver bullet (Hair, Hult, et al., 2017). It is not surprising to encounter SmartPLS in many different research areas like business, marketing, and more (Hair, Hollingsworth, et al., 2017; Sarstedt et al., 2014).

As interdisciplinary academic fields, firstly tourism, hospitality, and then gastronomy embrace the usage of PLS-SEM method in their articles recently published or sent to journals, too (do Valle & Assaker, 2016). SmartPLS mainly covers the research (e.g. Atsız & Akova, 2021; Khan et al., 2021; Kılıç et al., 2021; Sop, 2021) but with some alternatives like WarpPLS (e.g. Lacap, 2019). Same aforementioned conveniences on the method have welcomed by the referred fields since users mostly contain end-users of statistic methodology. That is natural since tourism and gastronomy research focus to usage of methods to realise a research question in contextual basis, but rarely focus to statistical basis.

Regardless of the field, researchers should be conscious using PLS as well as other statistical techniques. With its facilities provided, if those conveniences outweigh the statistical power, occurrence of some misunderstandings and/or evasiveness which cause this silver bullet to be questioned is almost inevitable (Marcoulides & Saunders, 2006). Therefore, this editorial research note aims to enlighten some possible methodological struggles and issues which tourism and gastronomy researchers may encounter while working with PLS-SEM specifically for SmartPLS. The awareness and detections of authors of this paper base on their limited experience as statistical editors in a specific tourism journal and the existing literature on PLS based SEM methodology. This research note intends to provide a useful guide on PLS-SEM with SmartPLS applications for tourism and gastronomy research. However, it should not be forgotten that, since there are already many respected publications in the literature, this note does not aim to explain the method with the gaze of a statistician, but with the gaze of a researcher who wants to use the method rightfully as an end-user. So, rather than a statistical explanation of the terms of PLS, the paper offers a checklist on conducting method properly especially for tourism and gastronomy researchers.

Even they have been referred as end-users, tourism and gastronomy researchers are quite successful at usage of PLS-SEM. Basic assumptions on convergent validity (with AVE, composite reliability etc.), discriminant validity (with recommended HTMT), and common method bias and multicollinearity (with VIF value) are most likely reported in relevant

studies (e.g. Atsız & Akova, 2021; Khan et al., 2021; Kılıç et al., 2021; Sop, 2021). However, there are some common issues the authors noticed during their editorial adventure as follows: (1) sampling issue, (2) normality issue, (3) relationship formation issue, (4) modelling issue, (5) model fit issue, and (6) reporting and resulting issue.

RECOMMENDATIONS TO COMMON ISSUES

Sampling and Normality Issues

PLS-SEM does not require parametric assumptions and can operate analysis with smaller sample sizes (Hair, Hult, et al., 2017; Hair, Matthews, et al., 2017; Sarstedt et al., 2014). However, it would be an erroneous assumption to consider that PLS-SEM is used as a solution for all and/or only non-normal data and small sample sizes (Ali et al., 2018; do Valle & Assaker, 2016; Marcoulides & Saunders, 2006). Extremely abnormal data can pose problems in assessing the significance of the parameters since it inflates the standard errors from bootstrapping and decrease the likelihood of some relationships will be evaluated as significant (Hair, Hult, et al., 2017).

Contrary to popular myth, sample size considerations play a structural role to applying of PLS-SEM. Researchers may choose to decide subjectively whether the sample size is suitable for the nature of the aimed research. However, it is beneficial to take one of sampling requirement approaches in the literature as a guide. Sampling methods such as *Power Tables* (please see Cohen, 1992; Hair, Hult, et al., 2017, p. 21), *Monte Carlo Simulation* (please see Paxton et al., 2001), and *Inverse Square Root and Gamma-exponential* (please see Kock & Hadaya, 2018) rarely take place in the studies, because these methods possess some difficulties. Power tables method can lead to grossly inaccurate estimates of the required minimum sample size (Kock & Hadaya, 2018), Monte Carlo simulation is found very time-consuming, and equation based methods are too complicated to conduct. Therefore, mostly preferred techniques are (1) subjective assessment and (2) 10 times approach with their more user-friendly content.

