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CONTENTS

Research articles

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Advances in Hospitality and Tourism Research (AHTR) 2023
An International Journal of Akdeniz University Tourism Faculty Vol. 11 (2)
ISSN: 2147-9100 (Print), 2148-7316 (Online) 191-209
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DESTINATION AND SPORT EVENT: IMAGE, ATTACHMENT AND LOYALTY RELATIONSHIP

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ABSTRACT

The objective of this study is to evaluate how Psychological Continuum Model (PCM) may be used to foster image, attachment, and loyalty to a sporting event destination. This study was undertaken in conjunction with the MotoGP race at the Mandalika International Circuit in Lombok, Indonesia. A random sample of events was chosen to test the suggested model's validity. Partial Least Squares Structural Equation Modeling was used in this study to examine 367 questionnaires that Indonesian respondents filled out on the spot. Using the PCM framework, this study was able to find that event image can increase event attachment, but not destination loyalty based on our findings. Individuals are more likely to have experiences related to events and destinations when the psychological link between people and those events or destinations grows. Event-related variables, rather than destination-related variables, entice travelers since they are more easily influenced by the event.

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INTRODUCTION

Each year, many nations host a recurrent yearly sporting event, which frequently serves as a catalyst for the development of society into a well-known sporting destination (Reitsamer et al., 2016). Additionally, staging repeated events may alter a destination's image and deepen tourists' attachment and loyalty to a specific area (Prayag & Ryan, 2012). Thus, in the case of recurrent sporting events such as MotoGP, the commitment of sporting tourists to an event and destination continues to be a critical indicator of event development success. In sports tourism, image and attachment have emerged as critical notions for understanding customer loyalty. For instance, Ballouli et al. (2016) discovered a favorable correlation

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between audience interaction with drivers, venues, and activities and audience loyalty to the Grand Prix and host city. Experts in sports management have sought to explain the aspects that impact sports tourists' loyalty. Additionally, the Psychological Continuum Model (PCM) (Funk & James, 2001) may be used to describe how audiences develop from newcomers to event devotees throughout sporting events. Funk and James (2001) coined the term PCM to describe how sports clients advance through stages of awareness, attraction, attachment, and loyalty. To that end, it is crucial to understand how certain psychological factors (such as attachment) contribute to event destination and loyalty, as each stage of PCM is focused on detecting sports consumer engagement in sporting events (Funk & James, 2001). Although previous research has suggested that PCM can account for the attraction stage in the destination image (Chen & Funk, 2010), due to the limitations inherent in characterizing travelers through each track of the development of awareness, attractiveness, attachment, and loyalty, it is difficult to ascertain how each phase formed loyalty (Taghizadeh et al., 2015; Nyadzayo et al., 2016).

As a result, we employ PCM as a conceptual perspective to illustrate the growth of phase sports participation for sports travelers in the context of a recurrent sporting event. Scientists have noticed that when a sporting event is hosted in a certain area, the event and the destination live together (Mariani & Giorgio, 2017). Psychological components linked with destination and events (e.g., image, attachment, and loyalty) may coexist when sports tourists attend sporting events in a particular destination (Kirkup & Sutherland, 2017). There is, however, a scarcity of studies examining loyalty development through image and attachment creation to destination and event attributes concurrently. Prior study has established that the image of a destination has an influence on destination loyalty (e.g., Chi & Qu, 2008; Kim et al., 2013; Lee & Xue, 2020). Additionally, some researchers have stressed the significance of event image in determining event loyalty and branding (Lu & Cai, 2011; Girish & Lee, 2019; Sharma & Kumar Nayak, 2019), whereas others have observed that attachment to a destination influences destination loyalty (Tasci et al., 2022; Wang et al., 2020). It is important to note that scholars have discovered that engagement strategies and co-branding among sporting events and destination images affect sports travelers' destination loyalty (Jeong & Kim, 2019; Kim et al., 2019; Zhang et al., 2019).

Scholars have been writing about how events change vacation destinations for decades. It is assumed that visitors will have a more positive impression of the host destination after attending a well-organized event (Kaplanidou, 2006; Knott et al., 2015). Thus, the image of an event serves not only as a tool for luring visitors but also as a platform for enhancing the reputation of a travel destination (Getz, 2008; Wong, 2011). Large events tend to improve the public's perception of a destination, and this is supported by actual research (Kim & Morrsion, 2005; Moreira, 2009). Due to the aforementioned, several countries, including Indonesia, are making concerted efforts to grow into event destinations and compete better for tourists so that they can host sporting events. However, few studies have really measured tourists' attachment to an event or destination and how these attachments could alter tourists' perceptions of destination loyalty, despite the fact that past research has attempted to explore the role of events on destination image and tourist behaviors.

The objective of this study is to examine destination loyalty development using PCM in a recurrent sporting event context. To this purpose, this study explores how recurrent sporting events and destination loyalty are established using data from sports tourists who attended the Mandalika Moto Grand Prix (MotoGP Mandalika) in Indonesia. The Mandalika International Circuit is a new world-class circuit in Indonesia (MotoGP, 2021), but not enough studies have been conducted on the attitudes of Indonesian tourists toward the event and the destination. This study contributes to the body of scientific knowledge in numerous ways. Through the interplay of destination or event images and attachments, the current study provides insight into the process by which destination loyalty is built. Second, by undertaking an empirical analysis of destination loyalty using event-related characteristics, the current study fills a need in the literature. Moreover, this study helps destination and periodic sporting event organizers to have a stronger insight to the determinants of destination loyalty, starting to concentrate their efforts on the essential psychological components of destination loyalty.

LITERATURE REVIEW

Destination and Sport Event

Researchers in the fields of tourism and sport science have been very interested in the significance of the destinations that host major events for quite some time (see Gibson, 1998; Kaplanidou & Vogt, 2007; Hallmann & Breuer, 2010; Jin et al., 2013; Malchrowicz-Mośko & Poczta, 2018). There are some qualities that sports tourists associate with both sporting events and the destination where they take in the games (Huang et al., 2015; Wang et al., 2021). For the most part, sports tourists travel to specific sport events to participate or observe (Perić, 2010). Travelers attending sporting events are frequently more concerned with the event itself than with the destination, and their perspectives on the event and the area frequently diverge. Because of this, event attendance is not primarily driven by the image of a destination (King et al., 2015). Many studies have been done to determine what motivates people to return to a particular destination for a specific event (Jeong & Kim, 2019), but there has been far less study on what motivates people to return to the same destination for other sport events in general (Halpenny et al., 2016). Since a result, spectators are left in the dark about sport activities, as the event and destination domains are left out of the equation. New viewpoints (such as how events and destinations are constructed) in the context of repeating occurrences require an explanation for why previous studies should be integrated.

The Psychological Continuum Model

Sport-related activities and teams are linked psychologically and sociologically in PCM (Funk & James, 2001). Studying how participants' attitudes and actions evolve through four stages: awareness, attraction, attachment, and loyalty has been used in many sports management research projects. One of the most utilized theories to explain the link between destination related attitudes and their interactions is the "destination set formation hypothesis" (Stylos et al., 2017). Visitors' return intentions are positively influenced by cognitive and emotive images, according to this model of tourist decision-making, which is a sequential process. According to attachment theory, visitors' loyalty is strongly influenced by their feelings of attachment to a particular destination (Bowlby, 1982). There is a lack of continuity between image, connection, and loyalty in both theories of tourist research that are now in use (Stylos et al., 2017). This study uses a PCM stage-based framework to provide a new viewpoint on creating loyalty among sports tourists based on the four stages of the movement of sports tourists. The four phases of the PCM framework may be used to explain how sports tourists develop a sense of loyalty (awareness, image, attachment & loyalty). Additionally, individuals who participated in the present research were sports visitors who set a higher premium on sporting activities than on tourist attractions (Chen & Funk, 2010). Thus, PCM is a good theoretical framework for the current study.

Building connections to events and destination begins with awareness. At the awareness phase, individuals gain acquaintance with an entity but are not always drawn to it (Funk & James, 2001). The awareness stage of sports tourism may readily be distinguished from the other three phases since a sports tourist advances through the awareness stage after attending an event (Funk et al., 2007). Study on the last three phases of PCM (loyalty, attraction and attachment) has dominated the literature (Baker et al., 2020). This current study excluded sports tourists who were aware of the event but did not attend. When they get interested in something, they enter the attraction stage and start to participate in certain behaviors (Mahoney et al., 2013). In this phase, it is important to send carefully chosen images that depict the desired features of a certain destination (Alcañiz et al., 2009). PCM may be used in order to have a better understanding of sports tourism attractions. According to the research, an image is a combination of cognitive and emotional components (Prayag & Ryan, 2012). It is a human construct comprised of factual facts, subjective sensations, prejudices, fantasies, and emotional ideas about the destination that is referred to as a "destination image" (Zhang et al., 2014). In the words of Deng et al. (2015), "event image" refers to the sum total of the meaning or connections consumers assign to occurrences. The sports literature has analyzed the event's image in terms of its emotional, social, organizational, and physical components (Aicher et al., 2015). Both destination and event images are used in this study to depict hidden individual cognitive and emotional processes that occur during the PCM attraction phase. Unlike attraction phase, the attachment phase creates a lasting and solid psychological link between the person and the item because the individual viewpoint acts as an extension of the self-concept and feelings connected to a certain activity. To better understand the attachment stage, the attachment variable was used in the current study. The term "destination attachment" refers to a person's emotional and psychological attachment to his or her perception of the significance of a destination (Yuksel et al., 2010). It is defined as an individual's emotional attachment to a geographical place and social attachment toward an occasion; this process is self-perpetuating (Prayag et al., 2020). It's possible to form a strong attachment to a sporting event because of its numerous components, such as sports activities, teams, players, or other participants (Cho et al., 2014). In this study, we postulated that sports tourism destinations and events are founded on PCM engagement mechanisms.

When people agree that the things and activities are in line with their own fundamental values and beliefs, they are involved and committed to the loyalty stage (Funk & James, 2001). It is becoming increasingly common for sports tourists to become so enamored with the destination and event values that they form an emotional attachment to the destination and event.

As a result, the researchers in this study feel that during the PCM loyalty stage, loyalty becomes a distinguishing factor. People who are more attached to a certain product than others are more likely to buy it, according to research conducted by Ballouli et al. (2016). Attendance intentions, product intentions, endorsement intents, and word-of-mouth marketing were utilized to measure conative loyalty in sports tourism by Ballouli et al. (2016). The event has a lasting psychological impact on the person who participates in it (Funk & James, 2001). This third level of PCM loyalty, referred to as conative loyalty, can assist us better comprehend the hierarchical model as it pertains to MotoGP events.

The Image, Attachment, and Loyalty Relationship

Considering that both attachment and image are attitude constructs with cognitive and emotional components (Prayag & Ryan, 2012; Hernández-Mogollón et al., 2018; Moital et al., 2019), there is enough evidence in the literature to suggest that their conceptual foundations are the same. The two parts illustrate a tiered approach to attitude creation, namely the formation of an emotive connection when a sports tourist builds a cognitive image (Moital et al., 2019). When it comes to an emotional response, destination attachment refers to the feeling response to a social economic setting, whereas a destination image refers to the affective and cognitive characteristics of a destination (Kusumah et al., 2022), such as attraction, experience quality, and environment, that are considered predictors of interpersonal destination attachment (Prayag & Ryan, 2012).

The attachment hypothesis, which is the basis for place attachment, postulates that a child would develop a strong emotional bond with the first person who provides for his or her basic physiological needs (Venta et al., 2020). In the same manner, visitors develop a strong emotional connection to their vacation destinations because they help them meet essential physiological, psychological, social, and cultural requirements (Jiang et al., 2017). When visitors spend enough time at a tourist attraction, they develop an emotional connection to it (Reitsamer et al., 2016). When visitors engage with a tourist attraction, a variety of feelings, thoughts, and deeds emerge as a result of the experience (Kyle et al., 2005). Another way in which a tourist's emotional connection to their vacation destination might be shown is through the concept of "destination attachment" (Japutra, 2020). In addition, a tourist may develop a strong sense of connection to a specific destination if it provides them with ample opportunities for self-expression and affirmation and facilitates the upkeep of meaningful relationships and a sense of community (Scannell & Gifford, 2010). The likelihood of a visitor returning to and recommending that destination is positively influenced by feelings of attachment to that destination (Prayag & Ryan, 2012). The way a visitor feels about a site may be affected by its accessibility, facilities, local community, and scenery (Reitsamer et al., 2016). Destination attachment can also be predicted by the traveler's visual image of the destination they're going, the reliability of their information sources about the destination, and their own attachment types (anxiety and avoidance) (Japutra, 2020).

Gwinner's (1997) model of image production and image transfer in event sponsorship comes closest to characterizing event images. An event's "event image" is composed of "the cumulative interpretation of meanings or connotations assigned to events by consumers," as defined by Gwinner (1997, p. 147). From a psychosociological vantage point, Ferrand and Pages (1996) described the image of events as "a cognitive construction linking rational and emotive representations of an event by a person or a group." Spectators at sporting events might develop an emotional attachment to a destination if the event is accurately portrayed (Kaplanidou et al., 2012). In the minds of travelers, how a destination is portrayed will have an impact on how strongly they feel about it (Song et al., 2017). Sports tourists, on the other hand, engage in physically demanding pursuits and rely on sport event resources. High-quality materials may aid in the formation of an event's image and, as a result, its emotional connection. However, sports visitors who are familiar with the image of events linked with a certain destination may not be aware of this construction. The image of the destination or event will thus benefit the attachment to the destination or event, as we expect. Thus, the following hypotheses have been developed:

H1: *Destination image has a significant influence on destination attachment*

H2: *Event image has a significant influence on event attachment*

Loyalty in sports tourism studies is defined as a person's desire to return to a destination or event (Barshan et al., 2017; Sato et al., 2018). It is more probable that tourists will return to a destination with a strong sense of attachment if they have a strong sense of belonging to it (Patwardhan et al., 2020). People value as well as empathize with the emotional relationship they have with the venue when they participate in sports-related events, which is why destination loyalty was included as an outcome measure (Jeong & Kim, 2019; Yamashita & Takata, 2021). Moreover, consumers who had a favorable experience at a sporting event seem to be more willing to visit in the future (Ballouli et al., 2016). Following hypotheses are therefore put forward:

H3: *Destination attachment has a significant influence on destination loyalty*

H4: *Event attachment has a significant influence on destination loyalty*

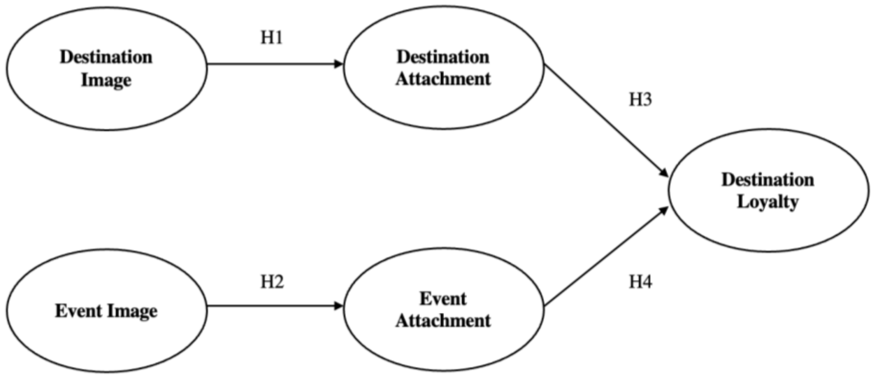

Figure 1. *Research Model*

METHODOLOGY

This study was undertaken in conjunction with the MotoGP race at the Mandalika International Circuit in Lombok, Indonesia. A random sample of events was chosen for this research model. Respondents in the present study were limited to Indonesian spectators who took part in three sessions (practice, qualifying, and race). The MotoGP race was picked because it is widely regarded as one of the world's well-known repeated sport events. Indonesia initially staged the MotoGP in 1996 at the Sentul International Circuit in West Java, and again in 2022 at the Mandalika International Circuit in Lombok (Media Indonesia, 2022). Apart from the MotoGP race, the Mandalika track also hosted a World Superbike race in 2021 (CNN Indonesia, 2021). The Mandalika Superbike event drew around 25 thousand spectators, based on the capacity permitted by the Indonesian government during the COVID-19 epidemic (Infopublik, 2021), while the Mandalika MotoGP event drew approximately 63,000 spectators based on the number of tickets sold (Kompas, 2022). The capacity of the MotoGP event, as determined by the Indonesian government, increased significantly. As an outcome, the current study analyzed sports travelers' event engagement and destination loyalty utilizing respondents from the Mandalika MotoGP 2022.

Mandalika MotoGP 2022 is an annual event that consists of practice, qualifying, and the race. As such, to ensure that all respondents managed to travel particularly to witness the 2022 Mandalika MotoGP; participated in the same event on the same days; and assessed their emotional processes throughout the three occasion sessions, non-residents (outside Lombok

Province) who took part in all three of the study's sessions were considered sport tourists for the purposes of this study. Regarding the 2022 Mandalika MotoGP, five trained research assistants delivered surveys in a variety of locations, including parking lots, seating sections, and refreshment areas. The participants were approached and briefed of the study's purpose, and screening questions were asked regarding: their residency on Lombok Island and their attendance at all three event sessions. Only individuals attending the 2022 Mandalika MotoGP as tourists were requested to complete and return the questionnaires on-site. All data was gathered on March 20, 2022, the final day of the event. Those who completed the survey and qualified were rewarded with a cash prize of 20k Rupiah (Indonesian currency). Twelve responses from the 2022 Mandalika MotoGP sample were deleted due to missing data; thus, 367 responses were obtained on-site.

Destination image (DI) is a complicated notion that include information and emotional connections as well as presumptions about a destination, together with subjective perceptions (Kusumah et al., 2022). Ten questions (Zhang et al, 2019) that were revised to reflect the MotoGP context, were used to measure DI. The event image (EI) is a composite of the event's emotional, social, and organizational characteristics of activities and programs, all of which were quantified via the use of five survey questions (Huang et al., 2015). Destination attachment (DA) is defined as an emotional connection and individual's psychological value of a place; this connection was assessed in the survey using three items (Ramkissoon et al., 2013). Event attachment (EA) is a scale that evaluates social bonding with an event and an individual's emotional attachment to physical destinations via the use of three indicators (Ouyang et al., 2017). Destination loyalty (DL) was employed in this study along with four items to elicit customers' plans to revisit the destination and event as well as word-of-mouth feedback (Zhang et al., 2019). Items were scored from 1 to 5 on a 5-point Likert scale, and the means of these measurements were used to calculate the variable of interest. After deciding on the measuring scales, we consulted expert panels comprised of persons with past experience attending MotoGP events. The questionnaire began with 32 items, and expert panels were entrusted with analyzing its content validity in three major areas: intelligibility, representativeness, and relevance. The questionnaires were modified in response to the opinions received from these panels. We retained 25 items, including the following: event image consists of 5 items (excitement, kindness, infrastructure, ambience, and cleanness); event attachment consists of 3 items (myself a fan, important to me, myself an expert);

destination image consists of 10 items (scenery, information, entertainment, friendliness, accommodation, infrastructure, cleanliness, relaxation, excitement, and pleasure); destination attachment consists of 3 items (destination is part of me, destination is important to me, and strong sense of belonging at the destination); and destination loyalty consists of 4 items (availableness, future orientation, experience, and recommendation). Indonesian-speaking respondents were given a translation of the English questionnaire.

Utilizing partial least squares structural equation modeling (PLS–SEM), we investigated 367 completed surveys with the SmartPLS software. In this work, PLS–SEM was used because it allows for exploratory model estimation and is more causally predictive than SEM. Models may then be tested for their capacity to explain and forecast (Shmueli et al., 2019). For example, PLS–SEM is focused on optimizing endogenous component prediction rather than model fit, unlike covariance-based SEM (CB-SEM) (Hair et al., 2017). A more comprehensive analysis of a hypothesised model may be achieved by using PLS–SEM, which provides a more comprehensive knowledge of the event under research.

RESULTS AND DISCUSSION

Valid surveys were first examined for the demographic profile. 70.2 percent of respondents were male, while 29.8 percent were female. The average age of the participants was 31 years old. About 52.3 percent of those surveyed were graduates, while 21.1 percent were undergraduates. Moreover, majority of responders (67%) had spent three days on Lombok Island, followed by more than three days visit (33%). In the PLS–SEM assessment of the reflective measurement model, convergent validity, internal consistency, and discriminant validity are highlighted. We use composite reliability (CR) as a surrogate for internal consistency in order to achieve these objectives. There are no outside loadings below the 0.7 threshold, as shown in Table 1. According to the AVE data, all are higher than the minimum predicted value of 0.50, showing that the hypothesis is correct (Hair et al., 2017). How different an item is from another is determined by the heterotrait-monotrait ratio of correlations (HTMT). Table 2 shows a range of values from 0.165 to 0.509 for each component. If the HTMT value is less than 0.90, two reflective ideas are deemed to be discriminant valid (Henseler et al., 2015).

Table 1. *Assessment of Reliability and Convergent Validity*

Construct	Item	Loading	VIF	CR	AVE
Destination Image (DI)	DI1	0.737	3.628	0.947	0.643
	DI2	0.801	5.173		
	DI3	0.760	6.349		
	DI4	0.821	4.372		
	DI5	0.809	3.58		
	DI6	0.721	2.747		
	DI7	0.783	4.257		
	DI8	0.889	2.307		
	DI9	0.808	3.192		
	DI10	0.871	2.517		
Destination Attachment (DA)	DA1	0.871	1.733	0.867	0.687
	DA2	0.728	1.456		
	DA3	0.878	1.724		
Destination Loyalty (DL)	DL1	0.879	2.053	0.876	0.639
	DL2	0.832	1.979		
	DL3	0.785	1.756		
	DL4	0.701	1.342		
Event Image (EI)	EI1	0.844	2.531	0.930	0.729
	EI2	0.841	2.746		
	EI3	0.904	4.726		
	EI4	0.894	4.681		
	EI5	0.780	2.039		
Event Attachment (EA)	EA1	0.874	2.209	0.897	0.744
	EA2	0.843	1.692		
	EA3	0.871	1.989		

Table 2. *The Heterotrait-Monotrait ratio of correlations (HTMT) criterion*

	DA	DI	DL	EA	EI
DA					
DI	0.165				
DL	0.466	0.241			
EA	0.495	0.246	0.233		
EI	0.509	0.431	0.409	0.454	

Before assessing the structural model, it is vital that the collinearity issue to be addressed for each set of predictors. According to the variance inflation factor (VIF) ratings, collinearity does not appear to be a concern (see Table 1). A bootstrapping method with 1,000 subsamples is then used to test all of the model's route links (see Figure 1). Table 3 summarizes the findings for hypothesis testing. This study found a positive correlation between destination image and attachment (H1: $\beta = 0.187$, $p < 0.001$), destination attachment and loyalty (H2: $\beta = 0.373$, $p < 0.001$), as well as a positive correlation between event image and attachment (H3: $\beta = 0.401$, $p < 0.001$), but no correlation between event attachment and destination loyalty (H4: $p > 0.05$). Thus, H4 was not supported. This model may also benefit from the R^2 values for destination attachment (3.2%), destination loyalty (15.4%), and event attachment (15.8%) (see Table 4).

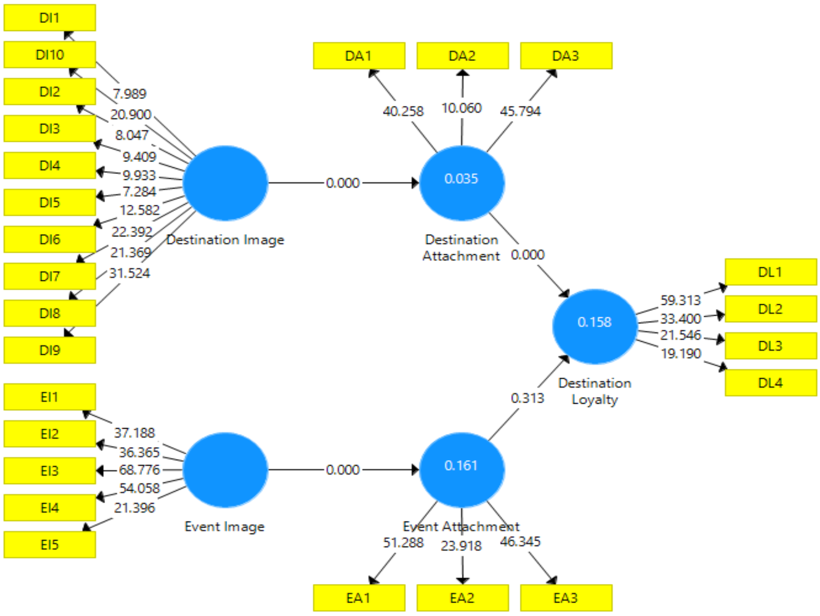

Figure 1. *Bootstrapping Results*

Table 3. *Assessment of Structural Model*

	Standardized Beta (β)	Standard Deviation	T Statistics	P Values
DI → DA	0.187	0.032	5.784	0.000
DA → DL	0.373	0.061	6.112	0.000
EI → EA	0.401	0.040	9.964	0.000
EA → DL	0.054	0.053	1.010	0.313

Table 4. *The R Square Adjusted Results*

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
Destination Attachment	0.032	0.041	0.014	2.314	0.021
Destination Loyalty	0.154	0.162	0.041	3.740	0.000
Event Attachment	0.158	0.164	0.033	4.846	0.000

The PCM is a useful method for gauging the depth and coherence of a person's emotional investment in a team or sport, which is a crucial first step in elucidating the motivations behind fans' devotion to their favorite teams and players (Doyle et al., 2013). The model sheds light on how factors exert different degrees of effect at different points along a vertical continuum (awareness, attraction, attachment, loyalty). It's crucial to remember, though, that progression along the vertical continuum isn't limited to rising steadily, nor does it always occur in a linear way. According to the results of our study, which is grounded in the mutual reliance of events and destinations, PCM has some relevant results to discuss with the sports tourism sector. In this study, we discovered that destination attachment can enhance destination loyalty, and that the PCM framework can assist explain the connection between image, attachment, and loyalty in the event and destination domains. Meanwhile, destination loyalty is unaffected by event attachment. Since sports are so prevalent in modern culture (Wheaton, 2010), it's possible to assume that the vast majority of the population is familiar with at least some of them. Many people will start at the awareness level and go down the continuum, learning about many sports and teams before developing a preference for one over another. However, there are those who may never reach the stage of self-awareness. They may have some knowledge of sports but have no desire to follow them. Some fans of a given team or sport will go on to elevate their level of dedication to that sport or team to the point where it truly matters to them emotionally. Some fans become so invested in their favorite sport or team that it begins to shape how they think and act. A person progressing along the continuum is free to stop at any step if they so desire.

CONCLUSION

Many managements ramifications flow from the research's theoretical conclusions. Event-related variables, rather than destination-related variables, entice travelers since they are more easily influenced by the event. In addition, the image of the event is a significant predictor of event participation. Event attachment is increased by focusing on emotional, social, organizational, physical, and distinctive features of a certain event. Event planners and local government should make advantage of these aspects to set their event apart from others taking place in the same destination, ensuring that attendees will find the event worthwhile. Destination image and attachment are also important indicators of long-term customer retention. Tourists' cognitive and emotional responses to a destination should be prioritized by tourism executives. Providing accurate information about the destination and expressing the destination's enthusiasm and majesty to sport tourists are two possible methods.

Theoretical Implications

There were a number of noteworthy theoretical implications for sport tourism based on the study's interaction between an event, a destination, and the PCM. Using the PCM framework, we were able to find that event image can increase event attachment, but not destination loyalty. The studies reveal hierarchical systems that regulate a sport tourist's progression from destination image to destination attachment, and to destination loyalty. Individuals are more likely to have experiences related to events and destinations when the psychological link between people and those events or destinations grows. Attachment is the next step in this psychological process, which is why sports tourists might get emotionally attached to a certain destination over time. While Lee et al. (2014) discovered a substantial link between events and loyalty to the destination, the current study did not find similar results. In other words, sports fans will flock to the MotoGP no matter where it takes place in the future. Affective components like tourist activities and destination attachments have the potential to tamper with this relationship. This study suggests that MotoGP venues should keep holding the event to further improve destination loyalty. The PCM framework's continuum approach to attachment and loyalty is compatible with the influence of event attachment on allegiance. This is especially true for sports fans and visitors, who tend to have more emotional ties to the action than to the destination (Chen & Funk, 2010). Loyalty is linked to an individual's feelings about an event or a destination, according to these results. Emotional components that impede the transfer of loyalty in a range of recurring settings may be the focus of future research.

Event image had a higher influence on attachment than destination image had on loyalty, suggesting that event image is more important than destination image in the context of a specific event. People who attend sporting events are more likely to remember their experiences if they have a strong psychological attachment to the event. Evidence suggests that sport visitors care more about the event than about the destination generally (Chen & Funk, 2010). Sport visitors may have a more lasting and solid psychological attachment to the event than those who live in the destination. Therefore, we argue that event image is an essential role in the evolution of sport tourism via stages that account for different psychological ties linked to attachment in the hosting destination. The article's emphasis on the shift from event to destination is another key addition. When compared to previous studies, this one focuses on both the destination and the event, rather than focusing only on one or the other (Huang et al., 2015).

Managerial Implications

These findings have substantial managerial implications beyond its theoretical significance. Tourists in the sporting industry who visit an annual event are drawn there because of the event itself, rather than the destination itself. Additionally, event image is a significant precursor to emotional investment in an event. Managers in the tourism industry would do well to put more resources into fostering attendees' feelings of connection to the event by emphasizing its emotional, social, organizational, physical, and distinctive qualities. In addition, the local government should leverage the event's distinctive features to set it apart from similar events in the destination, so boosting the event's value. Similarly, people's impressions and feelings of connection to a destination are seen as major factors in how loyal they are to that destination. Therefore, it is crucial for tourism professionals and local governments to emphasize the significance of the destination's impact on visitors' minds and hearts. Among the potential approaches is conveying the destination's enthusiasm and beauty to sports tourists in a realistic and engaging manner.

Limitations and Future Study

Despite these positive findings, there were several limitations associated with this study. Although this study verified that the PCM is a useful framework that can be used in a sports tourism context, it did not consider investigating whether temporal separation would allow for or prompt the existence of different psychological processes. In the future, researchers could use different time series to collect data at each stage, following the suggested PCM psychological processes. Another limitation related to the use of unidimensional constructs. This study used both event image and destination image as unidimensional constructs based on theoretical rationale for the purpose of the current study. However, the unidimensional constructs served to limit both the theoretical and practical understandings regarding which attribute of the event and destination image was more influential related to attachment or loyalty. In the future, it would be helpful to use a multidimensionality approach to measure event image and destination image constructs. Finally, the correlation between event image and event attachment was high in the current study. Therefore, caution is required when interpreting the findings related to these latent constructs. Since image and attachment are theoretically distinct, this theoretical notion should continue to be tested in future research.

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DRIVERS OF EMPLOYEE DIS/SATISFACTION: A COMPARISON OF TOURISM AND SPORTS INDUSTRIES

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ABSTRACT

This study aims to identify the common and distinct factors affecting the dis/satisfaction of employees in two different industries, namely tourism and sports, and develop a model. The study was carried out using the qualitative method. A total of 118 employees in five-star hotels and sports centers participated in the study. Common factors affecting employee satisfaction were thematized as relationship with co-workers, nature of the job, relationship with superiors, salary, working hours, career opportunities, and job security. The factors affecting the dissatisfaction were thematized as inefficient salary, lack of relationship with superiors, job insecurity, and lack of relationship with co-workers. In the context of satisfaction in tourism, the theme of "Facilities and benefits" differs from sports. In the context of dissatisfaction with sports, the theme of "lack of career opportunities" differs from tourism. Based on the study findings, practical implications are presented for the two industries in an aim to increase the performance and productivity of their businesses. The study conveys its originality by identifying the employee dis/satisfaction factors in the tourism and sports industries.

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INTRODUCTION

The consideration of employee satisfaction is an important subject to be studied further in the business world today (Lam et al., 2001; Matzler & Renzl, 2007) because it leads to significant results such as better customer satisfaction and financial business performance (Chi & Gursoy, 2009; Papadimitriou & Karteroliotis, 2000). The outstanding working factors for employees are likely to lead to satisfied employees loyal to organizations and can present service experiences to customers. When the relevant area is examined, it can be seen that the employees of both tourism and sports industries are featured by many common characteristics (Gozalova et al., 2014). For instance, Nagel et al. (2020) demonstrate that the employees in sports have some difficulties such as longer working hours, working till early hours in the morning and till late hours in the evening, and the obligation to be ready to work on an official day offs and weekends. Similarly, Chalkiti and Sigala (2010) state that the difficulties of tourism employees are frequently changing working hours and a day off, not spending enough time with the family, the requirement of working on even bank holidays and fests and not being able to use annual leave due to heavy workloads.

Moreover, because the main product of hotel and sports businesses is service-dominated (Lee-Ross & Lashley, 2012; MacIntosh & Burton, 2018), employees produce service through direct interaction with customers (Chelladurai & Chang, 2000; González & Garazo, 2006), and employees in sport and tourism industries are a tangible part of the intangible product presented (Chelladurai & Chang, 2000; González & Garazo, 2006). Therefore, there may be common or distinct factors in the dis/satisfaction of employees; this is defined in the framework of a model because employee satisfaction has a generalizable nature, such as mates of employees, salary, job security, and nature of the job. This case is also valid for the tourism and sports industries (Lillo-Bañuls et al., 2018; Nagel et al., 2020).

While the literature accommodates many studies that have great importance for organizations and that affect employee satisfaction (Tutuncu & Kozak, 2007; Wangenheim et al., 2007), they have been more quantitative-driven (Shehawy, 2021) and/or examined in a single industry (Dixon & Warner, 2010). Some of the studies relate to the investigation of the relationship between personal characteristics and satisfaction of employees (Lillo-Bañuls et al., 2018; Stamolampros et al., 2019; Vujičić et al., 2015), whereas some others have focused on employee satisfaction and its behavioral outcomes (Chen & Wang, 2019; Chi & Gursoy, 2009).

The study by Lillo-Bañuls et al. (2018) compared the factors of job satisfaction in tourism and other services and identified that job satisfaction of tourism employees was lower than that in different economic sectors. This result may be attributed to the negative features of the tourism industry, such as their lower earnings, even though the employees have worse working conditions but more working hours (Baum, 2007). The same bad working conditions are valid for the sports industry (Nagel et al., 2020). However, the levels of employee satisfaction in tourism and other fields are compared from a quantitative point of view. The literature has limited empirical evidence for any comparative study in the context of these two industries with identical service features.

Departing from this point, in these two service industries, the standard and distinct factors affect dis/satisfaction in terms of employees' views. Identifying the common factors leading to the dis/satisfaction of employees in both industries may contribute to our understanding of the behavior of employees and defining job dis/satisfaction. This study was carried out by following the procedures of a qualitative paradigm, and it responded to the question of whether or not an employee dis/satisfaction has a generalizable common nature: What are the generalizable common factors making employees of both industries satisfied? What are the generalizable common factors that make employees of both industries dissatisfied? In the context of the satisfaction and dissatisfaction of the employees, what are ungeneralizable and distinctive factors? By answering these questions, this study aimed to define the common and different factors affecting the dissatisfaction/satisfaction of the employees in two other industries within the framework of a model.

LITERATURE REVIEW

Employee satisfaction, or a positive or negative attitude employees have toward their jobs, expresses employees' happiness in the workplace and environment (Khan et al., 2021; Sageer et al., 2012). According to Moyes et al. (2008), employee satisfaction denotes that an individual is satisfied with the position in their job. Brief (1998) defined an inner condition in which employee satisfaction is expressed emotionally or cognitively by evaluating the degree of dis/satisfaction obtained from the job experience.

Theories of employee dis/satisfaction

The Hierarchy of Needs is a theory of human psychology developed by Abraham Maslow in 1943. Meeting these needs leads to career, development and employment satisfaction, while the lack of ability to meet them may cause dissatisfaction (Ahad et al., 2021). Furthermore, Herzberg's Double Factor Theory has been accepted as the seminal work on the motivation theory following Maslow's theory (Herzberg et al., 1959). Herzberg defines the factors related to the job itself and satisfying the employees as "motivating factors" (e.g. development, recognition, success etc.), and the factors related to the working conditions of the job as "hygiene factors" (e.g., wages, working conditions, job security etc.).

According to the theory of equality developed by Adams (2010), on the other hand, the performance of the person and the satisfaction obtained from work are shaped depending on the level of equality or inequality perceived in the work environment. Alderfer (1972) explained the requirements at three levels. An employee's dis/satisfaction is related to whether their need for existence, relations and development is met. Alderfer's Existence Need corresponds to Maslow's physiological and safety needs. The former’s need for relatedness also responds to the latter's social needs, called love and belonging. Again, Alderfer's growth needs may be considered as Maslow's value and self-update needs.

The common point of theoretical studies about employee satisfaction relates to meeting their desires and needs. Here, both tourism and sports industries characteristically exhibiting the same features at many points may have a common generalizable point; this standard generalizable structure can be presented within the framework of a model and the model can further explain the common dissatisfaction/dissatisfaction factors of employees of the two sectors.

Employee dis/satisfaction in tourism

As a result of good services provided, generally in all industries but specifically in tourism, customers are expected to be satisfied. The ability to offer a good service depends on the satisfaction and productivity of employees (Cheng & Yi, 2018; Chi & Gursoy, 2009; Yao et al., 2019). There is empirical evidence of a positive relationship between employee satisfaction and customer satisfaction (Alagarsamy et al., 2020; Wangenheim et al., 2007). Indeed, in the service industry, employees have great importance in delivering what has been promised (Lam et al., 2001; Takeuchi et al., 2021). Therefore, meeting the needs of employees and providing a good working environment may help employees to offer a good service (Sasser et al., 1997). The satisfied employees are expected to create happy and loyal customers, which would provide high financial returns via high sale rates (Chi & Gursoy, 2009; Laškarin Ažić, 2017). The point the employees in the tourism industry emphasized is that it cannot be afloat without creating satisfied customers; therefore, tourism businesses must provide satisfying factors for their employees (Gursoy & Swanger, 2007; Park et al., 2020).

In the tourism literature, it is evident that the studies generally focus on behavioural results. In this context, the studies dealt with relationships between employee satisfaction and financial performance (Chi & Gursoy, 2009), employee satisfaction and hospitality performance (Laškarin Ažić, 2017), and organizational social activity and satisfaction (Israeli & Barkan, 2004).

The researchers developed models including employee satisfaction and numerous variables and tested them. They tried to evaluate the behavioural results of satisfied employees. The high turnover of human resources in tourism also brings about fundamental problems (Yang, 2008). Leaving employment can be attributed to factors like inconsistent recruitment (Lo & Lam, 2002). What is essential is the factors related to employee dissatisfaction. Some of these are salary dissatisfaction (Cho et al., 2006), lack of managerial support for employees, ineffective management (Kim & Jogaratman, 2010), and inadequate job benefits (Lo & Lam, 2002). Therefore, managers should comprehensively understand employee satisfaction factors, such as a suitable working environment, fair working hours, and effective/accommodating management.

While the levels of employee satisfaction are evaluated in the context of tourism and other industries (Díaz-Carrión et al., 2020; Lillo-Bañuls et al., 2018), from a qualitative point of view, employee dis/satisfaction factors for these two industries have yet to be identified. This study identifies the common and distinct aspects of "employee satisfaction and dissatisfaction" of two industries which experience difficulties keeping their employees because of the same characteristics. In doing so, the study aims to contribute to the understanding of “job satisfaction,” which has an important effect on employee loyalty, performance, productivity, and profitability (Park et al., 2020; Purwanto et al., 2022).

Employee dis/satisfaction in sports

Employee satisfaction is generally defined as the degree of satisfaction or liking employees feel for their workplaces (Son et al., 2021). Employees develop positive or negative attitudes regarding their job or environment

(Ellickson & Logsdon, 2002). The more a working climate meets a person's needs, values or personal characteristics, the higher the job satisfaction to be expected (Li et al., 2022). For example, in a study on football and basketball trainers, Dixon and Warner (2010) identified salary as a dissatisfaction factor. Similarly, Parveen et al. (2020) identified a positive relationship between salary and job satisfaction in the tourism sector. In other words, salary and dis/satisfaction are common factors for both industries.

Although both industries have distinct characteristics, their common issues are that they are service-oriented and effectively use resources in the middle of global economic conditions (Lee et al., 2018). Therefore, improving competitive power is related to employee satisfaction. In this context, job satisfaction is directly related to the productivity of an organization, and increasing job satisfaction is accepted as an important element (Trivellas et al., 2021). Therefore, it is necessary to research the factors that can affect employee satisfaction to improve organizational performance (Lee et al., 2018). When the relevant literature is examined, it can be seen that the sports literature has mainly focused on the behavioral results of job satisfaction (Khan et al., 2021). For example, Lee et al. (2018) studied the relationship between servant leadership, organizational culture and employee satisfaction among fitness employees. Li (1993) investigated the relationship between the job satisfaction of coaches in Chinese sports schools and their job performance. Richards et al. (2019) identified a negative relationship between emotional exhaustion, role ambiguity, and job satisfaction. Various studies in the sports literature studied elements of job dis/satisfaction according to certain variables such as age, marital status, length of service, and education (Bernabe et al., 2016). In the studies of theory development carried out by Dixon and Warner (2010), dis/satisfaction factors of basketball and football trainers have been examined. The most frequently used element in satisfaction factors was related to the themes of player-coach relationship and recognition and social status and in dissatisfaction factors, with the pieces of sport policy, salary, recruiting, and personal life balance.

METHODOLOGY

In tourism and sports, in-depth interviews were conducted to identify the factors related to employee dis/satisfaction. The interview is one of the most commonly used data collecting methods in qualitative studies (Bradford & Cullen, 2013). According to Patton (2014), phenomenology studies focus on how people make sense of experience. With comprehensive interviews made, job dis/satisfaction consists of generalizable and distinctive factors. We conducted individual interviews both face to face and via Zoom to enrich the capacity of data through voluntary participation. The first two questions were about semi-structured, and the last four questions specified the participants' demographics. Interviews were done between 1 and 30 August 2021. The participants in tourism consist of employees affiliated with ten five-star hotels representing four geographical regions, namely the Mediterranean, Marmara, Aegean, and the Black Sea. Those in sports comprised employees with 15 sports centres representing seven geographical regions, namely the Mediterranean, Marmara, Aegean, Black Sea, East Anatolia, Southeast Anatolia, and Central Anatolia. In line with Dixon and Warner (2010), the questions were formed by obtaining the opinions of the two academics. The themes of the study were created by reviewing the relevant literature (Table 2). Table 1 provides the profile of participants in both groups.

Table 1. *The profile of participants*

Variables	**Participants**	**Sports**	**Tourism**	
Gender	Male	49	41	90
	Female	35	13	48
Age	18-25	12	7	19
	26-33	11	20	31
	34-41	22	13	35
	Age 42 and over	39	14	53
Length of Experience	Inexperienced (1-10 years)	28	26	54
	Experienced (11 years and over)	56	28	84
	Total	**84**	**54**	**138**

Compatible with the aim of the study, the interviews made with the employees of tourism and sports. 65.2% of the participants (90 people) are male, and 34.4% of them (48 people) are female. It was identified that 13.8% (19 people) of participants were between the ages of 18-25; 22.5% (31 people), age 26-33; 25.4% (35 people), age 34-41; and 38.4%, age 42 and over. When examined by the length of service, 39.1% (54 people) of the employees in both industries were inexperienced, and 60.9% (84 people) were experienced. Approximately two-thirds of the participants were from sports (60.8%), and almost one-third were from tourism (39.2%).

Credibility

In qualitative studies, many perspectives associated with the importance and definition of validity, terms defining validity, and validity forming processes have emerged (Creswell & Poth, 2016). The concepts typically related to quantitative studies, such as reliability and validity, are differently conceptualized in qualitative studies (Sevilmis & Yıldız, 2021). One of these different views is to use credibility instead of validity (Glaser & Strauss, 1966). Providing credibility is associated with studiously applying all study processes and presenting accurate results to the readers, practitioners, and other researchers (Noble & Smith, 2015). To increase credibility, some suggestions were introduced in the literature. To provide credibility to this study, the following processes were applied.

First, the theoretical and conceptual frameworks were utilized in determining the study method. Depending on the theoretical and conceptual framework, it was shaped like the theory of the double factors developed by Herzberg et al. (1959). Second, in the stage of coding, mainly sticking to the theory, expert opinions and broader literature were also considered (Dixon & Warner, 2010). Third, the first author conducted interviews with the participants and data source diversification was ensured as we collected the data from the two parts (Lincoln & Guba, 1985; Miles & Huberman, 1994). Finally, the study findings were associated and discussed with the results of the previous studies.

Reliability

Codes are the connections between the data's positions, concepts and opinion sets. In this sense, they are intuitional instruments enabling researchers to uncover the latent data (Coffey & Atkinson, 1996). In a qualitative study, coding allows researchers to define, set, and build the theory. Also, coding introduces persuasive evidence providing reliability for qualitative studies (Nili et al., 2020). One of the most important subjects discussed in coding is the inter-coder agreement, which is to check the common opinion in coding, whether it is on code names, coded passages, or coding the same selection in the same way.

This study realized inter-coder agreement calculations through the document's code occurrence (existence). If both coders assign the same code to the document, it is considered that there is a match. In this case, it is not vital that the code is set two times to one person and one time to the other. However, the existence of a code is important (Sevilmis & Yıldız, 2021). The inter-coder agreement was calculated with the formula "Matches / (Matches+Non-Matches) * 100" MAXQDA software carries out an inter-coder deal through the equation as Miles and Huberman (1994) suggested. According to this formula, 14/(14+3).100=82% was identified as a consistency percentage (Kuckartz & Rädiker, 2019). This calculated inter-encoder agreement rate is a sufficient level of agreement (Sevilmis & Yıldız, 2021).

Coding

For analyzing the data, a software program was used. The reason for selecting this software program is that it has a user-friendly interface for analyzing various data such as interviews, reports, tables, online surveys, focus groups, videos, sound files, literature, visuals, tweets, PDFs and visualizing the data (Kuckartz & Rädiker, 2019). Also, MAXQDA is software used in sports management studies (e.g. Borges et al., 2015) and tourism (e.g. Blayney et al., 2020). In this study, while forming code names, Herzberg et al.'s (1959) "Double Factor Theory" and satisfaction studies, carried out in sports and tourism areas, were guided (Chelladurai & Ogasawara, 2003; Dixon & Warner, 2010; Laškarin Ažić, 2017; MacIntosh & Walker, 2012; Nagel et al., 2020; Vujičić et al., 2015).

Table 2. *Summary of the Employee Satisfaction Factors*

Factors	Definition	Literature
Relationship with co-workers	It refers to the bonds between employees	Israeli and Barkan, (2004)
Nature of work	Employees take pride in their work; they think their job is pleasurable and makes them feel prestigious in society.	Xu et al. (2018)
Relationships with superiors	The relationship of top-level personnel with employees in a lower stage	Laškarin Ažić (2017)
Salary	Wage received in exchange for the work done	Dixon and Warner (2010)
Working hours	The time workers spend on the job and its suitability	McNamara et al., (2011)
Career opportunities	Employees have opportunities to develop themselves.	Kong et al., (2018)
Job Security	It eliminates the factors that threaten job continuity and create worry about losing it.	Vujičić et al, (2015)
Facilities and Benefits	It is the presence of opportunities, meals in the workplace, accommodation specific to employees, or a room for them to rest.	Davras and Gülmez, (2013)

RESULTS

The findings obtained from the study were presented by considering the respondents in the direction of the general aim of the study. Tables 3 and 4 illustrate the factors associated with employee satisfaction in both industries. The percentage of "satisfaction" subtheme and frequency percentages for the employees in both fields are given in Table 3. The most uttered satisfaction factors in tourism were collected under eight subthemes “relationship with co-workers”, “relationship with superiors", "nature of the job", "salary", “facilities and benefits”, “working hours”, “career opportunities”, and “job security”. The most uttered satisfaction factors in sports are collected in seven subthemes “relationship with co-workers”, “nature of job”, relationships with superiors”, “salary”, “working hours”, “career opportunities”, and “job security”. The literature warns not to include the views of all participants (Creswell et al., 2007; Miles & Huberman, 1994) and recommends ensuring consistency between data and research findings. Therefore, Table 4 presents the representative excerpts of the codes of the sub-themes.