While authors faced many studies that do not mention a sampling method and decide subjectively whether the sample size is efficient, it seems useful as long as researchers have in-depth understanding on variables. But for founding more methodological ground, according to Barclay et al. (1995), sample size should be 10 times larger than the largest number of formative indicators used to measure for construct or the largest

number of structural paths directed at a particular latent construct in the model. The rule of thumb of 10 times can be meaningful just when strong effect sizes and high reliability of the measurement items conditions are met (Marcoulides & Saunders, 2006; Peng & Lai, 2012).

Relationship Formation and Modelling Issues

One of the main differences between CB-SEM and PLS-SEM is the logic behind the formation of hypothesised relationships. The reason of this statement belongs to PLS being more exploratory and predictive, working with relatively small sized samples, allowing no causal loops, and prone to producing higher R^2 than CB (Hair, Hult, et al., 2017; Hair, Matthews, et al., 2017; Sarstedt et al., 2014). Few researchers (e.g. Marcoulides & Saunders, 2006) find these features "risky" for quality of structure and indicators especially when the groundwork of the research hides under the methods itself as a *magical silver bullet* to the methodological assumptions. Nomological validity is the key assumption to prevent this risky situation. Forming and proposing the relationships between variables of the conceptual model according to contemporary literature is the basic approach to nomological validation of the research model (Cronbach & Meehl, 1955; Hagger et al., 2017) while there are also other statistical approaches (e.g. Liu et al., 2012). Most of the studies in tourism and gastronomy fields build their hypotheses through a conceptual framework, but interestingly, rare of them mention nomological validity as an assumption.

Another struggle appears during modelling process is to decide whether using a formative or a reflective construct (Coltman et al., 2008; Hair, Hult, et al., 2017; Hair, Matthews, et al., 2017). It is useful to keep in mind, constructs do not only represent a theoretical concept, but they are also the variables that are placed in the statistical model which is prepared to be tested (Sarstedt et al., 2016). Consequently, the ken of researchers on the variables are not only essential for nomological validity but also conceptualizing process. As subjected to Becker et al. (2012) and Sarstedt et al. (2016), causal and/or composite variables should be considered formative, and perceptual and/or effect variables should be considered reflective conceptualization approach. In simpler words, if the latent variable caused by and affected by its indicators, researchers should conduct a formative model; whereas in the reflective modelling, they should consider the indicators as the functions of the latent variable (Duarte & Amaro, 2018). Diamantopoulos and Siguaw (2006) draw attention to possible manipulation of constructing process since some researchers may

alter formative and reflective construct to each other for gathering desired results.

do Valle and Assaker (2016) reveals reflective conceptualization is widely preferred when using PLS in tourism-related literature which is logical since the scholars preferably work with data of variables rooted by perceptual scales (e.g. Khan et al., 2021; Wang et al., 2021). It is like an old habit from previously used CB-SEM approach, and therefore some researchers do not even mention or visualize the formation process (e.g. Atsız & Akova, 2021; Kılıç et al., 2021; Sop, 2021). However, it is obvious these examples used reflective approach from the way they handle their variables.

Model Fit Issue

As acknowledged before, one of the main reasons to usage of PLS algorithm for methodological purposes in tourism and gastronomy studies is the perceived ease that contains as well as model fit assessments with other validity concerns (do Valle & Assaker, 2016; Hair, Hollingsworth, et al., 2017; Hair, Matthews, et al., 2017). However, this perceived ease may develop itself through a perception that there is "no need" to assess any model fit concept. To concern to authors' knowledge, the kind of an attitude has appeared in minds of researchers who worked in addressed fields. Even this body of consensus has referred user friendly in some respects, not referring any goodness of fit or model fit indices actually weakens the method's power in general (Marcoulides & Saunders, 2006). Therefore, in this phase, we offer 3 strategies in respect with model fit assessment as (1) common approach, (2) traditional approach, and which this study recommends (3) alternative approach with Tennenhaus et al.'s (2004) Goodness-of-Fit index.