Table 3. *Satisfaction factors of employees in sports and tourism*

	Sports			Tourism		
Themes	**Sub-themes**	**f**	**%**	**Sub-themes**	**f**	**%**
Employee Satisfaction	Relationship with co-workers	25	31,64	Relationship co-workers	15	25,00
	Nature of Job	23	29,11	Relationship with superiors	13	21,70
	Relationship with superiors	16	20,25	Nature of Job	12	20,00
	Salary	6	7,60	Salary	6	10,00
	Working Hours	4	5,10	Facilities and Benefits	5	8,30
	Career Opportunities	3	3,80	Career Opportunities	4	6,70
	Job Security	2	2,50	Working Hours	3	5,00
				Job Security	2	3,30

Table 4. *Coding frequencies and quotations associated with satisfaction*

Sports		Tourism	
Subthemes (frequency)	**Codes**	**Subthemes**	**Codes**
Relationships with co-workers (25)	I have a good synergy with my co. I am satisfied with working here. (P3)	Relationships with co-workers (15)	I am satisfied with the work I do. We have good communication with my co-workers. They are always considerate. (P4)
Nature of Job (23)	I like sports. It is my lifestyle. Doing it as a profession makes me additionally happy. (P50)	Management (13)	We have considerate management who can readily solve problems related to work. I can say that this also adds to my job satisfaction. (P51)
Relationship with Superiors (16)	I am satisfied with my job because management communicates well with all employees and appreciates me. P73)	Nature of Job (12)	I find my profession enjoyable, my relationship with my superiors is good, and I have many reasons for my satisfaction. (P54)

Salary (6)	My salary makes me the most satisfied. (P77)	Salary (6)	I find the wage I receive sufficient. When compared to the other hotels, it makes me satisfied. (P6)
Working hours (4)	I am satisfied with the work hours. I can sustain my social life and work life together. (P11)	Facilities and Benefits (5)	Food, accommodation and opportunities the hotel provides for employees are in quality, which cannot be underestimated. (P7)
Career Opportunities (3)	The institute I work in supports me in developing myself. This also makes me satisfied. (P59)	Career Opportunities (4)	I believe this hotel presents all opportunities to me in terms of my career, and I think Y has a fair right to upgrade. This also makes me satisfied with my work. (P29)
Job Security (2)	I think the job security of employees is adequate. Therefore, I am satisfied with working here. (P5)	Working hours (3)	My partner is also working, and since my working hours are at the level I want, I am satisfied with it. (P10)
		Job security (2)	It is a guaranteed job because managers show this with the appreciation they deliver to the employees. (P9)

As seen in Table 5, the dissatisfaction factors of both industries were collected under specific themes. The most uttered dissatisfaction factors in tourism were collected under six subthemes such as "inconvenient working hours", "insufficient salary", "lack of relationship with superiors", "job insecurity", "lack of appreciation", and "lack of relationship with co-workers". The most uttered dissatisfaction factors in sports are collected in seven subthemes like “insufficient salary”, “lack of relationship with superiors”, “inconvenient working hours", "lack of appreciation", "inadequate career opportunity", “job insecurity”, and "lack of relationship with co-workers". Table 6 indicates the representative quotations with their descriptions.

Table 5. *Factors influencing the dissatisfaction of employees*

	Sports			Tourism		
Themes	**Subthemes**	**f**	**%**	**Subthemes**	**f**	**%**
Employee Dissatisfaction	Inefficient salary	36	44,44	Inconvenient working hours	19	39,58
	Lack of relationship with superiors	16	19,75	Insufficient salary	17	35,42
	Inconvenient working hours	11	13,59	Lack of relationship with superiors	5	10,42
	Lack of appreciation	7	8,64	Lack of job security	3	6,26
	Inadequate career opportunity	5	6,17	Lack of appreciation	2	4,16
	Job insecurity	4	4,94	Lack of relationship with co-workers	2	4,16
	Lack of relationship with co-workers	2	2,47			

Table 6. *Coding frequencies and examples associated with the dissatisfaction of employees*

Sports		Tourism	
Subthemes (frequency)	**Codes**	**Subthemes (frequency)**	**Codes**
Insufficient salary (36)	In the sports center I work in, not being able to see the return of the work I do, especially in terms of salary, makes me dissatisfied. (P28)	Inconvenient working hours (19)	Due to long working hours, we do not have enough time to rest. (P17)
Lack of relationship with superiors (16)	I am not satisfied with it because management is incapable of understanding the work we do. (P59)	Insufficient salary (17)	Especially in proportion to the working hours, we receive a relatively low salary. This is a big problem for our workplace, and especially for employee satisfaction in the tourism industry. (P1)
Inconvenient working hours (11)	Working until midnight by starting to work in the early hours of the morning is a characteristic feature of the sports center, and I am not happy with it. (P40)	Lack of relationship with superiors (5)	Management is rather inconsiderate of the employees. (P16)
Lack of appreciation (7)	Lack of adequate appreciation and indifference to employees are the most important causes of my dissatisfaction. (P41)	Job insecurity (3)	We do not have any job security for the future in the hotel we work at. Since it is a seasonal job, everyone considers themselves temporary. Therefore, I am not satisfied with it. (P2)
Job insecurity (4)	Lack of job security and feeling it every day are the most crucial dissatisfaction factors of mine. (P17)	Lack of appreciation (2)	The positive work I do in the organization is not appreciated. Therefore, I am not satisfied with my workplace. (P11)
Inadequate career opportunity (5)	That it does not support development is an element I am not satisfied with. Sports is a continuously progressing phenomenon. In my opinion, each trainer here must have an educational background. The lack of this is appalling and sad for us. (P22)	Lack of relationship with co-workers (2)	Becoming a workmate in tourism is difficult. The distinct features, such as crowded teams, people from different cultures, and various working areas according to the department, negatively affect teamwork.
Lack of relationship with co-workers (2)	We sometimes have troubles in our work with management or co-workers. For example, inconsiderate management and colleagues, lack of corporate social responsibility understanding can be counted among our dissatisfaction factors. (P23)		

Model of dis/satisfaction

The results from both fields reveal that the employees have various common factors regarding dis/satisfaction. Findings of the present study are similar to the previous studies focusing on job satisfaction (Aksu &

Aktaş, 2005; Belias et al.,2022; Bernabe et al., 2016; Chelladurai & Ogasawara, 2003; Díaz-Carrión et al., 2020; Dickson & Huyton, 2008; Dixon & Warner, 2010; Heimerl et al., 2020c; Jiang & Lok, 2021; Karatepe et al., 2006; Lamberti et al., 2022; Lillo-Bañuls et al., 2018; Raedeke et al., 2002; Ruiz-Palomo et al., 2020; Weiss & Stevens, 1993). Figure 1 presents the satisfaction model developed for both industries. It shows that "relationship with co-workers", "nature of the job", “relationship with superiors”, "salary", "working hours", "career opportunities", and "job security" are influential on the job satisfaction of employees in both industries. When these factors are optimal, job satisfaction may increase. In addition, "Facilities and benefits " also affect employees' satisfaction in sports. This factor is a distinctive element of satisfaction for tourism and sports.

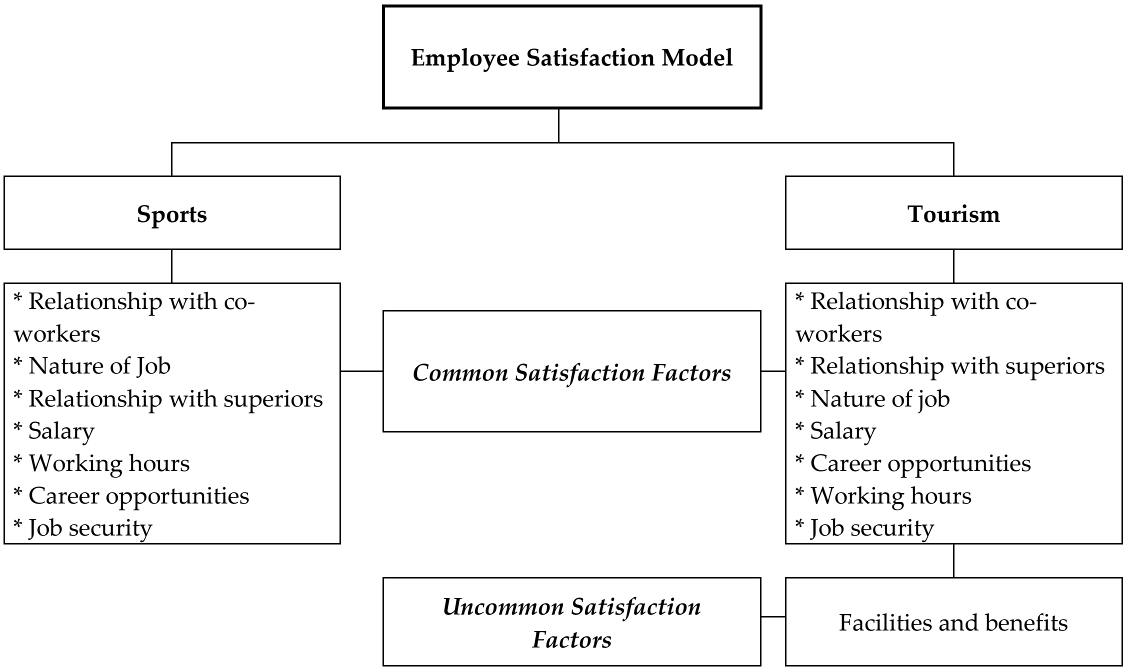

Figure 1. *The employee satisfaction model for sports and tourism*

The dissatisfaction model is defined by six factors: “insufficient salary", “lack of relationship with superiors”, “inconvenient working hours”, “lack of appreciation”, “job insecurity”, and “lack of relationship with co-workers”. When these factors are present, job satisfaction may tend to decrease. In addition, the employees of the sports industry note that inadequate career opportunities are an influential factor in their dissatisfaction with their jobs. This is also a distinctive element of dissatisfaction in tourism and sports.

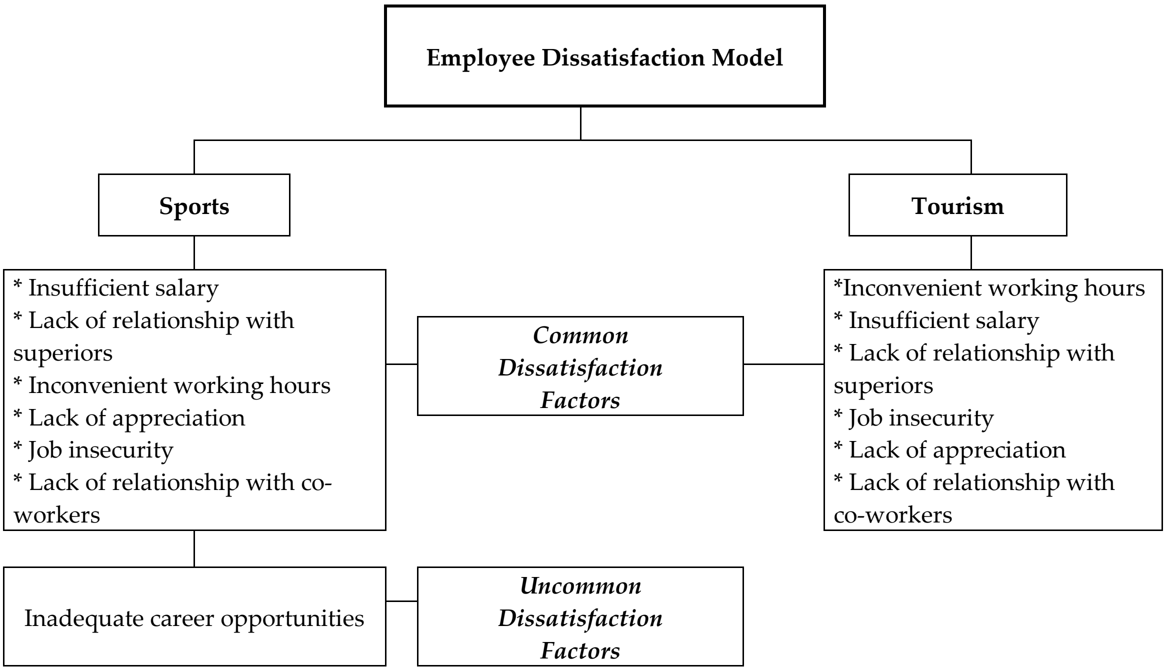

Figure 2. *The employee dissatisfaction model for sports and tourism*

DISCUSSION

Although many studies are carried out individually on employee satisfaction in the field of tourism and sports, there have been limited empirical investigations regarding the factors causing the dis/satisfaction in tourism and sports and how they are dis/similar to each other. Therefore, in the current study, the researchers have examined the common and distinctive factors affecting dis/satisfaction from the viewpoint of employees on both sides, and developed a model. According to the study findings, the common factors affecting employee satisfaction in both fields were determined as "relationships with co-workers", "nature of the job", "relationships with superiors", "salary", "working hours", and "career opportunities”, and “job security”. On the other hand, findings demonstrate that the common factors affecting employee dissatisfaction consist of “insufficient salary”, “lack of relationship with superiors, “inconvenient working hours”, “lack of appreciation”, “job insecurity”, and “lack of relationship with co-workers”. All of these findings show that the employees of both fields predominantly mention common themes about dis/satisfaction. “Facilities and benefits” were identified as satisfaction factors distinguishing tourism from sports, while “insufficient career opportunities” are identified as the dissatisfaction factor distinguishing sports from tourism. Co-workers have been revealed as a factor in both industries' employee dis/satisfaction. The frequency of mentions of each theme is examined. The most frequent coding is that employees are happy to have relationships with their co-workers. While most employees in both industries utter that co-workers constitute an essential factor in job satisfaction, some employees are dissatisfied with their jobs due to a lack of relationship with the co-workers. Thus, we could assume that the stronger the tie and communication between employees, the higher their satisfaction. Also, the weaker this relationship and the worse communication may result in dissatisfaction of employees. Having harmonious and reliable individuals who can motivate their colleagues, communicate effectively, have a sensitive, responsible, sharing personality in the workplace can affect employee satisfaction.

On the contrary, inconsiderate co-workers may lead to negative consequences such as a disconnection in communication, a decrease in the importance of loyalty and decency of goals among employees, a decrease in the cooperation, hostile behaviors between employees, and a decline in job satisfaction. The studies carried out in two industries show that poor communication with work co-corkers may increase employee turnover (Bonn & Forbringer, 1992; Nhema & Mutenheri, 2016) while good communication causes them to enjoy their jobs. Thus, communication among employees helps their satisfaction levels increase (Bednarska, 2013; Dixon & Warner, 2010; Gallardo et al., 2010; Parveen et al., 2020).

Superiors, in other words, management, turned out to be two factors that employees in both industries were both satisfied and dissatisfied with. While a particular part of employees in tourism and sports state that superiors constitute an essential factor in their satisfaction, some are also dissatisfied due to a lack of relationship with supervisors.

Employees expressed their satisfaction with their managers, whom they think they understand and value. The employees expressed their dissatisfaction against their directors with the following characteristics: Managers who do not form a democratic environment in their business, do not respect the personality of their employees or the work they do, and do not ask for employees' views about issues related to their work, and do not have an open door policy and a free information flow system.

As such, superiors who have empathy and good management skills may be a reason for maintaining employee satisfaction. Lack of empathy with directors and lack of management skills may be a reason for employee dissatisfaction. Some studies carried out in sports also have the same evidence that supports this study's findings. While some studies identify the effect of managers on employee satisfaction (Choi & Dickson, 2009; Gallardo et al., 2010; Goldman, 2006; Laškarin Ažić, 2017), some studies reported that managers could create a negative effect on the organization or may harm, or negatively affect others' behaviors in the business (Khan et al., 2021).

The nature of the job was revealed as a satisfaction factor in two industries. Considering the factor "nature of the job" under the theme of "satisfaction" means that the employees in either tourism or sports do their work by taking pride; that they consider their industry as a satisfaction factor; and that the industry make them feel prestigious. This case enabled us to view that the employees of both industries also did the job they liked and took pride in. The managers of both industries can ensure higher employee satisfaction, which depends on improving the "nature of the job". Some studies in tourism also have evidence to support the study findings. The literature suggests a positive relationship between the nature of the job and job satisfaction (Parveen et al., 2020; Ramman, 2011). Also, in the Karatepe et al. (2006) study, the nature of the job is the most influential factor.

The salary was revealed as a factor that the employees of the two industries were both satisfied and dissatisfied with. The frequency of dis/satisfaction coding showed that most coding is related to employee dissatisfaction. In other words, most of the tourism and sports employees expressed dissatisfaction more intensely due to insufficient salary. Our findings show that if businesses in both industries fail to provide a proper salary system, their staff may be dissatisfied. Some earlier studies in tourism and sports also have empirical evidence supporting our findings. Salary has a positive effect on job satisfaction (Lam et al., 2001; Parveen et al., 2020; Rayton, 2006; Sinha, 2013; Ying-Feng & Ling-Show, 2004) and also benefits and resources provided for employees are essential predictors (Ross et al., 2014). The fact that employees receive little salary greatly increases their intention to leave work (Nhema & Mutenheri, 2016). As in sports (Dixon & Warner, 2010; Sánchez et al., 2018), Zopiatis et al. (2014) referred lower salaries, longer working hours, inadequate job security, and fewer upgrade opportunities for low-level job satisfaction in tourism.

Working hours appear to be an important factor. The most coding frequency is related to employee dissatisfaction. When the coding frequencies are considered, we can say that if businesses in both industries fail to provide reasonable working hours, that can make their staff dissatisfied. Inconvenient working hours can affect employees' spare time, and an imbalance can occur in business life. Inconvenient working hours may have led employees to express their job dissatisfaction. In eliminating dissatisfaction, planning the working hours by receiving the employees' opinions and showing flexibility in arranging the spare time for employees will be effective. On the other hand, if the worker is obliged to work harder, the elements such as over-time should not be ignored (Nagel et al., 2020; Zopiatis et al., 2014). Studies also emphasize that convenient working hours lead to satisfaction, while long working hours result in dissatisfaction (Raziq & Maulabakhsh, 2015).

Job in/security seems to be one of the dis/satisfaction factors of the employee of two industries. The most coding frequency is related to employee dissatisfaction. The increasing feelings of insecurity about their jobs are identified in both industries, which indicates that businesses offer no job security, and employees experience concerns and anxiety. There are also some participants expressing job security as a satisfaction factor. The literature also introduces that job security is a satisfaction element enabling us to think that various groups of employees experience no anxiety (Vujičić et al., 2015). There is a significant relationship between job security and satisfaction. Those with ample working experience in the same business appear more satisfied. The inadequate level of job security has been shown as an element of dissatisfaction (Bon & Forbringer, 1992; Vujičić et al., 2015).

While career opportunities were identified as a common satisfaction factor in both industries, it also distinguishes sports and tourism. Comparing sports with five-star hotels, we can articulate that the management organization is limited in the former, even if the business sizes are the same. Therefore, employees can express inadequate career opportunities as a dissatisfaction factor. Some literature suggests that career opportunities affect employee satisfaction (Chuang et al., 2009).

Employees of both industries think they are hardly appreciated at the end of their work, leading to dissatisfaction. This may articulate that both tourism and sports managers are inadequate in appreciating their employees even though the literature suggests its importance in yielding outcomes leading to dis/satisfaction in a working environment (Heimerl et al., 2020a, 2020b). Facilities and benefits have emerged as a satisfactory factor distinguishing tourism from sports. The reason for such a difference can be attributed to the distinctive features of the two industries. Due to the restricted facilities, the employees of the sports industry generally have no extra benefits such as accommodation, food, etc. Tourism employees may have expressed their satisfaction because of facilities available such as accommodation or break rooms.

CONCLUSION

This study has aimed to define common and different factors affecting the dis/satisfaction of employees in two industries, namely tourism and sports, and to visualize them on a model. The model confirms that many factors that cause dis/satisfaction for employees in these two industries are common.

The common factors of satisfaction in two industries are relationship with co-workers, nature of the job, relationship with superiors, salary, working hours, career opportunities, and job security. On the other hand, the generalizable common factors leading to dissatisfaction among employees are insufficient salary, lack of communication with superiors, inconvenient working hours, lack of appreciation, job insecurity, and lack of relationship with co-workers. Finally, tourism is distinguished from sports, with facilities and benefits in the context of satisfaction factors. The latter is distinctive from the former, with inadequate career opportunities in the context of dissatisfaction factors. Despite several distinct features between the two industries, as illustrated above, this situation reveals that the characteristics of dis/satisfaction may hardly change in different fields and are related to the material and non-material benefits and opportunities provided to the employees in both industries.

The previous research has focused on behavioral outcomes (Chi & Gursoy, 2009; Israeli & Barkan, 2004; Laškarin Ažić, 2017) and tried to evaluate the behavioral results of satisfied employees by developing and testing models that include several variables. In an aim of contributing to the existing literature, this study provides an integrative model of factors that affect employee dis/satisfaction in the two fields and provide insights how these can lead to better employee satisfaction. The structure of this model corresponds to the findings of similar empirical studies investigating the dis/satisfaction of employees (Aksu & Aktaş, 2005; Belias et al., 2022; Bernabe et al., 2016; Cho et al., 2006; Díaz-Carrión et al., 2020; Dickson & Huyton, 2008; Dixon & Warner, 2010; Heimerl et al., 2020c; Jiang & Lok, 2021; Kim & Jogaratnam, 2010; Lamberti et al., 2022; Lillo-Bañuls et al., 2018; Nagel et al., 2020; Ruiz-Palomo et al., 2020). The present study further advances the literature by developing a model that has conceptualized and categorized the employee dis/satisfaction under a standard classification in the context of two fields.

Practical Implications

This study provides the managers of both industries with practical information that can increase the level of their employees' satisfaction by taking into account the factors in the model. When a series of improvements and measures are taken in the specified issues, it would ensure a higher level of employee satisfaction. First of all, the managers should improve the relations of their employees with each other. In both industries, the relationship with co-workers is an important factor in employee satisfaction (Heimerl et al., 2020c). The industry managers may take measures to improve the relations of their employees with each other. For example, managers may create a positive work atmosphere. A positive work atmosphere creates an effective and safe communication environment that supports creative and productive work, is dominated by cooperation, and does not have offensive speech and gossip among employees. This situation may strengthen the relations with each other, leading to the satisfaction of employees.

In both industries, communication with superiors is an important common factor of employee satisfaction. Managers should also focus on improving the relationship with their employees. In particular, organizations can focus on factors such as the ability of managers to communicate goals and decisions, and their openness to others, self-confidence, commitment to personal principles, and communication in improving the employee-employee relationship (Baquero et al., 2019). They may value, care about and reward their employees so that the employee-manager relationship would develop, and may eventually contribute to the satisfaction of employees.

Next, hospitality industry is characterized by long working hours (Ariza-Montes et al., 2019) that may lead to work-family conflicts, time pressure, emotional exhaustion, and stress (Deery & Jago, 2015; Lam et al., 2001; Sinha, 2013). Therefore, managers may plan their employees' working hours to balance their social and work life. Also, managers can regulate working hours that may create irregularity, including shifts and working nights and weekends, in a way that is fair to employees.

Furthermore, the insufficient salary forces employees to work in a second job (Ariza-Montes et al., 2019) so that managers may take measures to improve their employees' wages while they can pay attention to other rights of employees, such as overtime. In both industries, the opportunity to rise and develop at work affects job satisfaction (Dickson & Huyton, 2008). Managers can promote their deserving employees and provide them with the responsibilities of higher-level employees. Finally, job security affects employee satisfaction (Sarwar & Muhammad, 2020) so that they may be given a higher degree of job security as long as there is no extraordinary situation.

When this study carried out in tourism and sports is evaluated in general terms, one may argue that the dis/satisfaction of employees is related to the expectations that are met or not. As a result, we may suggest that the common elements in ensuring satisfaction or reducing dissatisfaction be guided by managers.

Last, this study has certain limitations. The study is based on the principle of undertaking interpretive research, which is dominated by a qualitative context and may contain subjective views of the researchers. Therefore, there are concerns about its generalizability. As to future studies, researchers can be recommended to conduct investigations in a more significant number of industries with broader participation and representation by using such methods with high generalizability.

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SELF-ENHANCEMENT AND NEGATIVE WORD-OF-MOUTH INTENTION: MEDIATING ROLE OF VENGEANCE AND MODERATED MEDIATION MODEL OF HELPING OTHER CONSUMERS AND GENDER

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ABSTRACT

The aims of this study were (a) to investigate the mediating role of vengeance in the relationship between self-enhancement and negative word-of-mouth (NWOM) intention, (b) to examine the moderated mediation role of helping other consumers, and (c) to test moderated moderation role of gender. The study employs Process Macro software to achieve research aims with the sample of 767 consumers. The results show that (a) vengeance has a partial mediating role in the relationship between self-enhancement and NWOM intention, (b) helping other consumers has a moderated mediation role in this indirect relationship, and (c) the moderated mediation role of helping other consumers is moderated by gender (difference for females) only in the effect of self-enhancement on vengeance. Research is important to understand the antecedents of NWOM.

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INTRODUCTION

Word-of-mouth (WOM), whether positive or negative, has a strong influence on consumer behavior. In comparison, consumers are twice as likely to spread negative word-of-mouth (NWOM) than positive word-of-mouth (PWOM) (East et al., 2007), and people are more likely to show interest in NWOM than PWOM (Martin, 2017). According to Jeon et al. (2020), satisfied customers share their experiences with eight people via PWOM and dissatisfied customers share their experiences with twenty-five people via NWOM. NWOM can harm the company's reputation and

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financial position because it can discourage consumers from buying a particular product or brand (Williams & Buttle, 2014). Although NWOM is a major threat to the success of firms, what causes consumers to spread it has rarely been studied (Fu et al., 2015; Seo & Jang, 2021).

If NWOM is so important, the most important question at this point is: Why do consumers spread NWOM? According to one viewpoint, consumers spread NWOM simply to talk about the negative consumption experiences of others (Richins, 1984). The literature discusses that this logic is problematic and that individual antecedents should be further explored (Richins, 1984; Sundaram et al., 1998; Berger & Milkman, 2012; De Angelis et al., 2012). Recent research on this topic suggests that there may be an individual antecedent, such as self-enhancement (Wien & Olsen, 2014; Berger, 2014; Philp et al., 2018; Krishna & Kim, 2020). For individuals, self-enhancement leads as the basic human motivation to have a positive self-concept (Valenzuela et al., 2018). People who want to enhance themselves may experience more emotional fluctuation when faced with negative events (Brown, 2010). Under the influence of emotional fluctuation (Abdel-Khalek, 2016), consumers may act with a sense of vengeance (revenge, retaliation) against the company that provides them with a poor service or product (Vargo et al, 2019). For customers, vengeance can become an action aimed at punishing a company for the harm it has caused (Obeidat et al., 2017). According to an evaluation, 85% of customers intend to seek vengeance on the company after receiving poor service (Gregoire et al., 2018). Thus, the consumer who receives an unsatisfied service or product may have the attitude toward NWOM intention with the feeling of vengeance (Boo & Kim, 2013). From this perspective, the first question of the study is: does vengeance have a mediating role in the relationship between self-enhancement and NWOM intention?

Consumers share information with other consumers about everything daily (Bastos & Moore, 2021). Social interaction triggers social motives, such as helping other consumers (Alexandrov et al., 2013). Therefore, it may be useful to consider the satisfaction of social needs when conducting NWOM research (Cheng et al., 2006). Consumers may spread NWOM in the hope that other consumers will become aware of the company's product failures in order to avoid similar situations (Chelminski & Coulter, 2011). In other words, consumers' feelings of vengeance against the company may be expressed as NWOM that they share with others (Gregoire et al., 2010). Consumers who want to enhance themselves may intend to engage in NWOM with the idea of helping other consumers (preventing others from experiencing the problem they face) (Ribeiro et al., 2018). Self-enhancement combined with vengeance becomes a predictor of NWOM intentions, and this path may lead not only themselves but also other consumers to want to punish the company (Krishna & Kim, 2020). From this perspective, the second research question is: Does helping other consumers have a moderated mediation role in the relationship between self-enhancement, vengeance, and NWOM intention?

Consumers' responses to their consumption experiences may be due to individual characteristics (such as gender) (Fan et al., 2018). Therefore, gender differences in consumer behavior have always been the subject of research (Meyers-Levy & Loken, 2015). Women's social orientation is one of the most important gender differences. According to this orientation, women are focused on others (Fan et al., 2018). On the other hand, since vengeance behaviors are stronger in males, they are known to vary by gender (Stuckless & Goranson, 1992; Cota-McKinley et al., 2001; Brown, 2004; Uzun, 2018). The literature has found that WOM changes according to consumer personality traits (Majali & Bohari, 2016) and demographic factors (Maric et al., 2020) and that women are more open to WOM (Kempf & Palan, 2006). Interpersonal factors are known to have a greater impact on NWOM (Sweeney et al., 2014). From this perspective, the third question of the study is: does the moderated mediation role of helping other consumers change according to gender?

CONCEPTUAL FRAMEWORK AND HYPOTHESES

Relationship between self-enhancement and NWOM intention and mediating role of vengeance

For companies, NWOM is an indicator of consumer dissatisfaction (Seo & Jang, 2021). The dissatisfied consumers may try to enhance themselves by verbally sharing this experience with others (Richins, 1984). But self-enhancement is one of the least studied antecedents for consumers to spread NWOM (De Angelis et al., 2012). Considering self-enhancement in terms of personality traits, people with high neuroticism tend to vent negative emotions. Therefore, highly neurotic people (with lower emotional stability) may be willing to release these negative emotions to feel better about themselves (to enhance themselves) (Swaminathan & Dokumaci, 2021). Negative emotions are associated with negative goals (e.g., revenge) and may influence the content of communication spread to others. Negative goals with negative emotions are more powerful than positive goals (Boo & Kim, 2013). Research from recent years has found that 77% of comments on the Internet contain NWOM (Vargo et al., 2019). This means that vengeance is a pervasive behavior among consumers (Swaminathan & Dokumaci, 2021).

One of the causes of NWOM may be cognitive dissonance. Cognitive dissonance occurs when people have dissatisfying experiences, and they try to reduce them. As a result of dissatisfying experiences, customers are likely to use vengeance as a means to rebalance (enhance) themselves (Wangenheim, 2005). Vengeful responses are guided by intrinsic motivations, such as self-enhancement (Elshout et al., 2015). Vengeance is satisfying and can provide psychological relief (self-enhancement) through the overt expression of strong emotions (Gregoire et al., 2018). Vindictive NWOM involves negative communication with other customers, often aimed at defaming a company or advising others not to use that company's products (Joireman et al., 2013). The intensity of these customers' anger can lead to a sense of revenge toward the product and the company. For a consumer, the opportunity to vent anger or compensate for rights violations can lead to NWOM intent (Gelbrich, 2010).

Philp and Ashworth (2020) found that consumers spread high levels of NWOM when they experience a failure caused by a company. Product and company failures can affect customers to the point that they reveal their feelings of vengeance (Chang et al., 2015). In a study conducted among consumers who made negative product reviews, NWOM was found to be directly driven by both positive and negative emotions, and this was a sender's intended behavior (Verhagen et al., 2013). Therefore, to enhance themselves, consumers may communicate their negative experiences to other consumers through a sense of vengeance (Sundaram et al., 1998; Wetzer et al., 2007; Gregoire et al., 2010; Sweeney et al., 2014). We propose that self-enhancement will influence NWOM intention and that this influence is mediated by vengeance. More specifically, we put forth the following hypothesis:

H1: *Self-enhancement is positively associated with NWOM intention, and this relationship is mediated by vengeance.*

Moderated mediation role of helping other consumers in the self-enhancement -vengeance - NWOM intention relationship

One of the reasons why consumers spread NWOM and PWOM is related to the satisfaction of social needs (Alexandrov et al., 2013). There appears to be overlap between the motivational factors (e.g., altruism) identified for PWOM and NWOM (Hu & Kim, 2018). For example, WOM has been associated with the intention to help others (Jeuring & Haartsen, 2017), and helping others is a form of altruism (Lay & Hoppmann, 2015). Altruistic people may want to help another consumer make an informed purchase decision (Kozinets et al., 2010; Philp & Ashworth, 2013; Packard et al., 2016). Helping others also differs across cultures. Interdependent are more altruistic than independents. This may also mean that helping others is seen as a social responsibility (Seo & Scammon, 2014).

In WOM, there is a relationship between the content of the message and the motivation of the consumer. In other words, consumers can transfer the goal they want to achieve through the communication to the content of the message (Wetzer et al., 2007). For example, if a consumer wants to take revenge on the company, he or she may express negativity. However, behind this negativity is a desire to help other consumers. Such consumers deliberately use the language of revenge so that their communication goals are achieved (Douglas & Sutton, 2003). NWOM is a form of indirect retaliation (a customer's attempt to discredit a company to other consumers) (Gregoire & Fisher, 2008). Verhagen et al. (2013) found that consumers generate NWOM with their emotions and that their motivation to help other consumers plays a moderating role in this relationship. According to the researchers, consumers may disclose their negative experiences to prevent others from having similar negative experiences.

While there is discussion in the literature about the need to further investigate the cultural characteristics that may contribute to the prevalence of NWOM (Valenzuela et al., 2018), there is evidence that helping others may differ across cultures. Societies from collective cultures are socially oriented and tend to respond to social expectations with their behavior. Consumers from collective cultures may prefer indirect approaches, such as NWOM intentions, rather than reacting confrontationally to an unsatisfactory product or service (Cheng et al., 2006). In societies with collective culture, people are willing to help those who help them and harm those who harm them. This perspective states that the idea of helping other consumers is pervasive, as people place a higher priority on achieving social goals than personal goals (Zourrig et al., 2009). Another example in a collective culture, when people have a dissatisfying experience, they simply spread NWOM to evoke feelings of vengeance toward companies. This behavior is considered a fatalistic thought (Cheung et al., 2007). Therefore, we propose that relationship between self-enhancement-vengeance-NWOM intention will be moderated by helping other consumers. More specifically, we put forth the following hypotheses:

H2: *Helping other consumers moderates the relationship of self-enhancement with vengeance.*

H3: *Helping other consumers moderates the relationship of vengeance with NWOM intention.*

H4: *Helping other consumers moderates the relationship of self-enhancement with NWOM intention.*

Moderated moderation role of gender in the moderated mediation role of helping other consumers

Consumers' responses to negative experiences are influenced by individual characteristics (e.g., gender). Women focus on process during social interactions. Therefore, female consumers are motivated to seek opportunities to interact with other consumers. In addition, women (compared to men) are more inclined to express negative emotions such as vengeance (Mattila et al., 2009). In NWOM, the difference between men and women stems from their relative concern for themselves versus others (Boo et al., 2013). Women are more inclined to express their complaints than male consumers. The reason is that women are more inclined to help others. In addition, female customers want to verbalize their negative feelings (e.g., NWOM) (Joe & Choi, 2019) and be involved in the service improvement (McColl-Kennedy et al., 2003).

Women tend to adopt the opinions of their peers and often rely on other people's impressions of products and companies. Women like to act in ways that benefit society (helping others) (Lay & Hoppmann, 2015). The relationship between group membership and WOM is strong in women. Women are more influenced by the relationships they have in groups, and they want to be influential (Maceli et al., 2015). Talwar et al. (2021) found that gender, which they used as a control variable, had a significant effect on NWOM but not PWOM. Fan et al. (2018) showed that women's motivation to help other consumers is an important antecedent behind complaint behavior. Zhang et al. (2014) further found that the likelihood of NWOM may vary among women. Maceli et al. (2015) supported that gender has an influence on NWOM, and women like to help other consumers. That is, women respond more positively to others' requests for help (Brunel & Nelson, 2000). Therefore, we propose that moderated mediation role of helping other consumers will be moderated by gender. More specifically, we put forth the following hypotheses:

H5: *The moderating role of helping other consumers is moderated by gender in the relationship between self-enhancement and vengeance.*

H6: *The moderating role of helping other consumers is moderated by gender in the relationship between vengeance and NWOM intention.*

H7: *The moderating role of helping other consumers is moderated by gender in the relationship between self-enhancement and NWOM intention.*

To test the hypotheses, the research model has been drawn as seen in Figure 1.

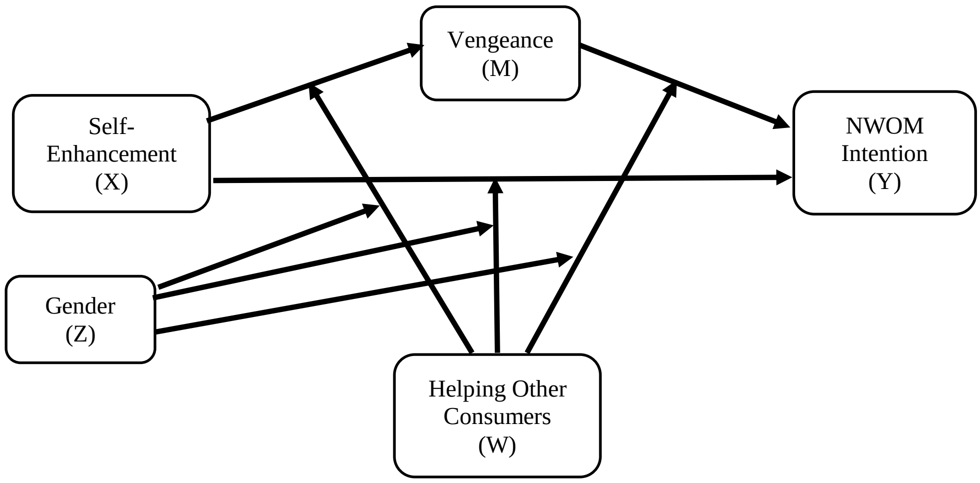


Figure 1. *Research Model*

METHODOLOGY

Data collection

After the approval from the Ethics Committee of the University on October 4, 2021, research data was collected from consumers older than 18 using an online questionnaire. The contact information of researchers and the purpose of the research were shared on the first page. All participants were informed that their data was kept confidential, their personal information was not requested, and they were asked to click an option stating that "participation was entirely voluntary". Since the scales used in the study were in English, they were translated into Turkish (Munday, 2008). Turkish surveys were examined by marketing academicians who are experts in their fields. After a pre-test was conducted, convenience sampling method was adopted in the study. Following the research method, the survey link was shared starting with the nearest consumers using social media applications such as Facebook, WhatsApp, Linked In, and Instagram.

Measures

The questionnaire consists of 6 sections. In the first section, purpose of the research and communication information were shared to the participants and their approval was obtained. The second section categorized the participants demographically by gender, age, income, and education. The third section consists of 3-item scale measuring self-enhancement developed by Krishna and Kim (2020). The fourth section consists of 3-item scale measuring helping other consumers developed by Alexandrov et al. (2013). The fifth section consists of 5-item scale measuring vengeance developed by Fu et al. (2015) and the sixth section consists of 4-item scale measuring NWOM intention developed by Fu et al. (2015). Participants responded to all scales on a five-point from strongly disagree to strongly agree.

Statistical Analysis

At first, variables were examined to detect the outliers. For all variables, to detect the outliers, we calculated Mahalanobis distance (D^2) and divided it by the number of items involved (D^2 / df). The result was compared with the t distribution values table (Laurencelle & Dupuis, 2002, p. 19) at 0.01 level. For self-enhancement and helping other consumers variables (both have 3 items), the t distribution value is 5.841, for the NWOM intention variable (4 items), the t distribution value is 4.604, and for the vengeance variable (5 items), the t distribution value is 4.032. Surveys greater than the value in the t distribution table have been deleted (Hair et al., 2010, p. 64). The final number of surveys was 767.

After the elimination of outliers, the demographic results of 767 respondents indicated that 53.5% of respondents (410) were female. There were six age groups: 18-21, 22-28, 29-35, 36-43, 44-50, and 51 and older (24.6%, 24.8%, 19.8%, 15.5%, 11.1%, and 4.2% respectively). There were three monthly income groups: 0-3000, 3001-6000, and over 6001TL (48.8%, 36.0%, and 15.3% respectively). There were three education groups: primary, college, and master/doctorate diploma (14.7%, 66.5%, and 18.8% respectively).

Using Lisrel 8.54 program, confirmatory factor analysis (CFA) was performed to determine the factor loadings of the scale items. After CFA, standardized factor loadings of all items were greater than 0.70 (t values are significant) (Anderson & Gerbing, 1988). Factor loadings for self-enhancement are between 0.79 and 0.88. Factor loadings for helping other consumers are between 0.78 and 0.87. Factor loadings for vengeance are between 0.75 and 0.87. Factor loadings for NWOM intention are between 0.82 and 0.92. The traditionally reported fit indexes are within the acceptable range. All measures proved reliable (Dimitrov, 2014). Table 1 presents descriptive statistics.

To evaluate the common method bias (CMB) among factors, Harman's single-factor test was used (Podsakoff et al., 2003, p. 889). We loaded all the items (15 pieces) into one factor and run the program. The single-factor model gave poor model fit: x^2: 4643; p: 0,000, df: 90, x^2/df: 51.5, RMSEA: 0.257, NFI: 0.84; NNFI: 0.82; CFI: 0.85; GFI: 0.55; AGFI: 0.40; SRMR: 0.14, and standardized factor loadings of all 15 items were between 0.45 and 0.83. Since the single-factor model was rather worse, common method variance is not present compared with the CFA results in Table 1.

Table 1. *Descriptive statistics*

	Mean	SD	1	2	3	4	AVE	CR
1- SE	3.91	0.93	(0.88)				0.71	0.88
2- HOC	4.24	0.73	0.65 (12.56)	(0.87)			0.70	0.88
3- VEN	3.87	0.93	0.46 (19.70)	0.55 (11.11)	(0.91)		0.68	0.91
4- NWOM-I	3.50	1.09	0.41 (9.18)	0.50 (10.90)	0.77 (13.84)	(0.92)	0.76	0.93

x^2 =467; p= 0,000; df= 84; x^2 / df= 5,5; NFI= 0.99; NNFI= 0.98; CFI= 0.98; GFI= 0.92; AGFI= 0.89; SRMR= 0.04; RMSEA= 0.07
NWOM-I: NWOM Intention; VEN: Vengeance; HOC: Helping Other Consumers; SE: Self-Enhancement
Cronbach's α is in parenthesis
Correlations are significant at the 0,01 level (t-values in parentheses)

Using factor loadings and error variances of items, average variance extracted (AVE) and composite reliability (CR) values were calculated to assess convergent and discriminant validity. To assess convergent validity: (1) the CR value must be bigger than 0.70 (CR>0.70), (2) the AVE value must be bigger than 0.50 (AVE>0.50), and (3) CR must be bigger than AVE (CR>AVE) (Fornell & Larcker, 1981, p. 46). To assess the discriminant validity, the AVEs and CRs are both higher than the squared correlation between the constructs. This provides evidence that there is convergent and discriminant validity between the variables (Diamantopoulos & Siguaw, 2000, p. 92).

Tests of Hypotheses

To address H1, Process v3.5 Macro Model 4 (Hayes, 2013) was conducted (5000 bootstrap resamples and bootstrap confidence intervals BC= 95% CI).

In Figure 2, the diagram represents the statistical model of mediating role of vengeance in the relationship between self-enhancement and NWOM intention. Table 2 depicts statistical diagram analysis results in Figure 2. The results revealed that direct effect of self-enhancement (X) on NWOM intention (Y) is 0.121 as the 95% Bootstrap Confidence Intervals (Bootstrap CI = 0.056-0.187). Indirect effect of self-enhancement (X) on NWOM intention (Y) through vengeance (M) is 0.333 (Bootstrap CI = 0.269-0.400). The significance of both direct and indirect effects indicated a partial mediation (Baron & Kenny, 1986).

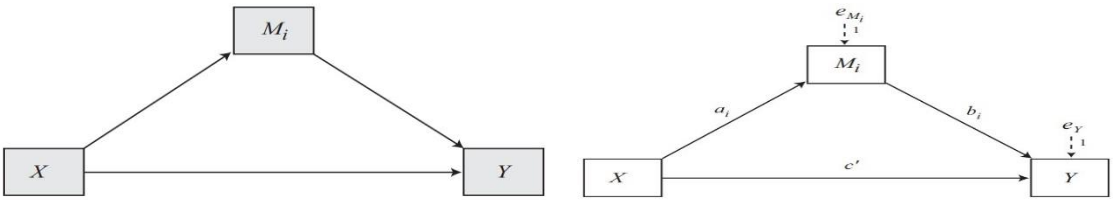


Figure 2. *Conceptual and statistical diagram of the mediating role of vengeance*

In the mediation models, as an alternative, the Sobel test is also performed (MacKinnon et al., 2002). According to Sobel test result, we can say that partial mediation is significant (B= 0.333, S.E.= 0.028, Z= 11.543, p= 0.000). Finally, results indicated that self-enhancement is positively associated with NWOM intention, and this relationship is partially mediated by vengeance. With this result, hypothesis 1 is supported.

Table 2. *Statistical diagram analysis results in Figure 2*

	Consequent					
	M (Vengeance)			Y (NWOM intention)		
Antecedent	Coefficient	S.E.	p	Coefficient	S.E.	p
Constant	2.164	0.131	0.000	0.065	0.140	0.643
X (Self-Enhancement)	**0.437**	**0.032**	**0.000**	**0.121**	**0.033**	**0.000**
M (Vengeance)	--	--	--	**0.763**	**0.033**	**0.000**
	R^2 = 0.189, F = 178,558 X coefficient = 0.437, t (765) = 13.362, p = 0.000			R^2 = 0.498, F = 379.372 M coefficient = 0.763, t (764) = 23.000, p = 0.000		

To address H2, H3 and H4, Model 59 (Hayes, 2013) was conducted (5000 bootstrap resamples and bootstrap confidence intervals BC= 95% CI). In Figure 3, the diagram represents the statistical model of moderated mediation role of helping other consumers. Table 3 depicts statistical diagram analysis results in Figure 3. The results of the moderated mediation model revealed that the interaction between the self-enhancement and helping other consumers (XW) is statistically significant (B = 0.117, p = 0.001, Bootstrap CI = 0.0012, 0.466). This means the effect of self-enhancement on vengeance is dependent on helping other consumers. With this result, hypothesis 2 is supported.

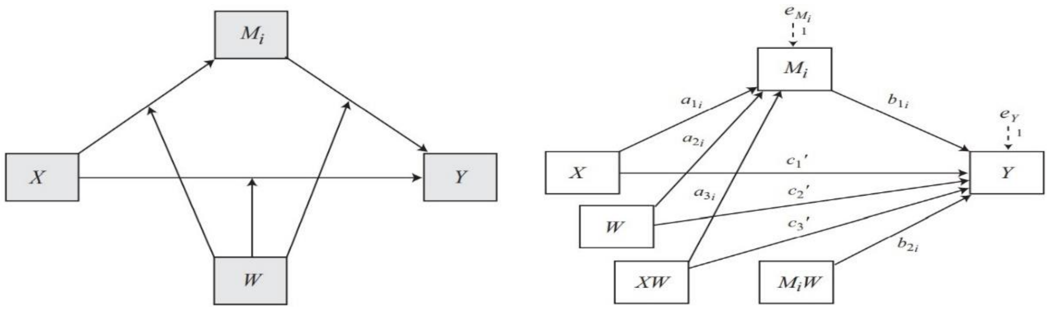


Figure 3. *Conceptual and statistical diagram of the moderated mediation role of helping other consumers*

The interaction between the vengeance and helping other consumers (MW) is statistically significant (B = 0.115, p = 0.003, Bootstrap CI = 0.0039, 0.0369) which shows that the effect of vengeance on NWOM intention is dependent on helping other consumers. Thus, hypothesis 3 is supported. On the other hand, the interaction between the self-enhancement and helping other consumers (XW) is not statistically significant (B = 0.040, p = 0.322, Bootstrap CI = 0.322, -0.0394). This means the effect of self-enhancement on NWOM intention is not dependent on helping other consumers. Based on this result, hypothesis 4 is not supported. Thus, the consumers' self-enhancement evaluation had different effects on their vengeance depending on their helping other consumers levels and the consumers' vengeance had different effects on their NWOM intention depending on their helping other consumers levels.

Table 3. *Statistical diagram analysis results in Figure 3*

	Consequent					
	M (Vengeance)			Y (NWOM intention)		
Antecedent	Coefficient	S.E.	p	Coefficient	S.E.	p
Constant	- 0.047	0.032	0.141	3.444	0.031	0.000
X (Self-Enhancement)	0.223	0.037	0.000	0.054	0.038	0.156
W (Helping Other Consumers)	0.534	0.050	0.000	0.232	0.053	0.000
M (Vengeance)	--	--	--	0.733	0.035	0.000
X*W	**0.117**	**0.035**	**0.001**	**0.040**	**0.040**	**0.322**
M*W	--	--	--	**0.115**	**0.039**	**0.003**
	R^2 = 0.292, F = 104,883 XW coefficient = 0.117, t (763) = 3.262, p = 0.001			R^2 = 0.515, F = 161.984 MW coefficient = 0.115, t (761) = 2.891, p = 0.003		

X*W: interaction between self-enhancement and helping other consumers,
M*W: interaction between vengeance and helping other consumers.

To address H5, H6 and H7, Model 73 (Hayes, 2013) was conducted (5000 bootstrap resamples and bootstrap confidence intervals BC= 95% CI). In Figure 4, the diagram represents the statistical model of moderated mediation role of helping other consumers which is moderated by gender. Table 4 depicts statistical diagram analysis results in Figure 4. As gender is a dichotomous moderator variable, the male was coded as "0" and the female was coded as "1" in the data file (Hayes, 2018).