Common Approach

As Hair, Hult, et al. (2017) humbly highlight, there is not a well-established group of model fit indices for PLS, especially in SmartPLS. The mistaken consensus that sees no need to concern any goodness of fit issue bases on this statement. Yet, the motive behind this statement is not stressing a redundancy on model fit concepts, in fact, the authors illustrate that the convergent validity parameters like AVEs and reliability coefficients, discriminant validity assumptions (preferably HTMT), and finally, path analysis' outcomes such as R^2 and β coefficients should be interpreted to assess model fit -or goodness of fit- of the research's measurement model

(Hair, Hult, et al., 2017; Hair, Matthews, et al., 2017; Sarstedt et al., 2016). There are many examples in the tourism field used this approach to conduct model fit (e.g. Atsız & Akova, 2021). But frankly, lack of the model fit indices is still the Achilles' heel for PLS. Therefore, the traditional model fit indices have also been introduced to the PLS based SEMs (Hu & Bentler, 1998).

Traditional Approach

As immanent in the name, traditional approach contains the most known indices like NFI, SRMR, and other values (please see Model Fit by SmartPLS) and finds a place in gastronomy and tourism studies which benefit PLS with SmartPLS (e.g. Khan et al., 2021; Kılıç et al., 2021; Sop, 2021). The mentioned indices have developed accordingly to the needs of Covariance-Based SEM approach (Hair, Matthews, et al., 2017). Therefore, Hair, Hult, et al. (2017) prompts to be careful when building the model fit assumptions on these indices since these are developed for CB-SEM approach. To further the model fit decisions, there is an alternative approach that developed specifically for PLS-SEM.

Alternative Approach

Tennenhaus et al. (2004) developed an approach to assess model fit through a calculation named as Goodness-of-Fit (GoF) index. Since it is developed specifically for PLS-SEM, it is encouraged to use as the main approach for PLS based confirmatory factor analysis and structural equation modelling by this study. The equation can be written down as follows:

$$GoF = \sqrt{\overline{\mathrm{AVE}} + \overline{\mathrm{R}^2}}$$

It is not concealed that the index bases on the common approach's elements as AVE and R^2. GoF uses those two coefficients to reveal a more valid and statistically explainable indicator on model fit. The cut-points of GoF take values as < 0.10 unacceptable, ≥ 0.10 low fit, ≥ 0.25 moderate fit, and finally ≥ 0.36 high fit.

Reporting Issue and Understanding the Results

The systematic evaluation of PLS-SEM studies follows a two-step process that includes separate evaluations of the measurement models and the structural model (please see Hair Hult, et al., 2017). At the measurement model stage, the reliability and validity of the PLS-SEM estimates are

examined and evaluated. There are two flows for reporting the measurement model, depending on whether the structural model type is reflective or formative. Reliability and validity assessment is an important issue for reflective measurement models. For reflective measurement model assessment, it is necessary to discuss indicator reliability, composite reliability, convergent validity, and discriminant validity. On the other hand, for the evaluation of formative measurement models, the convergent validity of the measurements, the importance and relevance of formative indicators, and linearity should be tested and reported.

After the reliability and validity explanations of the structural measurements, second part of the reporting is the evaluation of the structural model results. This section includes examining the predictive power of the model and the relationships between structures. The first element expected from researchers at this step is to understand and interpret the concept of model fit in the context of PLS-SEM. Then, the researchers can evaluate the path coefficients in the structural model and interpret the model's determination coefficients (R^2 and β), effect size (f^2) (Cohen, 1988; Hair Hult, et al., 2017), and predictive fit (Q^2) (Henseler et al., 2009; Hair Hult, et al., 2017) of the path model (reference points mentioned in Annex A). Hair et al. (2017) present a detailed map of how the data to be presented in the specified steps are obtained through the program in the evaluation of the results in a Smart PLS-based study.

CONCLUSION

It is expected that this research note will be a guide for researchers who conduct PLS-SEM-based research, especially in the field of tourism and gastronomy, in all steps from sample selection to reporting the results. Due to the increasing interest of PLS-SEM in recent years, this article aims to clarify the model building, analysing, and reporting parts with key criteria. Conscious use of the PLS-SEM technique by especially tourism and gastronomy researchers, who are generally the end users of statistical methodology, will contribute to the creation of qualified resources for future research with this technique. All key elements for understanding, conducting, and reporting for researchers when using PLS-SEM are listed in the checklist mentioned in the last part of the article (see Annex A). Thus, the researcher will be able to present his results in a fluent format by following these steps.