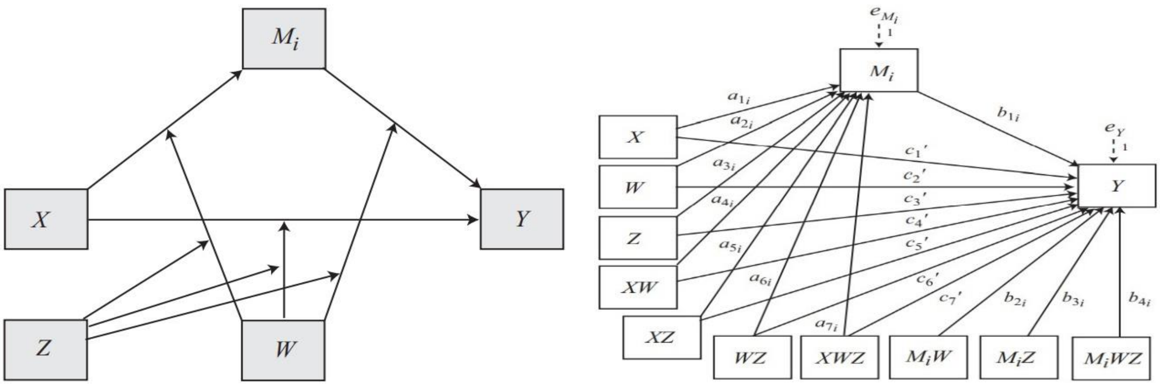


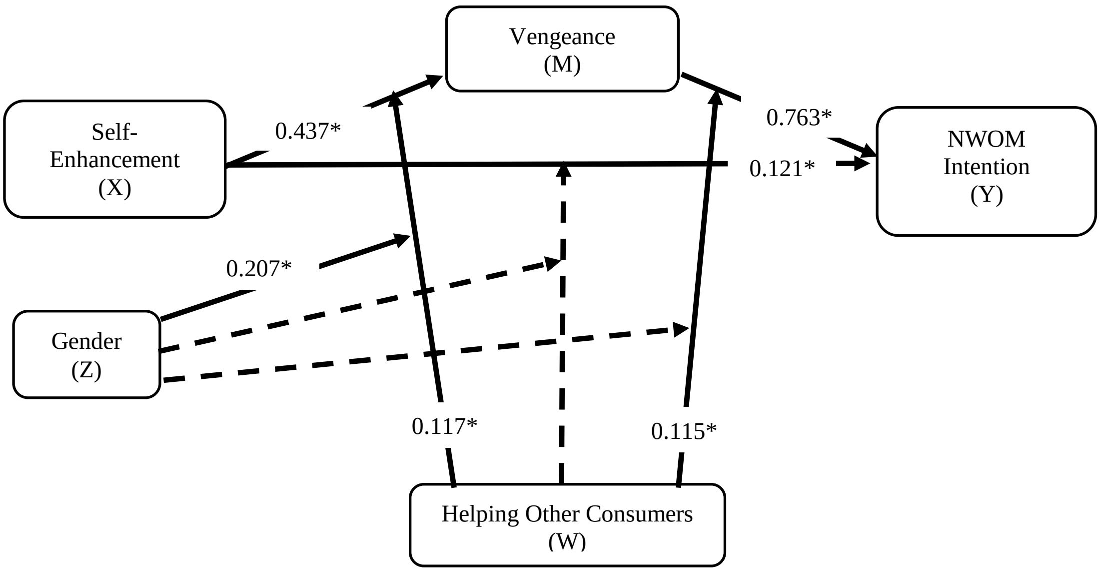
Figure 4. *Conceptual and statistical diagram of the moderated moderation role of gender in the moderated mediation role of helping other consumers*

Table 4. *Statistical diagram analysis results in Figure 4*

Antecedent	Consequent					
	M (Vengeance)			Y (NWOM intention)		
	Coefficient	S.E.	p	Coefficient	S.E.	p
Constant	0.110	0.046	0.018	3.547	0.046	0.000
X (Self-Enhancement)	0.124	0.054	0.022	0.040	0.053	0.447
W (Helping Other Consumers)	0.505	0.073	0.000	0.296	0.077	0.000
Z (Gender) *	- 0.296	0.063	0.000	- 0.182	0.063	0.004
X*W	0.012	0.048	0.794	0,102	0.054	0,061
X*Z	0.204	0.074	0.006	0.026	0.076	0.726
W*Z	0.026	0.100	0.792	- 0.114	0.106	0.281
X*W*Z	**0.207**	**0.071**	**0.003**	**-0.146**	**0.082**	**0.073**
M (Vengeance)	--	--	--	0.685	0.053	0.000
M*W	--	--	--	0.057	0.056	0.303
M*Z	--	--	--	0.068	0.072	0.347
M*W*Z	**--**	**--**	**--**	**0.111**	**0.079**	**0.162**
	R^2 = 0.318, F = 50.777 XWZ coefficient = 0.207, t (759) = 2.91, p = 0.003			R^2 = 0.527, F = 76.459 MWZ coefficient = 0.111, t (755) = 1.398, p = 0.162		

X*W: interaction between self-enhancement and helping other consumers, X*Z: interaction between self-enhancement and gender, W*Z: interaction between helping other consumers and gender, X*W*Z: interaction between self-enhancement, helping other consumers, and gender, M*W: interaction between vengeance and helping other consumers, M*Z: interaction between vengeance and gender, M*W*Z: interaction between vengeance, helping other consumers, and gender.
* Male was coded as "0" and the female was coded as "1".

The estimated results revealed that the interaction between self-enhancement, helping other consumers, and gender (XWZ) is statistically significant (B = 0.207, p = 0.003, Bootstrap CI = 0.067, 0.347) when it is checked for the relationship between self-enhancement and vengeance. The positive interaction variable (XWZ) reveals that there is a difference in helping other consumers behavior among females. This means moderated mediation role of helping other consumers is moderated by gender in the effect of self-enhancement on vengeance. With this result, hypothesis 5 is supported. However, the interaction between vengeance, helping other consumers, and gender (MWZ) is not statistically significant (B = 0.111, p = 0.162, Bootstrap CI = -0.045, 0.268). This means moderated mediation role of helping other consumers is not moderated by gender in the effect of vengeance on NWOM intention. Based on this result, hypothesis 6 is not supported. Lastly, the interaction between self-enhancement, helping other consumers, and gender (XWZ) is not statistically significant (B = -0.146, p = 0.073, Bootstrap CI = -0.308, 0.014) when it is checked for the relationship between self-enhancement and NWOM intention. This means moderated mediation role of helping other consumers is not moderated by gender in the effect of self-enhancement on NWOM intention. Thus, hypothesis 7 is not supported.



(Dashed line represents insignificant path.)
(*p < 0.01)

Figure 5. *Results of Research Model*

CONCLUSION

Although the negative impact of NWOM on firms is well known, its antecedent, mediator, and moderator mechanisms have hardly been studied. The literature does not accurately address this issue or is inconclusive. Recent studies in the literature show that NWOM can have individual antecedents, is influenced by emotions, and involves the satisfaction of social needs. In this study, we examined whether the factors that influence NWOM, such as self-enhancement (individual), vengeance (emotional), and helping other consumers (social need), are the same with respect to gender or whether there are differences. To better understand these mechanisms, three research aims were established. The first aim was to investigate the mediating role of vengeance in the relationship between self-enhancement and NWOM intention. The result of the analysis (Table 2) shows that self-enhancement is positively related to NWOM intention, and that this relationship is partially mediated by vengeance. The greater the extent of consumers' self-enhancement, the greater the effect on consumers' NWOM intention, both directly and indirectly (via vengeance). We can say that this is the first mechanism for understanding NWOM intention that involves both individual (self-enhancement) and emotional (vengeance) factors. This result is consistent with previous studies. Wien and Olsen (2014) pointed out that the relationship between individualism and WOM was explained with self-enhancement. The authors provided evidence for self-enhancement as a motivation for WOM. Berger (2014) also stated that one of the reasons people share WOM is impression management, and self-enhancement is one of the factors that facilitates impression management. Philp et al. (2018) showed that individuals who have high self-liking are more likely to share NWOM. According to the authors, self-liking customers is often characterized as being confident in their abilities and perceiving themselves to be competent and effective. Similarly, Boo and Kim (2013) found that consumers who have high self-confidence have higher NWOM intention. In addition, Vargo et al. (2019) found that vengeance is a motivating factor for WOM diffusion and Krishna and Kim (2020) showed the role of situational motivation in the effect of self-enhancement on NWOM behavior.

The second aim was to examine whether the association between self-enhancement, vengeance, and NWOM intention is moderated by helping other consumers. By examining the moderating role of helping other consumers, the present study provides a further understanding of the relationships between the variables. The result of the analysis (Table 3) shows that helping other consumers moderates self-enhancement →

vengeance relationship and vengeance → NWOM intention relationship but does not moderate self-enhancement → NWOM intention relationship. The result shows that this indirect effect (self-enhancement → vengeance → NWOM intention) is significantly different from the values for helping other consumers. Self-enhancement is a predictor of vengeance, and this result combined with intention to help other consumers suggests that customers use NWOM not only against a company to punish it, but also to make others punish it. We can say that this is the second mechanism for understanding NWOM intention, which includes individual (self-enhancement), emotional (vengeance), and social need (helping other consumers). Our result supports previous studies. Cheng et al. (2006) claimed that it may be helpful to study NWOM based on social norms and showed that the theory of planned behavior (subjective norm, attitude, and perceived behavioral control) is an antecedent of NWOM. Alexandrov et al. (2013) examined self and social motives as drivers of WOM and found that helping other consumers influences NWOM. Chelminski and Coulter (2011) found that consumer advocacy (helping others) was positively related to consumer complaints (consumer voicing and NWOM) and that the probability of NWOM was consistently greater than the probability of voicing. In another study, Verhagen et al. (2013) showed that NWOM is driven by negative emotions and that in this relationship, helping other consumers acts as a behavior moderator.

The third aim was to test whether the moderating role of helping other consumers is moderated by gender. The result of the analysis (Table 4) shows that the moderated mediation role of helping other consumers is moderated by gender (difference for females) in terms of the effect of self-enhancement on vengeance. Within this framework, we can conclude that there is evidence of a three-way interaction between self-enhancement, helping other consumers, and gender. In other words, the magnitude of the moderating effect of helping other consumers on the relationship between self-enhancement and vengeance depends on gender. It can be inferred that this is the third mechanism for understanding NWOM intention, which includes individual (self-enhancement), emotional (vengeance), social need (helping other consumers), and gender. This finding is consistent with previous studies. For example, McColl-Kennedy et al. (2003) examined the role of gender in responses to service failure and recovery and found that women were more likely to help other consumers. Similarly, Fan et al. (2018) investigated gender differences in intentions to voice complaints about different types of service failures and found that women are socially oriented and more willing to help others with service failures. Kempf and

Palan (2006) examined the impact of gender on the WOM process and found that women described themselves as more open to WOM. Mattila et al. (2009) also found that women were more likely to spread negative experiences to others.

Theoretical contributions

This study contributes to the literature on NWOM, which should benefit from learning more about the influence of self-enhancement, vengeance, helping other consumers, and gender. The main theoretical contribution of the study is that some researchers argue that consumers spread PWOM through their positive consumption experiences but spread NWOM through others' negative consumption experiences. According to this approach, consumers spread only PWOM to enhance their self. The literature argues that this logic is incorrect (Richins, 1984; Sundaram et al., 1998; Berger & Milkman, 2012), but there has been no empirical research to prove otherwise. To our knowledge, this is the first study to show that this logic is false. We can say that self-enhancement has an impact not only on PWOM, but also on NWOM. Moreover, a mediation model was created by adding a variable such as vengeance to the direct effect between self-enhancement and NWOM. According to this model, the existence of variables that can mediate the spreading of NWOM to enhance consumers' self opens the door to further theoretical discussion.

Another important contribution of the study is that it highlights differences in the moderating role of helping other consumers and gender in the relationship between self-enhancement and vengeance. Overall, by incorporating the variable of helping other consumers as a moderated mediation into the model, this study uncovered effects that might have been neglected. The moderated mediation model in this study strengthens the perspective in terms of theory development and contributes to more conceptual discussions than just the mediation model. In addition, testing whether there is a significant difference between genders in the moderated mediation model facilitates consumer segmentation and understanding of their behavior.

Managerial implications

To avoid the negative effects of NWOM, managers need to understand the mindset of their target customers. This study has implications for management because it provides some insights. Managers need to understand the key mechanisms that drive consumers to NWOM intention.

Understanding the behaviors that are likely to trigger NWOM intent is useful for managers interested in better customer relationships. Marketing management teams can use these insights to guide the development of customer service strategies to increase the number of customers who prefer to consult them before spreading NWOM. For companies, NWOM is considered an indicator of negative consumer experiences. The first mechanism for intentions of spreading NWOM is consumers' willingness to enhance their self after a negative experience. Once a customer leaves the company, he or she may be inclined to disparage the perceived blameworthy company to others. For this reason, ways must be found to compensate for consumers' negative experiences with products and companies. When consumers turn their negative experiences into vengeance, the intent to spread NWOM may be stronger. To reduce vengeance, employees should explain that the problem will be less severe in the future. This can help customers come to terms with the failure and view it as less negative, which can reduce vengeance. The second mechanism states that the intention to spread NWOM through vengeance may be reinforced by the thought of helping other consumers. Therefore, store managers should ensure that consumers leave the store without negative thoughts and experiences. One of the ways to do this is for marketers to create more environments (such as complaint boxes on websites and in stores) for customers who are likely to spread NWOM with feelings of vengeance before they want to help other consumers. According to the third mechanism, the second mechanism is even more important for female consumers because female consumers may be more willing to help other consumers and their feelings of self-enhancement are more likely to turn into vengeance than men. As Gregoire and Fisher (2008) explained, managers should look for ways to compensate or regulate customers' emotions before their negative thoughts and experiences make them enemies. In addition, female customers in particular can be asked verbally about their consumption experiences and satisfaction before they leave the company. If there is dissatisfaction, it should be resolved before female customers leave the company.

Future research directions

In the present study, self-enhancement, one of the individual antecedents that may have a direct influence on NWOM, was used. In future studies, self-related characteristic antecedents that may influence NWOM intention can be investigated, such as self-discrepancy, self-development, self-esteem, self-concept, self-aspects, social self, spiritual self, and ego. In addition, we have investigated the mediating effect of an emotional state such as vengeance in this context. Future studies could investigate the mediating effect of different emotional states such as anxiety, emotional instability, anger, disappointment, and venting negative feelings.

In the study, we determined helping other consumers, which is one of the social factors, as the variable that moderated mediation role. In future studies, the presence of other social factors can be investigated, such as social transmission, community usefulness, helping the company, seeking advice, social benefits, and altruism. On the other hand, there are some important discussions in the literature that culture, individualistic-collectivist societies, or societies with strong/weak social ties are important factors that influence NWOM. These factors were ignored in this study. The other research question for future studies could be: What social factors play moderated mediation role in the NWOM process? Finally, we tested moderated moderation role of gender as a demographic factor. Future studies could test the moderated moderation role of other demographic factors such as education, income, and age. This will allow us to better segment consumers and understand their behavior.

Limitations

The limitations of the study are listed as follows. It was not stated whether there was an incident that was the subject of NWOM intent. We did not mention any products, companies, or brands when creating the questionnaire. Therefore, it may not be possible to generalize the results of this study. The results may only be valid for the region in which the study was conducted.

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THE EFFECT OF PRICE AND SECURITY ON TOURISM DEMAND: PANEL QUANTILE REGRESSION APPROACH

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ABSTRACT

It is of great importance for countries to increase the contribution of the tourism sector to the economy. Therefore, the authorities focus on how to increase the demand for tourism. However, the most important issue is to define the factors that influence the demand for tourism in a complex environment and this study attempts to contribute to this field. Specifically, the study examines the effects of REER (Real Effective Exchange Rate) and security conditions on tourism demand using panel data methods for 73 countries, in the tourism ranking list from UNWTO reports, over the period 2003-2018. The main results of this study show that while the effect of REER on tourism demand is negative, the security condition has a positive effect on the demand for the tourism sector. In addition to these findings which confirm the existing literature, the innovative character of the methodology – fixed-effect panel quantile regression analysis - allowed us to check whether the effects of these variables may vary in different percentiles of tourism demand. Estimation result reveals that the effect of change in REER on tourism demand increases in high percentiles. Nevertheless, the effect of the security on tourism demand decreases as percentiles increase.

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INTRODUCTION

Globalization, combined with people's drive to see and discover new places, has made tourism one of the fastest-growing sectors in the last decades (Abdou et al., 2022; Peng et al., 2014). In addition to the economic value added, foreign currency inflow, and employment benefit, the tourism sector also has extremely important effects on the social, cultural, and political lives of countries (Bayrakcı & Ozcan, 2021; Yerdelen Tatoglu & Gul, 2020).

For Rita (2000), tourism generates an enormous amount of wealth and employment both at the national and international level. In 2019, the Travel & Tourism Industry was a gigantic industry that accounts for 10.4% of the world's GDP, 10.6% of the world's jobs, and 1 out of every 4 new jobs (WTTC, 2021).

In addition to its tremendous economic contribution, tourism can also create external benefits with its multiplier effect (Baiburiev et al., 2018; Larisa Bunghez, 2016; Pascariu & Ibănescu, 2018). Thus, the tourism sector, both directly and indirectly benefits many sectors and provides growth that spreads throughout the economy (Del P. Pablo-Romero & Molina, 2013).

It is generally accepted that the size and potential of the tourism sector attract all countries. Today, many countries give special importance to the tourism sector in formulating their growth models therefore, tourism becomes a significant component of the growth of the current economy, which in turn, countries obviously aim to get the biggest share of the tourism pie (Bayrakcı & Ozcan, 2021). Thus, countries compete intensely to get more tourists (Salinas Fernández et al., 2022). At this point, it becomes crucial to determine the factors that increase the demand for tourism and the factors' effect levels. On one hand, the macroeconomic indicators are the main factors affecting tourism demand. As a matter of fact, a significant number of researchers have investigated the effects of economic factors such as GDP, REER, exchange rate, and commodity price index on tourism demand (Del P. Pablo-Romero & Molina, 2013; Martins et al., 2017; Sarin & Kaur, 2016; Sharif Karimi et al., 2018; Wamboye et al., 2020). On the other hand, there are also non-economic determinants of tourism demand such as political, psychological, demographic, sociocultural, and security-based characteristics (Bayar & Yener, 2019; Bayrakcı & Ozcan, 2021; Hai & Chik, 2011).

With the advent of COVID-19, however, things have changed. In other words, the outbreak of the COVID-19 pandemic has created awareness of many issues. Indeed, the tourism sector is a case and important avenue to get a better understanding of the economic consequences of COVID-19. It has been clear that the disruption in the tourism sector may painfully affect the domestic economy[2].

The developments such as shutdown of many sectors and quarantine precautions in response to the COVID-19 pandemic have tremendous impact on the tourism sector. While the global economy shrank by 3.1% due to the pandemic (IMF,2022), the tourism sector shrank by 49.1% and declined 4.5 trillion USD (WTTC, 2021). In 2020, to solidify this point, World Tourism Organization (UNWTO) put it "the worst year in tourism history" (UNWTO, 2022a). This point was made to address the growth trend in both added value and employment since the Global Financial Crisis of 2008-09 (GFC). Needless to say, the recovery and positive developments in the tourism sector after the GFC had been broken by the impact of the COVID-19 pandemic (WTTC, 2021). For instance, international arrivals, which rose from 277 million in 1980 to 1.5 billion in 2019, showed a dramatic decrease of 1.1 billion in 2020 (WEF, 2022). 62 million people lost their jobs in 2020 and the employment level in the sector decreased to 272 million globally. Fortunately, by the years 2021 and 2022, sector data has contained strong signs of an upward trend again (UNWTO, 2022b).

COVID-19 has also changed the effect of many things on our lives and created changes in people's perceptions and preferences. The bottlenecks in global supply chains, difficulties in production, and the differences in the economic policies of the countries have increased the real income divergence among the citizens of different countries (Sun et al., 2022; Wildman, 2021). Therefore, the importance of price-based decision variables is expected to increase in global tourism competition.

Another factor that is expected to come to the fore in this process is the security. As is well known, the tourism sector is not based on a compulsory demand. Therefore, safety comes to the fore among the tourist destination selection criteria (Hai & Chik, 2011; Li, 2012; Ozcan & Ozmen 2016; Wamboye et al., 2020). The war in Ukraine and the tension between China and Taiwan with their global repercussions and increasing refugee influx are expected to increase security awareness in the coming period.

This study focuses on this security condition when exploring its effect for the tourism demand. To do so, it tackles effects of "REER" as an

[2] With the World Health Organization (WHO, 2022) declaration of the coronavirus epidemic as a pandemic on March 11, 2020, a significant part of the world started to implement quarantine precautions and many sectors were adversely affected by these precautions.

economic factor and “security” as a non-economic factor on tourism demand. It is also discussed according to the differing tourism demand level. In addition, GDP is added to the model as a control variable to reflect the known effects of the country's economic activities on tourism demand.

The contributions of the current study are listed as follows: i) To the best of our knowledge, the effects of the variable REER and security level with GDP as control variable on the tourism demand are analysed for the first time on a big panel data (73 countries over the 16 years), ii) the study takes the advantage of advanced econometric tools such as fixed-effects panel quantile estimation, iii) according to the panel quantile estimation result, one can see that the behaviour of the effects of the variables REER, security level, and GDP on tourism demand over the different percentiles and so, the countries in different tourism demand levels such as low, medium or high levels can make their tourism policies easier.

The remainder of this study is structured as follows. The literature review section presents the most recent studies and their particular attention to the variables affecting or being used for predicting tourism demand. Data and Methodology section considers the data and variables used in the model and explains the fitness of fixed effect panel analysis and fixed effects panel quantile estimation to address the research question. The Empirical Findings section presents the results and the related discussion. Finally, the Conclusion section provides the economic implications of the findings and concludes with a list of practical recommendations for policy-makers.

LITERATURE REVIEW

The importance of tourism demand for economic and social development is not new in the literature. For a long time, academics and policy makers studied the critical role that tourism demand and its sustainability for economic growth. A number of studies focus on the determinants of tourism demand and explored main factors such as price dynamics, income variables and security conditions. The existing literature presents findings to evaluate the impact of these main factors on tourism demand. While some examine the link between relative price and demand for tourism (Balcilar et al., 2021; Divisekera, 2003; Fernandes & Karnik, 2010; Han et al., 2006; Seetaram et al., 2016), others tackle the role of income on tourism demand (Balcilar et al., 2021; Khoshnevis Yazdi & Khanalizadeh 2017), providing further details on the nexus between price, income and tourism demand.

As for the relationship between income and security factors, a number of studies (e.g. Ghaderi et al., 2017; Hall et al., 2004; Henderson, 2003; Saha & Yap, 2014; Sonmez & Graefe, 1998) reveal the significant role that security play in tourism demand. A recent study by Nadal and Gallego (2022) goes further examining the determinants of tourism demand by including additional factors such as distance, infrastructure, current events, turmoil, bilateral agreements, common currency, weather, transportation costs, and language, as well as the price, exchange rate, and GDP. In another study, Khoshnevis Yazdi and Khanalizadeh (2017) introduced GDP, REER, and CPI as factors affecting tourism demand and found a significant relationship among the variables except with CPI. Similarly, Ghaderi et al. (2017) conducted a panel analysis using the explanatory variables used in many studies (tourism infrastructure, exchange rate, GDP, and travel cost) to reveal the importance of security indicators for tourism demand.

Imamoglu et al. (2022) focused on the impact of urbanization and industrialization on tourism revenue. In addition to these two predictors, real exchange rate and GDP are also included in the model as control variables. While the effect of all variables on tourism revenues is significant in the long run, they stated that shocks in some variables would return to equilibrium in the long run. It is recommended that the authorities, which will consider the study's results, adopt the urbanization and industrialization policies compatible with tourism and monetary policies that stabilize the real effective exchange rate.

Han et al. (2006) investigated the price-based components of the tourism flow from the USA to European countries. The main findings show that changes in tourism demand were reliant on the changes in exchange rates, prices, and expenditures. Moreover, their results stated that variables were not significant in all European countries. In a similar study, Fernandes and Karnik (2010) found that price and income changes had a significant effect on tourism demand.

In their review article, Witt and Witt (1995) discussed the variables that were previously used in various studies. They suggested using a variable as a proxy for the effect of political events in a country and they also suggested to use of purchasing power-adjusted price index, instead of an exchange rate. The empirical literature also considers the additional transformation in terms of flexibility. In so doing, studies use logarithmic values of the considered variables. Crouch (1995) rightly points out this phenomenon of elasticity by explaining it with examples. In that study, it was explained as the % reaction of tourism demand against a 1% change in a factor. This means that the coefficients in a linear equation derived from logarithmic values give the value of the elasticities and can be compared with each other.

The present study was designed by reviewing the literature that investigates the effect of price (or an indicator showing comparative costs) and security level as prominent variables, on tourism demand. In addition to these variables, GDP is used as a control variable in many studies. A review of some prominent studies on these variables is included below.

Many variables have been used as a proxy for the destination country price level: some studies on tourism demand forecasting for a country directly assume that the exchange rates between home and destination countries represent this (Naudé & Saayman, 2005; Tavares & Leitão, 2017); some studies have suggested comparative prices or the use of CPI (Oh & Ditton, 2005; Morley, 1994). However, as in Dogru et al. (2017), there are also criticisms of the use of exchange rates and others together in the model. As a matter of fact, in the study of Khoshnevis Yazdi and Khanalizadeh (2017) about the relationships between tourism demand and some other factors such as GDP, REER, CPI, and infrastructure, they found that CPI were unrelated, but REER was found significantly related. In the study on inbound tourists in the United States, REER expressed the value of the American dollar in relation to its purchasing power and had a negative coefficient expressing an increase in the number of tourists in the case of a decrease, that is, in the case of a partial cheapening of the United States.

Dogru et al. (2017) emphasized that the simultaneous use of exchange rates and comparative prices might cause multicollinearity problems. To prevent this problem, they suggested to use of standardized price indicators (such as CPI) adjusted with exchange rates (like Witt and Witt, 1995) and they got meaningful results in their model. Seetaram et al. (2016) extensively discussed the use of CPI, real exchange rate, and exchange rate, which were insufficient in the comparison of country prices. The price competitiveness index (PCI) is suggested instead of all, as a good indicator, but it can be used in studies on a single destination or home country (Australia in the study). For example, Divisekera (2003) specifically calculated the country price indicator over the consumption of tourists with bilateral country comparisons. Working with logarithmic variables, results were obtained on the basis of both price elasticity and cross-price elasticity. However, the fact that REER is a single value for prices for each country makes it possible to use panel data with many countries. In this sense, REER will be an indicator of the price level of a country relative to all other countries.

Balcilar et al. (2021) investigated the effect of the real exchange rate, employment rate, and GDP (as income) on outbound tourism demand. In the study, the short and long-term effects were examined by panel analysis. Findings support the short- and long-term effects of income and real exchange rates while the employment rate is effective in the short term. The study reveals that GDP per capita is a much better predictor of outbound tourism demand than employment, which may be due to the fact that GDP per capita reflects all income from economic activity, including investments, not just income from employment.

Hall et al. (2004) discussed security in a broad framework. Security concerns cover a wide range of topics, from the global to the individual. Its scope ranged from war, crime, terrorism, and political instability to issues such as human rights, the environment, drug trafficking, and epidemics (Hall et al., 2004). International tourism is yet more vulnerable to security concerns, especially with the events of the 9/11 attacks, the Iraq war, the Bali bombings, SARS, and other epidemics (Hall et al., 2004). When the security of touristic destinations deteriorates, the negative image formed in the minds of potential tourists is likely to result in cancellation of reservations and orientation to safe destinations.

Ghaderi et al. (2017) discussed the issue for developed and developing countries. They stated that in developed countries, the tourism demand was positively affected by the security level - an increase in the security level had a positive effect on tourism demand - but the effect was negative for developing countries. A decrease in security in developing countries leaded to a net increase in the incoming tourists, in other words, while losses increase in one group, the interest of a new group made up for it. In addition to security variables, infrastructure, exchange rate, GDP, and transportation costs were also used as control variables, which are also significant variables for the two country groups. While transportation costs have a negative coefficient for developing countries as expected, it has a positive coefficient for developed countries.

Saha and Yap (2014) examined the specific impacts of political instability and terrorism on tourism demand. While the study considered political stability and terrorism as separate variables, GDP, cultural heritage assets, and real exchange rate were also used as control variables. In addition to the negative effects of political instability and terrorism, political instability also increased the negative impact of terrorism on tourism demand (moderator effect of political instability).

Henderson (2003) questioned the impact of the Bali bombing on tourism and pointed to the country's management ability of the event. From one point of view, the country's security level and the country's management capacity of it became questionable together. Lv and Xu (2017) examined the effect of corruption and various factors on tourism demand and found that the effect of corruption on tourism demand varies for various levels of corruption. Studies further supported the negative impact of low-security levels on tourism demand (Krajňák, 2021). There are also studies that show that the effects of terrorism events are seen after the violence exceeds a certain level. Besides terrorism, explanatory (control) variables such as income (e.g. real GDP per capita), tourist expenditure-based prices, binary exchange rates, transportation costs, population size, temporal variables, lagged variables, other forms of political violence, and dummy for various events variables were used in the analysis (Krajňák, 2021).

The current study is expected to contribute to the empirical literature using a unique data set of 73 countries and over the period of 2003-2018. This study fills an important gap in the literature by dealing with security and price level together. Furthermore, there is a methodological contribution of this study as it uses a panel quantile estimation method which provides a solution not to neglect the relationship among variables that may vary in different percentiles of tourism demand. The reason for selecting this method is that we use a large data set and this may cause a loss of some details such as the detection of relationship changes across the percentiles. In other words, the varying effect of the variables can be observed in countries with different tourism demand levels. Most studies produced limited results in this regard by analysing several countries separately. It is thought that the study will contribute in terms of both scope and method to further research.

ECONOMETRIC MODEL AND EMPIRICAL FINDINGS

Data and variables

The data is taken from the World Bank online database. Selection of countries is based on the tourism rankings list at UNWTO reports. The ranking list categorizes the countries in which the tourism sector constitutes a significant component of economic growth. Specifically, the data set covers 73 countries that are on the list. Although the intention of this study was to work with a long-time interval, there is no available data for a long period to cover all countries. Hence, we consider a period (2003-2018), noting that the panel data is annual (16-year time period). The countries covered by the data are: Argentina, Armenia, Australia, Austria, Belgium, Bulgaria, Bahrain, Bahamas, Belize, Bolivia, Brazil, Canada, China, Colombia, Costa Rica, Cyprus, Germany, Dominica, Dominican Republic, Ecuador, Egypt Arab Rep., Spain, Finland, France, United Kingdom, Georgia, Hong Kong SAR China, Croatia, Hungary, Indonesia, India, Ireland, Iran Islamic Rep., Iceland, Italy, Japan, Korea Rep., Kuwait, St. Lucia, Lesotho, Luxembourg, Latvia, Morocco, Moldova, Mexico, North Macedonia, Malta, Malawi, Malaysia, Nicaragua, Netherlands, Norway, New Zealand, Panama, Philippines, Poland, Portugal, Paraguay, Romania, Russian Federation, Singapore, Slovenia, Sweden, Togo, Thailand, Trinidad and Tobago, Tunisia, Turkiye, Uganda, Ukraine, Uruguay, United States, South Africa.

Despite the studies focusing on demand forecasting for a single or a few countries (Salman et al., 2007; Uysal & Crompton, 1984; Witt & Martin, 1987), the current study aimed to obtain generalizable common factors affecting tourism demand with the panel data study such as the studies by Khoshnevis Yazdi and Khanalizadeh (2017), Naudé and Saayman (2005), Seetaram et al. (2016), Ghaderi et al, (2017), and Balcilar et al. (2021).

This study aims to determine the impact of countries' security levels and reel effective exchange rates (as price proxy) on tourism demand. For this purpose, the model can be written as $TD = f(SC, REER, GDP)$ where TD indicates Tourism Demand in the number of arrivals, SC indicates security level, REER is Reel Effective Exchange Rate, and GDP is Gross Domestic Product. "Political stability and absence of violence/terrorism index" percentile rank has been considered as a proxy for Security Level (SC). World Bank database defines the Political Stability and Absence of Violence/Terrorism as follows: “It measures perceptions of the likelihood of political instability and/or politically-motivated violence, including terrorism. Percentile rank indicates the country's rank among all countries covered by the aggregate indicator, with 0 corresponding to the lowest rank, and 100 to the highest rank” (Kaufmann et al., 2010; World Bank Metadata Glossary, PV.PER.RNK). In the study, REER has been considered as a proxy for countries' average goods and services price level that changes over time. A decrease in REER represents a depreciation of the local currency, which means goods and services become relatively cheaper. World Bank database defines the Reel Effective Exchange Rate (REER) as follows: "It is the nominal effective exchange rate (a measure of the value of a currency against a weighted average of several foreign currencies) divided by a price deflator or index of costs. For a country, the real effective exchange rate index is the nominal index adjusted for relative changes in consumer prices; an increase represents an appreciation of the local currency. In a market-based economy, households, producers, and governments' choices over resource allocation are influenced by relative prices, including the real exchange rate, real wages, real interest rates, and other prices in the economy. Relative prices also largely reflect these agents' choices. Thus, relative prices convey vital information about the interaction of economic agents in an economy and with the rest of the world" (World Bank Metadata Glossary, REER). GDP shows the size of a country not only in terms of economic activity, but also as a whole. In this sense, it is expected to have a direct relationship with the number of incoming tourists. GDP is also representative of many country-specific economic variables that are not considered. There is a need for a control variable to take into account those country-specific variables and their changes over time. For this purpose, the logarithms of the country's GDP in US dollars, which is expected to explain a large portion of the number of tourists visiting, are also included in the model (World Bank Metadata Glossary, GDP).

Model

First, we took natural logarithms of all variables and estimated panel data model as below.

$$LnTD_{it} = \beta_0 + \beta_1 LnREER_{it} + \beta_2 LnSC_{it} + \beta_3 LnGDP_{it} + \varepsilon_{it} \quad i = 1, \dots, 73$$
$$t = 2003, \dots, 2018 \qquad (1)$$

In Eq. 1, LnTD stands for natural logarithm of tourism arrivals as a proxy for tourism demand, LnREER stands for natural logarithm of reel effective exchange rate as a proxy for countries' average goods and services price level that changes over time, LnSC stands for political stability and absence of violence/terrorism index as a proxy for Security Level, LnGDP stands for natural logarithm of country's GDP in US dollars, and finally ε stands for disturbance. In this model, the expected signs of the coefficients β_2 and β_3 are positive since the higher security level in a country the higher tourism demand and also the higher economic activity leads more tourism activity. However, the expected sign of β_1 is negative since the lower relative prices in destination countries leads to higher tourism demand.

Panel time series analysis

In panel data analysis, the length of the time dimension is determinative for econometric method used. If time dimension is long, one can use panel time series estimations, if time dimension is short, panel regression models can be used to estimate the model. Our time dimension is 16 years (T=16) and one may find this length is short while others find long. Because of high number of cross sections (N=73), we firstly performed panel time series techniques to ensure the robustness of the estimations.

Cross sectional dependency

In a long panel, there could be a correlation among the units called cross section dependence. That there is a cross section dependency means that a random shock given to any country in the panel can lead to shocks to other countries. If the panel is cross sectional dependent, one can perform the second generation unit root tests to analyse stationarity.

Thus, the first step of the analyses was to test cross-section dependence. To do this, we performed Breusch-Pagan LM by Breusch and Pagan (1980); Pesaran scaled LM, Bias-corrected scaled LM, and Pesaran CD test by Pesaran et al. (2008). The results can be seen in Table 1.

Table 1. *Cross sectional dependency analysis*

H_0: No cross section dependence			
Series	Test	Statistic	*P*-value
LnTD	Breusch-Pagan LM	24,078.05	0.000
	Pesaran scaled LM	295.87	0.000
	Bias-corrected scaled LM	293.44	0.000
	Pesaran CD	125.34	0.000
LnREER	Breusch-Pagan LM	13,213.71	0.000
	Pesaran scaled LM	146.01	0.000
	Bias-corrected scaled LM	143.58	0.000
	Pesaran CD	6.43	0.000
LnSC	Breusch-Pagan LM	7,214.06	0.000
	Pesaran scaled LM	63.26	0.000
	Bias-corrected scaled LM	60.82	0.000
	Pesaran CD	-0.21	0.836
LnGDP	Breusch-Pagan LM	29,527.33	0.000
	Pesaran scaled LM	371.03	0.000
	Bias-corrected scaled LM	368.60	0.000
	Pesaran CD	168.54	0.000

As seen in Table 1, only the Pesaran CD test for the variable LnSC indicates cross sectional independency but all other three tests for all variables give evidence for cross section dependency of the panel. So, we concluded that our panel is cross sectional dependent.

Panel unit root tests

The second step is to perform panel unit root tests. Panel root tests are chosen according to the results of cross sectional dependency tests. In the case of cross section independency, the first generation unit root tests are proposed while in the case of cross sectional dependency, the second generation unit root tests are appropriate for the unit root analysis in the panel. Because of cross-sectional dependence, we performed Pesaran-CIPS test by Pesaran (2007) as a second generation unit root test. The results are given in Table 2. As seen in Table 2, all series are stationary at .10 level.

Table 2. *CIPS unit root test results*

H0: Unit root Series	Statistics	P-value
LnTD	-2.36	<0.01
LnREER	-2.20	<0.05
LnSC	-2.03	<0.10
LnGDP	-6.49	<0.01

The model with constant is used. According to AIC statistic, lag is 3 for the series LnTD, LnREER, LnGDP and 1 for the series LnSC.

Panel data regression

As a result of panel time series analyses, it is concluded that panel regression techniques could be used to estimate our model since our variables are stationary. Firstly, to decide between pooled and fixed/random effects model, we ran F test and obtained $F_{72,1092} = 274.58, P = 0.000 < .01$. According to this result, we rejected the null of equality of country factors and concluded that pooled regression model is not appropriate for estimation. The results of Hausman test ($\chi^2_3 = 7.95, P = 0.047 < .05$) indicated that fixed effect estimator is consistent at .05 level. To check heteroskedasticity, modified Wald test was performed and the null of constant variance was rejected ($\chi^2_{73} = 21602.56, P = 0.000 < .01$). Furthermore, to analyse serial correlation, we calculated modified Durbin-Watson statistic by Bhargava et al. (1982) and Baltagi-Wu LBI statistic by Baltagi and Wu (1999) and we found these statistics as 0.322 and 0.579 respectively. That both statistics were far from value of 2, meaning that disturbances were auto-correlated. Importantly, we also ran DeBenedictis-Giles Reset test by DeBenedictis and Giles (1998) to understand if the model was correctly specified. For this purpose, we obtained three statistics as

$F_{2,1162} = 0.849, P = 0.428 > .10$ for ResetS1 test, $F_{4,1160} = 2.042, P = 0.086 > .05$ for ResetS2 test and $F_{6,1158} = 1.380, P = 0.219 > .10$ for ResetS3 test. All three form of test statistics indicated that there was no model specification error in the model at .05 level. Finally, we calculated variance inflation factors (VIF) for the covariates in the model to see if the multicollinearity existed and found that maximum VIF value is 1.05 lower than the value 10 and concluded that there was no multicollinearity problem in the model. In the light of all these results of diagnostics, we used fixed effects Driscoll-Kraay estimator by Driscoll and Kraay (1998) to estimate the model in Eq. 1 since it was consistent under cross-section dependence, heteroskedasticity and serial correlation when N>T. The results of the fixed effects Driscoll-Kraay estimation can be seen in Table 3.

Table 3. *Fixed-effects Driscoll-Kraay estimation results*

Dependent Var.: LnTD	Coef.	Drisc/Kraay Std. Err.	*P*-Value
LnREER	-0.7299*	0.063	0.000
LnSC	0.1458*	0.019	0.000
LnGDP	0.7601*	0.062	0.000
Cons.	-1.0417	1.338	0.448

$F_{3,15}$=68.42, *P*-Value=0.000

*: significant at .01 level.

As seen in Table 3, the estimated model is significant ($F_{3,15} = 68.42, P = 0.000 < .01$) and also all regression coefficients are significant at .01 level ($P = 0.000 < .01$). The signs of the coefficients are as expected. The countries' reel effective exchange rates have negative and significant effects on tourism demand. A 1% increase in the reel effective exchange rate leads to a decrease of about .73% in the tourism demand. The countries' security levels have positive and significant effects on the tourism demand. A 1% increase in the security level causes an increase by for about .15% in the tourism demand. The economic levels of the countries have also positive and significant effects on the tourism demand. From Table 3, one can say that a 1% increase in GDP leads to a .76% increase in tourism demand.

Panel quantile regression

Obtaining fixed effects regression results, we ran fixed effects panel quantile regression estimation by Machado and Silva (2019) to see the behaviour of the parameters among the percentiles of the dependent variable namely tourism arrivals. Lv and Xu (2017) suggested that the assumption of fixed effect (fixed coefficient) is not valid in all country groups, and it would be more accurate to use quantile regression, based on the idea that the degree of effect might be different in countries where tourism demand was different. Furthermore, panel quantile estimation is robust under heteroskedasticity, non-normal disturbance, and outliers. The methodology by Machado and Silva (2019) gives us the equation below.

$$LnTD_{it} = \alpha_i + X_{it}'\beta + (\delta_i + Z_{it}'\gamma)U_{it} \quad (2)$$

In Eq 2, X is the vector of independent variables (LnREER, LnSC and LnGDP), β is the vector of regression coefficients, Z is a k-vector of differentiable components of X that $Z_l = \mathcal{Z}_l(X), l = 1, \ldots, k,$ α_i and δ_i are the parameters which capture individual i fixed effects with $Pr(\delta_i + Z_{it}'\gamma > 0) = 1$ and finally U_{it} are independent of X_{it} and i.i.d. To satisfy moment condition, U_{it} are normalised and it is obtained τth quantile estimation as Eq 3 where $\alpha_{it}(\tau) = \alpha_i + \delta_i q(\tau)$ is the distributional effect at quantile τ.

$$Q_Y(\tau|X_{it}) = \alpha_i + \delta_i q(\tau) + X_{it}'\beta + Z_{it}'\gamma q(\tau) \quad (3)$$

This regression in Eq 3 is estimated by using method moments-quantiles estimator (MM-QR) proposed by Machado and Silva (2019).

Table 4. *Fixed-effects panel quantile estimation results*

Dependent Var.: LnTD, Obs.=1168		**Coef.**	**Std. Err.**	***P*-Value**
.1 Quantile	LnREER	-0.6940**	0.158	0.000
	LnSC	0.1899**	0.057	0.001
	LnGDP	0.8208**	0.045	0.000
.2 Quantile	LnREER	-0.7038**	0.130	0.000
	LnSC	0.1779**	0.047	0.000
	LnGDP	0.8042**	0.037	0.000
.3 Quantile	LnREER	-0.7103**	0.114	0.000
	LnSC	0.1699**	0.041	0.000
	LnGDP	0.7933**	0.033	0.000
.4 Quantile	LnREER	-0.7180**	0.100	0.000
	LnSC	0.1604**	0.036	0.000
	LnGDP	0.7802**	0.029	0.000
.5 Quantile	LnREER	-0.7260**	0.093	0.000
	LnSC	0.1506**	0.034	0.000
	LnGDP	0.7666**	0.027	0.000
.6 Quantile	LnREER	-0.7369**	0.098	0.000
	LnSC	0.1372**	0.035	0.000
	LnGDP	0.7483**	0.028	0.000
.7 Quantile	LnREER	-0.7478**	0.118	0.000
	LnSC	0.1239**	0.043	0.004
	LnGDP	0.7299**	0.034	0.000
.8 Quantile	LnREER	-0.7581**	0.146	0.000
	LnSC	0.1112*	0.053	0.035
	LnGDP	0.7145**	0.041	0.000
.9 Quantile	LnREER	-0.7694**	0.180	0.000
	LnSC	0.0973	0.065	0.136
	LnGDP	0.6934**	0.051	0.000

*: Significant at .01 level, **: Significant at .05 level.

We ran fixed effects panel quantile estimation by Machado and Silva (2019) to estimate the models in Eq 2 and 3 to see the behaviours of the parameters over the selected percentiles as 0.1, 0.2, … , 0.9 of the tourism demands. The fixed effects panel quantile estimation results are given in Table 4.

As seen in Table 4, the signs and significances of the coefficients, except the significance of the variable LnSC in 0.9th quantile regression, are in line with the estimation of the fixed-effects Driscoll-Kraay regression shows that the results are robust. All coefficients are getting lower as the percentiles increase. This means that security levels and economic activity have more significant impacts in countries with low tourism demand. However, when the absolute values of the coefficients are considered, real effective exchange rates have more important effects in countries with high tourism demand. These negative correlations between the coefficients and quantiles can be seen in Fig 1. Even in the reaching highest tourism demand, the security level of the country loses its effects on the tourism demand since the coefficient of the variable LnSC is insignificant in 0.9th quantile regression (P=0.136>.10).

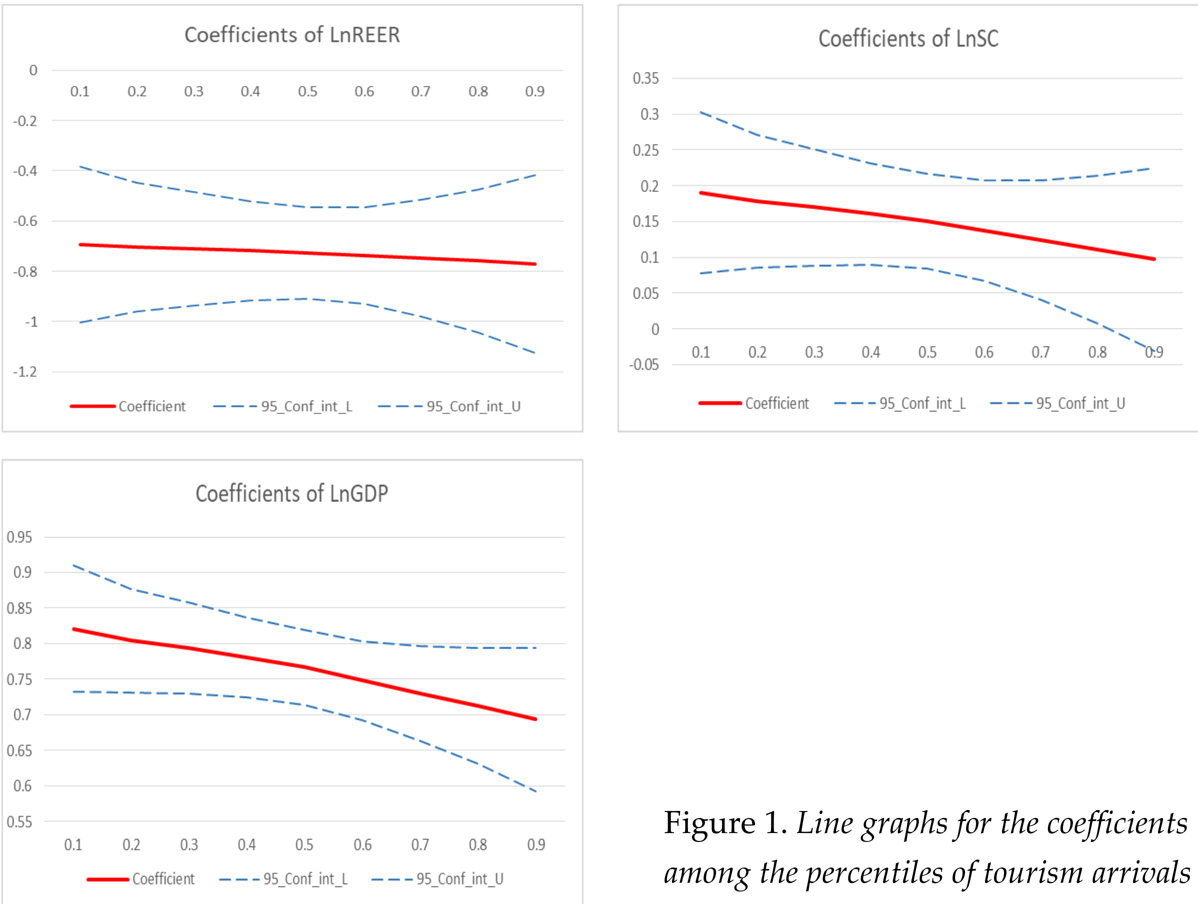

Figure 1. *Line graphs for the coefficients among the percentiles of tourism arrivals*

CONCLUSION

The importance of tourism is directly linked with the economic added value and foreign exchange inflow it creates. It also generates external benefits that provide additional services to many sectors given its potential to create employment and its impact on the social and cultural structure.

Therefore, determining the factors that affect tourism demand is of great importance for policy makers. There are many studies in the literature focusing on the factors that determine tourism demand. However, in the period that started with the Covid-19 pandemic, it was predicted that some factors such as the deterioration of global income distribution, the tension between countries Russia-Ukraine and China-Taiwan, increased military activity in relatively intense tourism demand regions, and increased refugee problem will be brought ahead of others. In this context, the ability of policymakers to manage price and security levels in tourism strategies, besides the attractions they have, will increase the competitive advantage of countries, especially in the last period.

This study has examined the effects of the security level and the price level (REER) on tourism demand. In the literature, it is seen that the number of studies dealing with the effects of these two variables on tourism together is relatively low. Therefore, the expectation that the importance of these variables will increase in the near future constituted the main motivation for this study. In addition, a few studies in the literature was carried out using the data set for 73 countries covering the years 2003-2018. The data set was first analysed by panel regression, and then another analysis was carried out with the moment-quantile estimator (Machado & Silva, 2019) method, which was introduced to the literature in 2019.

In the first stage of the study, the effects of REER and security variables on the number of tourists were investigated by panel analysis method and it was determined that these two variables had significant effects on tourism demand. Tourism demand has a positive interaction with the level of security. On the other hand, the increase in the REER variable, which characterizes the general level of prices in the target country, corresponds to a decrease in tourism demand. These findings are consistent with previous studies and the study's hypotheses. The calculated coefficients are accepted as elasticity values when working with logarithmic values. Considering the absolute values of the coefficients, a 1% decrease in price level (REER) affects tourism demand by 0.7299%, while a 1% increase in the security level (SC) affects tourism demand by 0.1458%. When the effect of GDP is questioned, it is seen that as the main determinant of tourism demand, it has the greatest effect (0.76%) as it is expected, since it also reflects the differences between countries.

The effect of REER and Security on tourism demand has been questioned according to different percentiles of tourism demands. In this context, tourism demand levels were divided into 9 percentiles within the scope of the quantile regression method and the relative coefficients of each group were calculated. The positive effect level (coefficient) of security decreases with the increasing tourism demand in the percentiles according to the increasing tourism demand. To such a great degree that the coefficient was found to be insignificant in the last group. On the other hand, in the high percentiles of tourism demand, the negative effect of the price level increases in absolute values. In overall, it can be interpreted that the effect of the security level decreases as you go to countries with high tourism demand, and the effect of the price level becomes more pronounced. In relatively large countries with large tourism demand, the adequate level of security (with low volatility) ceases this factor to be a factor influencing tourism demand. The decreasing effect of GDP will be due to the fact that countries with high tourism demand are more homogeneous in size and its effect on tourism demand will weaken.