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Annex A. *Checklist to usage of PLS-SEM with SmartPLS for tourism and gastronomy studies*

Issue	**Indicator**		✓
Nomological Validity	Forming and proposing the relationships between variables of the conceptual model according to contemporary literature		
Modelling Validity	Formative modelling (if the conceptual variable shows the feature of a causal or a composite indicator)		
	Reflective modelling (if the conceptual variable shows the feature of perceptual or effect indicator)		
Sampling Assumption	Subjective assessment 10 times approach		
Normality Assumption	Does not require parametric assumptions if the following issues have been met	Detection of missing data	
		Detection of incorrect responds	
		Detection of biased responds	
		Fixing extremely abnormal data	
Convergent Validity	Factor Loadings	> 0.6 (if other indicators allow) > 0.7	
	t value	> 1.96 ($p < 0.05$) > 2.58 ($p < 0.01$)	
	Composite Reliability	> 0.7	
	AVE	> 0.5	
Discriminant Validity	HTMT	< 0.9	
Multicollinearity Common Method Bias	VIF	< 3	
Model Fit	Goodness-of-Fit	> 0.25	
Reporting	Mention R^2		
	Mention β		
	Mention Q^2	> 0.35 high between 0.35- 0.16 moderate between 0.15 – 0.02 low	
	Mention f^2	> 0.35 high between 0.35- 0.16 moderate between 0.15 – 0.02 low	

Source: Based on the evaluation of authors on existing literature

JOURNAL AIMS AND SCOPE

AHTR aims at initiating and stimulating advances in hospitality and tourism research. Therefore, it publishes papers that promote new ideas, models, approaches and paradigms by contributing to the advances in knowledge and theory of hospitality and tourism.

The journal covers applied research studies and review articles, both in a format of full-length article and research notes. Applied research studies are expected to examine relationships among variables relevant to hospitality and tourism by employing appropriate analytical or statistical techniques. High quality review articles that address latest advances and develop theoretical knowledge or thinking about key aspects of hospitality and tourism are accepted. Research notes are short articles that report advances in methodology, exploratory research findings or extensions/discussions of prior research. AHTR will also welcome commentary in response to published articles.

All papers are subject to double blind peer review process based on an initial screening by the editor criteria for evaluation include significant contribution to the field, conceptual quality, appropriate methodology and clarity of exposition.

As a forum for advancing the research in hospitality and tourism field, the journal encompasses many aspects within the hospitality and tourism including but not limited to;

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- Restaurant Management
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NOTES FOR CONTRIBUTORS

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Article Structure

Manuscripts should be written in English and not exceed 10,000 words. For research notes, length limit of the manuscript is 3,000 words.

Title page consists of the title of manuscript which is not more than ten words (in bold uppercase letters in Times News Roman 12 type size), author(s) name, present position, complete postal address, telephone/fax numbers and e-mail address of each author. Corresponding author and ordering of the author(s) should be indicated. Acknowledgements, if there are, can be cited here.

In the **abstract** authors should in brief, but clear manner, state the main purpose of the research, the significant results obtained as well as conclusions they have derived from the study. It is essential for the abstract to be conceptualized in a manner that it provides an audience with a clear insight into the topic and main points of the manuscript. An abstract should be free of references (whenever possible) and English-spelling errors. **Length of the abstract should not exceed 200 words.**

After the abstract part, **maximum 6 keywords** should be provided. When deciding on the keywords authors should bear in mind that these would be used for indexing purposes.

Main Document should start with title of the manuscript (in bold all uppercase letters in Times News Roman 12 type size), abstract and keywords. A manuscript should be conceptualized into following parts: *Introduction, Literature review, Methodology, Results and Discussions and/or Conclusion.*

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Discussions and/or Conclusion: In this part, a brief overview of the results obtained in the study is presented. This part should start with a short turn on the research problem and how the findings of the current study address this problem. At the end of the conclusion part, theoretical and practical implications for future research and practitioners in the field should be provided.

Major headings in the main document should be written in all uppercase letters and subheadings should be typed in bold upper and lowercase letters. Headings

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Reference to a book;

Goldstone, P. (2001). *Making the world safe for tourism*. New Haven and London: Yale University Press.

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