Limitations and Implications

In this study, a holistic evaluation was made with the tourism data of 73 countries and some inferences were made that are expected to provide decision support to policy makers. In this context, the reflections of the findings on economies and politics and the constraints encountered can be summarized as follows:

While the outputs of this study provide decision support to policy makers, businesses can also use it to find future implications. The effect of security level and prices on tourism demand is undeniable, but in most cases, it can be said that the price level is more dynamic and effective than the security level. Therefore, unless there is a situation that creates a serious security problem, strategies on pricing will be more beneficial. The issue of security needs to be addressed in the long term in order to be more stable. Analysis with quantile regression provides detailed information that differs according to the volume of tourism demand. As a matter of fact, as revealed in this study, tourism demand, which is closely related to the size of the country, also differentiates the effect of REER and security level on demand. This differentiation will also differentiate policies based on these variables from country to country. Based on the assumption that the security level is sufficient in countries with high tourism demand, it can be said that it loses its effect and pricing becomes more prominent. The importance of security in countries with low tourism demand is also increasing due to the fact that the security level and its relatively more volatile behaviour. In this group of countries, emphasis should be placed on issues that will instil confidence in tourists.

Many countries are already aiming to diversify tourist attractions and get a bigger share of the global tourism pie. However, the potential attractiveness of each country is different from the others. While sea-sand-sun tourism is dominant for some countries, congress or health tourism may come to the fore for another group of countries. The determinants and their effects on tourism demand may differ in each type of tourism. This study was carried out without any distinction between countries. Further research could focus on countries that do best in tourist attraction, such as sea-sand-sun tourism, by creating a relatively homogeneous sample. A similar type of grouping can be done on a regional basis. Thus, differing regional priorities can be identified.

Annual data were used in the study. However, tourism demand has highly seasonal characteristics. At this point, for example, increasing the frequency by using monthly data will provide decision support to policymakers with more detailed results. Also, in some cases, it may be better to look at the lagged effect of variables because it may take time for a change in a factor to affect tourism demand.

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THE NEXUS BETWEEN TOURISM SECTOR PERFORMANCE AND INSTITUTIONAL QUALITY: EVIDENCE FROM TEN MOST-VISITED DEVELOPING COUNTRIES

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ABSTRACT

The nexus between tourism sector performance and the quality of institution have been widely studied by several researchers. However, based on the knowledge of the authors of this study, no research has investigated the impact of institutional quality and trade openness as an economic institution on tourism development for most-visited developing countries. In this context, the target of this study was to empirically examine the link between the quality of the institutional structure and tourism sector development for 10 developing countries for the period 2001 to 2018. To achieve this objective, the panel data approach was preferred and adopted as it provides the advantage of including more observations. The results obtained indicate that an increment of 1% in trade volume and institutional quality increased tourism arrivals by 1.29% and 0.38%, respectively.

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INTRODUCTION

Tourism is not only an activity where people learn about new cultures (Atsız et al., 2022a), establish friendships and gain experiences (Atsız et al., 2022b) but also an industry with economic contributions. With its 10.3% contribution to World's GDP and its power to provide 330 million jobs in 2019, the tourism industry is the world's third-largest export industry which has direct and indirect substantial impacts on countries' economic

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development (WTTC, 2019). It is accepted as an influential way to reach high rates of growth and development due to its functions such as providing employment, contributing to the gross domestic product, attracting foreign exchange, and encouraging entrepreneurial activities, particularly in developing countries whose industrial infrastructure is not as advanced as developed countries (Telfer & Sharpley, 2008). The development of the tourism industry has become an imperative duty to accomplish for policymakers who target macroeconomic improvement. The impacts of tourism on macroeconomic variables have been analyzed several times and various studies have provided empirical evidence indicating the positive causality of the tourism sector to economic growth (Arslanturk et al., 2011; Cannonier & Burke, 2019; Stauvermann et al., 2018).

The substantiality of the tourism industry for overall economic prosperity has been demonstrated once again during the COVID-19 outbreak which has caused a 56% decline in tourist arrivals globally in the first month and a 98% decline in the fifth month. The total loss in exports from these arrivals has been almost $320 billion which is three times higher than the total loss of the 2009 Global Financial Crisis (UN, 2020). Despite its devastating economic results, the pandemic has supplied an opportunity to reconsider the vital role of the tourism sector. The ongoing case typifies an adverse scenario; however, this could have also been a favorable circumstance that would cause an explosion in the tourism sector. In this regard, it can be said that a positive or negative shock that impresses the tourism sector directly or indirectly may cause huge outcomes in the overall economic conditions.

The prominent role of tourism for domestic and global economic welfare steers scholars and politicians to inquire about ways to enhance tourism activities and increase tourism revenues long since. The institutional quality which has started to catch scholars' attention as a determinant of tourism activity for a couple of decades, is a variable that shows the quality of a country's institutions. Institutions could be considered as the rules of the game for society. Initially introduced by Institutional School, whose main assertion is that "institutions matter", defined institutions as the humanly fabricated restraints that shape human interactions (North, 1990, p. 3). Schmoller (1900) who studied institutions as a determinant of economic and political processes years before North, has defined them as the arrangements related to a certain point of the life of society, oriented towards certain targets, having a distinctive emergence and progress, and serving as a framework for the movements of generations that have come on after another for hundred years (Chavance, 2009). Even though the definition of the term has gained diversity with the evaluation of different institutional schools, in a general manner, they can be described as the collection of interrelated rules and customs that identify proper actions in terms of relations between circumstances and statuses (March & Olsen, 2006). In this context, property, serfdom, markets, democracy, law, trade, money, and industry are all examples of institutions that are the collection of rules, customs, and regulations having a common center or targets and establishing a system together (Chavance, 2009). The quality of this collection of rules and regulations that determine the environment in which economic activity is held has a prominent role in the establishment of organizations, entrepreneurship, and other economic agents. As stated by North (1994), if the institutional structure rewards the pirate activities, pirate organizations will raise, on the other hand, if the productive actions are rewarded, productive organizations will be born.

There are political, economic, social, and legal institutions that are all interrelated and have an effect on each other. Political institutions are stated to have the power to generate economic institutions which are the determinants of resource distribution and growth rate of the economies in the New Institutionalist literature (Acemoğlu et al., 2006). New Institutionalism tends to accept some New Classical assumptions such as automatic equilibrium in markets and determinative role of individual choices (Rutherford, 1994; Klein, 1998). From this point of view, it can be concluded that the distribution of political power, the structure of governing mechanism, democracy, the efficiency of administrations, and all kinds of political institutions are influential in the formation and improvement of economic institutions shaping economic outcomes such as trade, property, consumption, taxes, entrepreneurship, and all sectors like finance, tourism, and manufacturing. The political, economic, and other institutions will also have a determinative role in the activities, developments, and performance in the tourism sector.

Tourism is a social phenomenon that includes people traveling and remaining in a location that is different from their usual environment for a specific period of time (UNWTO, 2008); it is fragile to the changes occurring in the politics and economics of countries. The transportation opportunities, safety, crime, marketing campaigns, the international image, and the overall development of the country are conservatively accepted as linked with the performance of the tourism sector (Roxas & Chadee, 2013). Besides, the political conditions such as terrorism or the possibility of a coup, the circumstance of human rights have the potential to directly affect the decision to visit a country since they are strongly related to the safety and peace of the society. For instance, adverse and hazardous conditions in a country's political and legal spheres can result in an actional boycott of or renouncement of erstwhile popular destinations (Lea, 1988). On the other hand, the economic institutions determined by political and legal institutions are influential on the tourism sector's performance through the policies that may stimulate or discourage the activities of the sector. From the perspective of new institutionalism, the openness in trade, protection of property rights, or absence of corruption all might have impact on the activities that can invigorate the arrivals by affecting the investments in tourism. Accordingly, Acemoglu and Robinson (2013) stated that well established institutional structure will encourage the economic agents to be more innovative and to invest more, and proved that property rights have a massive impact on long-term economic development (Acemoglu & Johnson, 2005). We might expect more investment and innovation to be made in the tourism sector like other industries in an environment where the rights of investors are guaranteed and the restrictions on their activities are reduced. The more investment in tourism activities, the more travelers will be interested in the country.

With the purpose of testing the relationship among tourism development, liberalization, and institutional quality in the 10 most-visited developing countries (China, Mexico, Croatia, Turkey, Malaysia, Russian Federation, Thailand, Vietnam, India, and Indonesia) between the years 2001 and 2018, this paper first makes a related literature review. After the examination of counterpart studies, the data is then presented in a framework that the institutional quality is tackled bidimensionally as political-legal institutions and economic institutions. The political and legal institutions that determine the legal structure in which all kinds of social, economic, and political behaviors are realized, are currently measured with the Global Governance Indicators that have been indexed by World Bank. On the other hand, as we have stated above, these political-legal institutions are the determinants of economic institutions such as liberalization of markets, property rights, restrictions on trade, etc. In this context, this study tackled liberalization or openness to trade as a kind of economic institution which is specified under the legal and political institutions and determines a country's trade volume, global integration level, mobilization of labor, or the extent of trade barriers. Before concluding, the methodological process and model to be applied will be explained step by step and the results will be interpreted respectively.

LITERATURE REVIEW

The statement that tourism sector performance is crucial for economic growth and development, has been empirically proved by diverse studies in the literature (Bassil et al., 2015; Habibi & Ahmadzadeh, 2015; Smeral, 2015; Cannonier & Burke, 2019). Similarly, a good deal of studies has provided evidence that confirmed the determinative role of institutional quality and liberalization on economic and financial performance (Acemoglu & Johnson, 2005; Butkiewicz & Yanikkaya, 2006; Haggard et al., 2008; Law & Azman-Saini, 2012; Marcelin & Mathur, 2015; Slesman et al., 2015). The literature on empirical investigations of the relationship between institutional quality and tourism sector performance is also extending gradually.

Several current researches have examined the relationship between diverse institutional quality variables and tourism development indicators. Some of these studies have analyzed the relationship by employing the institutional determinants separately. For instance, Eilat and Einav (2004) investigated the determinants of international tourism for all countries between the years 1985 and 1998 by employing a discrete choice estimation methodology and stated that political risk is very prominent for tourism development. Another study that analyzed the link between corruption and tourism in 199 countries was carried out by Das and Dirienzo in 2010 and showed evidence that corruption has a deteriorating impact on tourism competitiveness. On the other hand, Yap and Saha (2013), using the fixed effect panel data approach for 139 countries between the years 1999 and 2009, studied the effect of political instability, terrorism, and corruption on tourism development for UNESCO-listed heritage destinations. As a result of the analysis, they concluded that political instability impairs tourism revenue and arrivals while corruption has no effect on them. Besides, Poprawe (2015) demonstrated that a one percent decrease in the corruption index leads to a decline by two to seven percent in tourism revenue in her study that employed panel data analysis for 100 countries between the years 1995 and 2010. Tang (2018) investigated the link between institutional quality and inbound tourism in Malaysia by employing a dynamic panel GMM methodology. He declared that political stableness, corruption, government effectiveness, and the rule of law are all significantly effective on tourism revenues while voice and accountability are not. As a relatively current example, using the dynamic panel data analysis for 100 countries between the years 2002 and 2012, Detotto et al. (2021) proved that Worldwide Governance Indicators (WGI) have a positive impact on countries' tourism performances.

Another methodology that has been used to analyze the relationship between the quality of the institutional structure and tourism sector performance is constructing an index variable of different institutional quality indicators. In this context, Lee (2015) constructed the quality of governance variable by averaging corruption, law and order, and bureaucracy quality and scaling them between 0 and 1. Lee (2015) provided evidence that government quality is positively linked with tourism competitiveness based on the OLS estimation for 117 countries. As a contemporary example, Mushtaq et al. (2020) analyzed whether institutional quality affects tourism development in India from 1995 to 2016. They showed that trade openness and institutional quality (PCA of WGIs) have a stimulating effect on the tourism development in India. Ming and Liu (2021) showed that political uncertainty has an adverse impact on tourism revenues by taking the anti-corruption campaign in China as a research setting. Khan et al. (2021) supplied evidence that institutional quality has a promotive impact on tourism development by analyzing the relationship between governance and tourism development for a panel of 65 during the years between 2000 and 2015. Finally, by examining the data of tourism-dependent economies for the period 2002-2017, Adedoyin et al. (2021) suggested that weak institutions have a deteriorating impact on the tourism-growth nexus.

The second independent variable in this study is trade openness. It is employed as an economic institution that indicates the extent to which an economy is integrated with the rest of the world. Even though most of the research in the literature assert that trade liberalization has positive causality on economic well-being, it is also believed to have a negative effect in the case of very low institutional development (Stensnes, 2006). In this context, this study employed liberalization as an economic institution that can positively affect tourism development in an environment where other legal, political, social, and economic institutions are developed enough. From this point of view, the literature investigating the relationship between tourism sector performance and trade openness was reviewed. For example, Leitão (2010) employed static and dynamic panel demand models and provided evidence that trade volume is a significant positive determinant of tourism demand in Portugal between the years 1995 and 2006. On the other hand, Wong and Tang (2010), employing Toda and Yamamoto causality test, indicated that trade liberalization with Singapore's major trading partners may not result in higher amounts of tourist arrivals from these countries. However, they observed that it is an important determinant of the growth and development of the tourism sector. Habibi and Ahmadzadeh (2015) certified a bidirectional relationship between total trade volume and tourism development by employing the ARDL cointegration methodology for quarterly data covering the years 1980-2013 in Malaysia. Chaisumpunsakul and Pholphirulb (2018) demonstrated that there is a positive link between trade openness and international tourism demand for Thailand. They concluded that when the trade share to GDP increased by 1%, long-term foreign tourism demand rose by 0.8% in Thailand. In another study, Puah et al. (2018) analyzed the determinants of tourism demand for Malaysia for the years between 2000-2015 using the ARDL cointegration test. They showed that as the level of trade liberalization between China and Malaysia rises, the amount of Chinese tourists visiting Malaysia gets higher. Similarly, Khan et al. (2021) indicated that as the trade openness enhanced, tourism development increased in 65 developing countries from the period 2000-2015. Finally, Nyasha and Odhiambo (2021) proved the positive impact of trade openness on tourism development in their study that examined the determinants of tourism development for South Africa, Brazil, and Vietnam for the years 1995-2018.

As shown by the literature review, the nexus between institutional quality and tourism sector performance is accepted and has been proven by several studies in the literature. Besides, the openness to trade or liberalization is empirically shown to have a favorable impact on tourism development. In this framework, the current study tests these relationships for the 10 most-visited developing countries between the years 2002 and 2018. The consistency of the results with the literature is also investigated.

DATA AND ECONOMETRIC METHODOLOGY

The study employed a panel ARDL model for 10 developing countries between the period 2002-2018 to analyze the relationship between institutional quality and tourism sector performance. The most visited developing countries have been selected considering the significant role of tourism sector revenues in their economic developments. These countries are respectively China, Mexico, Croatia, Turkey, Malaysia, Russian Federation, Thailand, Vietnam, India, and Indonesia according to the statistics of the World Bank in 2019. The panel data approach was preferred since it provides the advantage of including more observations, especially in the cases where the data are restricted like governance indicators.

In the literature, tourism sector development is mainly represented by two indicators: international tourism receipts (Ekanayake & Long, 2012;

Chaudhry et al., 2021) and international tourism arrivals (Deng and Hu, 2019; Eleftheriou & Sambracos, 2019; Ghalia et al., 2019; Seetanah, 2019; Ahmad & Ma, 2021). Following the latter, this study used international tourism arrivals which were obtained from the world development indicators database to measure tourism sector performance. On the other hand, using the principal component analysis, an index variable was created to measure institutional quality. The PCA representing institutional quality consisted of government effectiveness, the rule of law, the control of corruption, regulatory quality, and voice and accountability. Political stability was not included since it is an important and widely studied determinant of tourism development individually.

Finally, the data belonging to total trade volume representing trade openness was obtained from the World Development Indicators database in a form of a percentage of GDP.

Table 1. *List of variables*

Abbreviation	Variable	Indicator	Source
LTD	Tourism Development	International Tourism Receipts	WDI
LTR	Liberalization	Total Trade (% of GDP)	WDI
INS	Institutional Quality	Rule of law	WGI
		Regulatory Quality	WGI
		Government Effectiveness	WGI
		Control of Corruption	WGI
		Voice and Accountability	WGI

Table 2. *Descriptives*

Variable	Obs	Mean	Std. Dev.	Min	Max
Tourism Arrivals	170	38.900.000	39.200.000	2.384.000	159.000.000
Trade Volume(% of GDP)	170	84.309	47.319	29.509	210.374
Control of Corruption	170	-0.358	0.371	-1.144	0.411
Government Efficiency	170	0.161	0.416	-0.500	1.267
Regulatory Quality	170	-0.001	0.412	-0.596	0.838
Rule of Law	170	-0.215	0.408	-0.970	0.623
Voice and Accountability	170	-0.398	0.717	-1.749	0.658
Institutional Quality	170	0.000	1.000	-1.850	2.055

Table 2 presents the descriptive statistics and indicates the ten most visited developing countries received 38.900.000 international tourists annually over the years 2002-2018. The minimum and the maximum numbers of tourist arrivals in 2018 belong to Vietnam and China. On the other hand, the mean of trade volume (the proportion of the sum of imports and exports with respect to GDP) is 84% while its standard deviation is 47%. Finally, the averages of governance variables that take values between -2.5 and 2.5, are below zero except for government efficiency. The institutional quality variable which was created by the PCA of governance indicators has almost zero mean and one standard deviation. The highest and lowest numbers of institutional quality in 2018 pertained to Malaysia and Russian Federation. The empirical specification that will be used for this study is given as follows:

$$\mathrm{TD_{it}} = (\mathrm{TR}_{it}, INS_{it})$$

where i and t indicate country and year respectively, TD refers to the international tourism arrivals, TR indicates the trade volume, and INS is the institutional quality index. The log-linear form of the above equation can be specified as:

$$\mathrm{LTD_{it}} = \beta_0 + \beta_1 \mathrm{LTR}_{it} + \beta_2 INS_{it} + \varepsilon_t$$

where ε_t is the error term and β_1 and β_2 are the coefficients that show the marginal responses of tourism arrivals to changes in trade openness and institutional quality seriatim. In the light of the theoretical framework and the existing literature, both of the coefficients are expected to be positive.

The empirical estimation of the above model specified in the second equation was realized through the ARDL model which is a model that allows the researchers to analyze the cointegration among the variables that are integrated into different orders except two (Pesaran & Smith, 1995). On the other hand, it is a better methodology for the small sample data and it automatically tackles the endogeneity between the variables (Mushtaq et al., 2020). To be able to apply the procedure, first we should be sure that the independent variable is integrated into order 1 and any of the variables are not integrated into order 2. In this context, the integration level of each variable is first determined by the unit root test. Following the stationarity tests, the cointegrating relation among the variables is detected to be able to continue with Panel ARDL to estimate the long-run coefficients of the variables. Because of the reasons that will be explained below, the study employed the Westerlund Cointegration test to determine cointegration among the variables. The determination of the long-run relationship is followed by the ARDL model which estimates the long-run coefficients of the institutional quality variables. The model whose optimal lags have been determined with respect to Bayesian Schwarts Information Criteria (SIC) ARDL(1,1,1) is specified as follows:

$$LTD_{i,t} = \beta_{1,i} + \sum_{j=1}^{p=1} \beta_{2i} LTD_{i,t-j} + \sum_{j=1}^{q=1} \beta_{3i}\, LTR_{i,t-j} + \sum_{j=1}^{q=1} \beta_{4i}\, INS_{i,t-j} + \varepsilon_{i,t}$$

where β_3 and β_3 indicate the long-run coefficients of the trade openness and institutional quality respectively. After the estimation of the long-run model, the error correction model -short-run model- which is shown below is then estimated as well:

$$\Delta LTD_{i,t} = \delta_{1,i} + \sum_{j=1}^{p=1} \delta_{2i} \Delta LTD_{i,t-j} + \sum_{j=1}^{q=1} \delta_{3i}\, \Delta LTR_{i,t-j} + \sum_{j=1}^{q=1} \delta_{4i}\, \Delta INS_{i,t-j} + \lambda_i ECT_{i,t} \varepsilon_{i,t}$$

where δ_{3i} and δ_{4i} represent short-run coefficients of the independent variables, ECT indicates error correction term, and λ_i implies the speed of adjustment that the model diverges from the shocks that occur in the short-term to equilibrium in the long run. In the estimation of the dynamic panel, the study employed PMG (Pooled Mean Group) estimator constraining the long-term coefficients to be identical and allowing short-term coefficients and error variances to vary across the panels in return for the MG (Mean Group) estimator which assumes that all long-run and short-run coefficients can differ across the panels (Pesaran et al., 1999), and the consistency and the efficiency of the PMG estimator is affirmed by the Hausman Test.

In the context of the mentioned methodology, firstly, the multicollinearity between the variables and cross-section dependency among the panels is tested. According to the presence of the cross-section dependency, the tests used to determine the stationarity of variables are determined. The integration levels of the variables were investigated through the selected unit root test and it was shown that any of the variables were not integrated into order 2. Concerning the outcomes of the cross-section dependency test, the cointegration method was chosen and implemented. Finally, following the specification of the entity of cointegration among the variables, the Panel ARDL and ECM models were applied to estimate long-run coefficients of the institutional quality that referred to political and legal institutions and the trade openness that indicated an economic institution.

EMPIRICAL RESULTS

Multicollinearity is a problem that indicates the perfect linear relationship between explanatory variables of a regression model, and in the case of the existence of perfect or less than perfect multicollinearity between the variables, the standard errors of the coefficients become indeterminate and their standard errors larger and even infinite which makes the coefficients unreliable and inaccurate (Gujarati & Porter, 2009, p. 344). Thus, the model should be free of this problem to be able to estimate confidential coefficients. To measure whether there is such a problem, the study used Variance Inflation Factor (VIF) values that are computed by R^2 values of each variable (Thompson et al., 2017).

Table 3. *Variance inflation factor results.*

Variable	VIF	1/VIF
INS	1.19	0.837529
LTR	1.19	0.837529
Mean VIF	1.19	

The VIF values for each variable are shown in Table 3, and it is seen that all values are below ten which implies that independent variables do not have multicollinearity problems. Second, the study checks if there is a dependency between the panels (countries) that is a common issue in panel data analysis. Traditional panel unit root and cointegration tests are proceeded assuming that the panels are independent of each other which is a restrictive assumption and it can produce misleading results. There are second-generation tests that have been developed to look for unit root and cointegration in the case that there is cross-sectional dependency among the panels. Thus, the determination of the cross-section dependency is crucial to deciding which generations test to use. The results of the cross-section independence test are shown in Table 4.

Table 4. *Cross-Section Independence test results*

Test	Statistics	Probabilities
LM	74.79***	0.0035
LM adj	5.598 ***	0.0000
LM CD	3.025***	0.0025

As can be seen in the Table 4, the null hypothesis of no cross-section dependency is rejected by all test statistics whose probabilities are below 0.05. Accordingly, the panels are dependent and the traditional unit root tests are not appropriate to determine stationarity levels and to continue with second generation panel unit root tests is required.

The study employs the Paseran Panel Unit Root test which increases the standard DF (or ADF) regressions with the cross-section means of lagged levels and first-differences of the singular series, instead of basing on deviations from the predicted factors (Pesaran, 2007).

The results of the Panel Unit Root Test demonstrate that all of the variables except for INS are integrated into order 1 at constant and constant and trend are demonstrated in Table 5. INS is integrated into order zero at a 10% significance level when the model does not include a trend. Thus, it is clear that any of the variables is not integrated into order 2 and the dependent variable is integrated into order 1, which indicates that there is no obstacle to running the Panel ARDL model.

Table 5. *Pesaran panel unit-root test results*

Variable	Level		1ST Difference	
	Constant	Constant and Trend	Constant	Constant and Trend
LTD	-1.462	-1.588	-3.132***	-3.364***
LTR	-0.579	-1.690	-3.038 ***	-3.385***
INS	-2.233*	-2.468	-3.797***	-3.926***

*, ** and *** indicates 10%, 5% and 1% significance levels respectively.

Before the determination of cointegration between the variables, the optimal lags of the error correction model have been determined by using Schwartz Information Criteria (SIC). The value of SIC indicates that the optimal lag which provides the best estimation results for each variable is 1. The cointegration among the variables has been measured by the Westerlund Cointegration test which models the cross-section dependence by using the limited number of common denominators and assumes that cross-sectional panels are independent depending on these dominators (Westerlund, 2008).

Table 6. *Westerlund Cointegration test results*

Test	Test Statistic	Probability
Westerlund	2.4748	0.0067

The cointegration test results are demonstrated in Table 6. The test statistics are significant at a 1% level which enables us to reject the null hypothesis of no cointegration. Hence, it can be concluded that cointegration exists among the tourism sector performance, institutional quality, and trade openness and the long-run coefficients can be estimated.

To estimate the long-run coefficients, the study uses PMG and MG estimators and compares their efficiency and consistency with the help of the Hausman Test. The difference between the MG and PMG estimators is that the MG estimator assumes that short-run and long-run coefficients can change over panels while the PMG constraints that long-run coefficients are identical for each panel. The long-run coefficients and error correction term, having been estimated through MG and PMG estimators, are reported in Table 7. According to the MG estimation results, it is seen that the error correction term is negative and statistically significant at the 1% level. The sign of the ECM is substantial since in the case that it is not negative, the shocks occurring in the short-run do not converge to the equilibrium, in the long run, instead, it would mean that there is an explosion from the equilibrium. Here, it is clear that the shocks converge to the equilibrium by 0.23 speed of adjustment. However, the long-run coefficients are not statistically significant even at the 10% level which prevents us to interpret them.

Table 7. *Panel ARDL results: long-run coefficients and error correction term*

	PMG Estimator		MG Estimator	
Variable	Coefficient	Probability	Coefficient	Probability
LTR	1.295469	0.008	0.4543029	0.693
INS	0.3765479	0.001	0.2232477	0.377
ECT	-0.0858852	0.004	-0.2308206	0.000
Hausman Test Results (MG/PMG)				
Chi^2 Test Statistic	Probability	Null Hypothesis		
1.90	0.3863	The difference in coefficients is not systematic		

PMG estimations results, on the other hand, ensure statistically significant long-term coefficients besides the negative and statistically significant error correction term. According to the ECM results of the PMG estimator, the shocks from the equilibrium do converge to it by 0.08 speed of adjustment. When it comes to the coefficients of the variables, the long-run coefficient of trade openness is seen to be positively related to international tourism arrivals. 1% increase in total trade volume results in tourism arrivals by 1.29% in the long run which indicates that as the level of liberalization in the trade rises, tourism sector development is enhanced. Since trade has been employed as an economic institution, the liberalization of this economic institution has a prompting impact on tourism activities.

The coefficient of the INS variable (the PCA of governance indicators) was observed to be positive and statistically significant at a 1% level. It was observed that as the institutional quality enhances by 1%, the tourism arrivals increased by 0.38% which provides additional evidence to the related literature having claimed the positive relationship between institutional quality and tourism development. Even though the percentage seems small, when the amount of tourism arrivals is considered, institutional quality clearly has a huge impact on tourism arrivals. For example, if the number of arrivals is 1 million, a 1% increase in institutional quality results in 3.800 more arrivals to the country. Therefore, the model proves that tourists consider the quality of the institutional structure of a country when they decide to visit there and they prefer to visit countries with higher institutional quality.

To determine which results are more efficient and consistent, the Hausman Test has been applied between the MG and PMG estimators and the result of the test is shown in Table 7. According to the Hausman test, the null hypothesis of the difference in coefficients is not systematic and could not be rejected which indicates that the PMG estimator is more efficient and consistent. In conclusion, the model with PMG estimator provides the reliable and interpretable results which proves the positive efficacy of institutional quality and trade openness to tourism sector performance.

CONCLUSION

Although prior works have examined the relationship between diverse institutional quality variables and tourism sector performance, to the best of the authors' knowledge, no study has explored tourism sector performance, trade openness, and institutional quality for most visited developing countries. Thus, the current gap motivated the authors to focus on this topic. In this context, this paper has tried to empirically investigate the relationship between the institutional structure and tourism sector development specific to developing countries in which the tourism sector is a substantial income source. In the light of the theoretical framework and related literature, the study employed panel data covering the 10 most-visited developing countries for the period 2002-2018. The time period could not be enhanced far due to the restricted data belonging to institutional variables. A PCA was constructed as an index variable of diverse institutional quality variables and trade openness was employed as an economic institution to show the liberalization in the economy and trade. The contributions of this study to literature are two-fold. First, the results disclosed that institutional quality has a significant positive effect on the tourism industry's performance. Second, it has been detected that trade openness has a stronger positive effect on the tourism sector's performance. The short-run relationship was not investigated since the institutions are variable in the long run and are path-dependent structures. As a result, the study has provided evidence that the quality of a country's institutions is highly effective on the number of tourism arrivals. It has been empirically proved that the improvement of the tourism sector and the number of visitors can be prompted by a well-structured institutional composition in which property rights are protected, corruption is eliminated, bureaucracy is run efficiently, and trade is liberalized.

Implications

This study also has significant managerial implications. First, in this study, some factors that affected the performance of the tourism sector have been determined. As reported in the study, institutional quality has a significant positive effect on the performance of the tourism sector. These results can be taken into account by policymakers who want to develop tourism in developing countries. In case of increasing institutional quality, the tourism sector of developing countries will be positively affected. Second, this study revealed that trade openness has a positive effect on the tourism sector's performance. Thus, if policymakers in developing countries attach importance to trade openness, the tourism sector in that country will be positively affected. They can prioritize trade openness in their trade policies for the tourism sector's development.

Limitations and future research directions

As with all academic research, the current study has some limitations. First, this study examined the 10 most visited developing countries. Therefore, forthcoming researchers can include many more developing countries in their studies and they can compare their findings with this study. Second, for this paper, the panel data approach was adopted for the period 2002-2018. 2019 and 2020 were not included in this study since COVID-19 has an impact on trade and tourism. Thus, future studies may research for a longer period.

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DETERMINANTS OF TOURISM DEMAND IN CONTEXT OF ENVIRONMENTAL QUALITY

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ABSTRACT

Tourism is a sector that contributes to the economic development of both developed and developing countries, and with this structure, it contains the environmental, social, and economic dimensions of sustainable development. This study aims to estimate the effects of environmental quality and other determinants on international tourism demand. Within the scope of the 2008–2017 period, the tourism demand from 27 different countries to the top 10 countries that attract the most tourists worldwide was examined using the multidimensional panel gravity model. The effects of environmental, economic, and non-economic indicators on tourism demand were investigated using Poisson pseudo-maximum likelihood (PPML) estimation methods. The findings showed that the low environmental quality significantly reduces tourism demand. In addition, tourist income, common language, and common border had positive effects on tourism demand, while distance, relative price, and visa restrictions had negative effects. This study offers recommendations for policymakers and other stakeholders and contributes to the literature on tourism economics and the environment.

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INTRODUCTION

Tourism and travel, which are part of the service sector, are growing industries worldwide and in many countries recognized as *"a potential driver for development"* (Chaisumpunsakul & Pholphirul, 2018). Tourism

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generates trade, employment, investments, infrastructure development, and a source of tax revenue and plays an important role in a country's growth (Isik et al., 2018). In the context of international tourism, destinations and domestic tourism and hospitality businesses compete to attract more tourists, generate more tax revenue, and increase both tourism revenue and export numbers (Dogru et al., 2017; Dogru et al., 2019). Between 2010 and 2019, the travel and tourism sector grew faster than the global economy every year, enriching local communities and destinations faster than many other sectors. As one of the largest economic sectors worldwide, it accounts for 10.3% of global GDP (Manzo & Smith, 2019). Although the countries examined within the period covered in the present study received ~56% of the world tourism income by 2010, this number increased to 68% in 2019. Also, although the countries examined in the present study accounted for ~72% of the total world CO_2 emissions by 2010, they represented ~69% in 2019 (Global Carbon Atlas, 2021; UNTWO, 2021). It has been understood that the countries examined in the present study account for more than one-half of the world’s CO_2 emissions, which shows that they are among the countries that contribute the most to environmental pollution.

For sustainable tourism, it is important to understand the factors that influence tourism and serve as catalysts for a country's development and economic growth (Angelkova et al., 2012). There are many factors such as economics (gross domestic product (GDP), relative prices, real exchange rates) and non-economics (common borders, common language, visa restrictions, distance) that influence the tourism sector. One of the key factors affecting the tourism industry is the environment. Although many previous studies have investigated the impact of tourism on environmental pollution (Katircioglu, 2014; Ahmad et al., 2018), this study focuses on the impact of environmental pollution on tourism. The basis of tourism demand research is factors such as the reasons why tourists travel and their motivation to choose their destination country. These factors can generally be addressed within the framework of the Push-Pull theory. Push factors can be defined as socio-psychological motivation factors that cause tourists to travel. On the other hand, pull factors can be referred to as the factors that attract tourists who decide to travel to a particular destination country.

Environmental factors are one of the factors that influence tourists' destination choices (Klenosky, 2002; Lise & Tol, 2002). Environmental factors influence tourism in different ways. First, since environmental pollution or air pollution has a negative impact on tourists' satisfaction, it can negatively affect tourism demand for destinations with high environmental pollution. In addition, since pollution is believed to cause health problems, tourists are expected to avoid destinations with high pollution (Kim et al., 2017; Zhang et al., 2020). On the other hand, it is believed that there is a significant relationship between environmental and climate change-related factors such as drought, higher or lower air temperatures, sea level changes and tourism demand (Sajjad et al., 2014; Zaman et al., 2016). It is also noted that environmental quality is important in attracting tourists and that tourists prefer places with high environmental quality (Brau & Cao, 2006; Davies & Cahill, 2000). Countries have tried to reach a common agreement to prevent environmental degradation. In this regard, 177 countries signed the Paris Agreement in 2015. The Paris Agreement is about providing adequate funding to reduce greenhouse gas emissions, adapt to climate change, and develop alternative energy sources (Isik et al., 2018). The implementation of the Paris Agreement will contribute to the sustainability of the tourism sector by promoting environmentally friendly practices, especially in the destinations that attract the most tourists.

Studies that examine the impact of the environment on tourism tend to focus on climate change. In addition, most previous studies have used pollutants, such as greenhouse gases (GHGs), carbon dioxide (CO_2), nitrogen oxides (NO_X), nitrous oxide (N_2O), and sulphur dioxide (SO_2) as indicators of environmental quality (Lee & Brahmasrene, 2013; Sajjad et al., 2014; Usman et al., 2020). One of the main disadvantages of pollutant emissions is that it does not take into account environmental sustainability, thus ignoring human and industrial activities that (directly or indirectly) affect environmental quality and ecosystem sustainability (Ali et al., 2020, 2021). The ecological footprint is another indicator that is widely known as a new measure of sustainable environmental system. It is more suitable as a measurement tool for ecosystem sustainability than pollutant emissions. It provides a synchronous analysis of soil, water, and air pollution. The ecological footprint is composed of six elements; cultivation, forest grazing, settled land, carbon footprint, and fishing grounds (Global Footprint Network, 2021). An increase in the ecological footprint indicates a lower level of environmental quality, while a decrease in the value indicates a higher level of environmental quality. To understand the presence of conditions that ensure sustainability in a geographic area, ecological footprint and biological capacity can be compared (Lin et al., 2018; Pata, 2021). Therefore, ecological footprint was used as an indicator of environmental quality in this study.

Gravity models have been widely used to estimate tourism demand in numerous studies. Gravity models are based on Newton's theory of gravity, which states that the gravitational force between two objects increases as the mass of the two objects increases and decreases as the physical distance between them increases. This theory was applied to economics by Tinbergen (1962) to explain foreign trade between countries. Based on Newton's theory of gravity, the standard gravity model developed to explain foreign trade between countries is expressed as follows:

$$T_{ij} = \beta_0 \frac{(Y_i)^{\beta_1}(Y_j)^{\beta_2}}{(D_{ij})^{\beta_3}} \quad \mathbf{(1)}$$

In the equation, i represents the exporting country and j the importing country. T_{ij} represents the volume of foreign trade and D_{ij} represents the distance between i and j. Y_i and Y_j represent the economic size of i and j. Finally, β_0 is the proportionality constant. So, the gravity model fitted to foreign trade shows that the volume of trade is directly proportional to the size of the countries and inversely proportional to the distance between the countries. Empirical analyzes in studies are conducted by adding additional variables to those used in classical gravity models, and results vary by country, time period, selected variables, and estimation methods.

During the 2008–2017 study period, we used a multidimensional approach within the gravity model to discuss the factors that influence tourism demand from the twenty-seven countries that send the most tourists to the top ten countries that attract the most tourists worldwide. The effects of environmental quality, income, relative price, distance, common language, common border, and visa restrictions on tourism demand were examined using the Poisson pseudo maximum likelihood estimator (PPML) within the gravity model. From this perspective, this study makes the following contributions to the tourism-environment literature:

- There are some gaps in the existing literature examining the relationship between the environment and tourism. Studies investigating the relationship between tourism and environment have generally focused on the impact of tourism activities on the environment (Isik et al., 2017a; Isik et al., 2020, Dogru et al., 2020). In addition, studies that examined tourism demand were generally conducted for a single destination country. Unlike previous studies, this study examined the effects of environmental quality on tourism demand using multidimensional models for more than one destination country.

- Gravity models were not used in the limited literature that examined the relationship between environmental quality and tourism demand with multidimensional models. More comprehensive and extensive results were obtained with the applied methodology.
- Overall, the results are intended to highlight the factors that influence tourism demand, provide recommendations for policymakers and other stakeholders, and contribute to the tourism economics literature.

The second part of this paper contains a literature review. The third part explains the data set, the method, and the results of the empirical model. The last part contains a discussion, conclusion, and suggestions for the tourism sector.

LITERATURE REVIEW

Many factors influence the tourism sector. Most studies on the determinants of tourism demand focus primarily on economic factors. Tourist income and price variables are the most used variables to explain tourism demand in specific countries (Algieri, 2006; Garín-Muñoz & Montero-Martín, 2006; Ibrahim, 2013). Previous studies generally used gross domestic product (GDP) per capita to represent income (Lorde et al., 2016; Adeola & Evans, 2020; Khalid et al., 2020), real exchange rate to represent prices (Maloney & Montes Rojas, 2005; Cheng et al., 2013; Ongan et al., 2017), and relative price variables (Divisekera, 2010; Santos & Cincera, 2018). Divisekera (2010) found that relative prices and real income are the most important determinants of tourism spending. They found that tourists' consumption is very sensitive to income, while price levels are less sensitive. When prices rise, tourists reduce much of their spending on tourism. Moreover, the relationship between growth and tourism is generally studied (Isik et al., 2017b; Isik & Radulescu, 2017).

The exchange rate is also an important indicator of international tourism demand (Dogru et al., 2017; Isik et al., 2019). The depreciation of a country's national currency against the currencies of other countries leads to an increase in inbound tourism because international tourism becomes cheaper, and tourism becomes more expensive for those leaving a country where the national currency depreciates (Chi, 2015; Dogru et al., 2017). As a result, although tourism demand from a country where the local currency depreciates decreases, tourism demand to that country increases, which improves the trade balance (Dogru et al., 2019).

Gravity models have been widely used in various studies, and the distance variable has been used within gravity models in estimating tourism demand to represent transportation costs. Tourism demand is expected to decrease as the distance between countries increases. Garín-Muñoz and Montero-Martín (2007) showed that after the terrorist attacks of September 11, 2001, long-distance travel turned into short-distance travel and that travel by car was preferred over travel by air. In this respect, the distance between countries had a positive effect on tourism demand for short-distance destinations; however, the importance of adopting policies to reduce the distance disadvantage for long-distance destinations is evident here.

Considering the importance of the tourism industry to the economic activity of countries and the importance of the environment as a resource for the tourism industry and people's enjoyment, the number of empirical studies examining the relationship between tourism development and environmental degradation has increased in recent years (Dogru et al., 2019).

In the literature, the number of tourists coming to countries has been mainly used to represent the tourism demand (Chasapopoulos et al., 2014; Akter et al., 2017; Yerdelen Tatoglu & Gul, 2019). Other studies have used tourism revenue in addition to the number of tourists to represent tourism demand (Zhang et al., 2020; Chaudhry et al., 2021). In addition, the variables of per capita income of countries sending and receiving tourists (Khadaroo & Seetanah, 2008; Chasapopoulos et al., 2014; Ghosh, 2020), distance between countries (Ulucak et al., 2020; Altaf, 2021; Malaj, 2020), relative price (Eryiğit et al., 2010; Seetanah et al., 2010; Ghosh, 2020) were used. On the other hand, dummy variables such as common language (Okafor et al., 2018; Ghosh, 2020), common border (Kaplan & Aktas, 2016; Malaj, 2020), and visa restrictions (Balli et al., 2013; Velasquez & Oh, 2013) were often included in the models. Review of studies on the relationship between environmental quality and tourism activities revealed that air pollution indicators (Zhou et al., 2019; Tang et al., 2019; Zhang et al., 2020) were mainly used to represent environmental quality; some studies (Chaudhry et al., 2021) also used ecological footprint as a variable.

Regarding the methods used, it is noticeable that two-dimensional models were used mainly for a single destination. In these studies, estimators such as Generalized Methods of Moment (GMM) (Khadaroo &

Seetanah, 2008; Chasapopoulos et al., 2014; Zhang et al., 2020), fixed-random effects (Eryiğit et al., 2010; Malaj, 2020), PPML (Kaplan and Aktas, 2016; Zhou et al., 2019), Quantile panel (Santeramo & Morelli, 2016), Common Correlated Effects (CCE) (Ghosh, 2020; Chaudhry et al., 2021) were used. Appendix A shows a literature review of some previous studies that used gravity models to examine the variables that determine tourism demand.

There are some gaps in the existing literature dealing with this topic. Unlike previous studies, the present study used a multidimensional gravity model that includes more than one tourist-receiving country. The number of studies using the multidimensional model is few (Okafor et al., 2018; Yerdelen Tatoglu & Gul, 2019). On the other hand, in multidimensional studies (Chaudhry et al., 2021) investigating the relationship between ecological footprints and tourism, did not evaluate the relationship between variables within the gravity model. As far as we know, this is the first study in which the ecological footprint and the countries that attract the most tourists, as well as the countries that send the most tourists to these countries, are included simultaneously in a multidimensional model. This study aimed to contribute to the studies that use the multidimensional model and address the relationship between environmental quality and tourism. We thought that the study will develop a different perspective within the framework of the methods and variables used.

EMPIRICAL ANALYSIS

Data set and Model

The empirical model used in this study estimates the impact of environmental quality and other variables on tourism under the multidimensional panel gravity model. Ecological footprint was used as an indicator of environmental quality. In addition to the economic size of destination and origin countries and distance, which are the main variables of the gravity model, the variables of relative price, common language, common border, and visa restrictions, which are commonly used in these models, were included. The model created by adding independent variables to the basic gravity model is as follows:

$$
\begin{aligned}
lnTA_{ijt} = \beta_0 &+ \beta_1 lnGDP_{it} + \beta_2 lnGDP_{jt} + \beta_3 lnDIST_{ij} + \beta_4 lnRP_{ijt} \\
&+ \beta_5 BOR_{ij} + \beta_6 VISA_{ij} + \beta_7 LANG_{ij} + \beta_8 lnEFP_{it} + \mu_i + \gamma_j \\
&+ \lambda_t + e_{ijt}
\end{aligned} \tag{2}
$$

The explanations of the variables[2] are as follows: $lnTA_{ijt}$ shows the number of tourists from the country of origin to the destination countries. $lnGDP_{it}$ and $lnGDP_{jt}$: express the GDP per capita of the destination and origin countries, respectively. One of the measures of economic size of destination and origin countries is GDP per capita. This indicator expresses the potential of countries to realize tourism flows. Therefore, GDPit and GDPjt variables are expected to have a positive impact on the number of tourists (Chasapopoulos et al., 2014; Ghosh, 2020; Ulucak et al., 2020).

$lnDIST_{ij}$ is the distance between the capitals of the destination and origin countries and is expressed in km. The distance represents the transportation cost; therefore, the variable $lnDIST_{ij}$ is expected to negatively affect tourism flows (Akter et al., 2017; Yerdelen Tatoglu & Gul, 2019; Malaj, 2020).

$lnRP_{ijt}$ expresses the relative price level between country of destination and country of origin calculated using the following formula:

$$RP_{ijt} = \frac{CPI_{it}}{CPI_{jt} * ER_{jt}} \quad \textbf{(3)}$$

CPI_{it} and CPI_{jt} are the consumer price indices of the country of destination and the country of origin, respectively. ER_{jt} is the value of the currencies of the countries of origin against one unit of dollars. Relative price is the price difference between the destination country and the origin country. A price that is higher in destination countries than in origin countries is likely to have a negative impact on tourism demand in those countries (Khadaroo & Seetanah, 2008; Ulucak et al., 2020; Altaf, 2021).

BOR_{ij} is a dummy variable indicating whether countries have common borders. It takes the value of "1" if the two countries have common borders, and "0" otherwise. Transportation costs are low if the countries have common borders, and it also indicates that the countries may have similar geographic and cultural characteristics; therefore, the BOR_{ij} variable is expected to positively affect tourism flows (Seetanah et al., 2010; Kaplan & Aktas, 2016; Malaj, 2020).

$VISA_{ij}$ is a dummy variable indicating whether there are visa restrictions between countries. If country i requires citizens of country j to obtain a visa, it has a value of "1" and "0" otherwise. Visa restrictions

[2] Variable explanations and their sources are included in Appendix B.

between countries are expected to negatively affect tourism demand (Balli et al., 2013; Velasquez & Oh, 2013; Deichmann & Liu, 2017).

$LANG_{ij}$ is a dummy variable indicating whether countries use a common language. If the countries have a common official or primary language, it has a value of "1" and "0" otherwise. In terms of cultural similarity and ease of communication, this variable is expected to positively influence tourism demand (Khadaroo & Seetanah, 2008; Seetanah et al., 2010; Okafor et al., 2018).

$lnEFP_{it}$ expresses the ecological footprint variable used to represent environmental quality. Environmental quality is important for destination selection. It is considered that high environmental quality in countries hosting tourists contributes to the understanding of sustainable tourism; otherwise, tourism demand will be adversely affected. Therefore, the parameter for the EFP_{it} variable is expected to be negative (Chaudhry et al., 2021).

The study created a balanced panel data set and examined the twenty-seven countries that sent the most tourists to the 10 countries that attracted the most tourists during 2008-2017. The countries are listed in Table 1.

Table 1. *Destination and Origin Countries*

Destination	Origin
Canada	Germany, Australia, China, United Kingdom, Japan, United States, France
Czech Republic	Slovak Republic, China, Germany, Italy, United Kingdom, Poland, Russian Federation, United States
France	Belgium, Spain, United Kingdom, Germany, Netherlands, United States, Switzerland, Italy
Italy	Austria, United Kingdom, Switzerland, France, United States, Germany
Mexico	Canada, Spain, United States, France, United Kingdom
Poland	Belarus, Germany, United Kingdom, Lithuania, Russian Federation, Ukraine
Spain	Germany, France, Italy, United Kingdom
Turkey	Bulgaria, United Kingdom, Germany, Russian Federation, Georgia, Iran
United Kingdom	Germany, Spain, Netherlands, United States, France, Ireland,
United States	Brazil, Canada, China, United Kingdom, Japan, Korea, Mexico, Germany

Methodology

The standard gravity model was fitted to tourism flows by adding independent variables, and the equation was estimated by logarithmic transformation in linear form. We found that models focusing on a single unit and a single time dimension are generally used in panel data analyses; however, the above dimensions are not sufficient, and models using more than one dimension can be estimated. These multidimensional models allow for estimates considering the circumstances of more than one unit or time, or both, nested or not nested within each other. In estimating the models, the presence of effects is first tested, and based on these results, the model estimates are calculated using appropriate estimators. The present study is based on a multidimensional panel data model with two non-nested units and one-time dimension (Silva & Tenreyro, 2006; Westerlund & Wilhelmsson, 2011). The multidimensional panel gravity model for tourism demand created from the basic gravity model was as follows:

$$lnTA_{ijt} = \beta_0 + \beta_1 lnGDP_{it} + \beta_2 lnGDP_{jt} + \beta_3 lnDIST_{ij} + \beta_4 X_{ijt} + \mu_i + \gamma_j + \lambda_t + e_{ijt} \quad \textbf{(4)}$$

In Eq. 4, i and j represent the destination and origin countries, respectively. $lnTA_{ijt}$ is the number of tourists coming from the origin country j to the destination country i; $lnGDP_{it}$ and $lnGDP_{jt}$ are the GDP per capita of the destination and origin countries, respectively; $lnDIST_{ij}$ is the distance between the countries; and X_{ijt} is the vector of control variables. In addition, μ_i and γ_j are the unit effects for countries i and j, respectively, and λ_t represents the time effect.

The multidimensional model for determinants of tourism demand was estimated using the PPML estimator. Previous studies using the gravity model mainly used ordinary least squares (OLS)–based estimators, and the gravity model was estimated using a log-linear transformation; however, the dependent variable can take a value of "0" in gravity models that can be applied to trade, migration, and tourism flows. OLS-based estimators do not consider values that pass as "0", and since the logarithm cannot be taken, observations with "0" values are excluded from the model. The exclusion of observations with "0" values can cause deviations in the gravity model estimate. Furthermore, since OLS-based estimators work under the assumption that the variance of error term is constant, estimating the gravity model with these methods by log-linear transformation leads to a violation of this assumption. To solve this problem, it is proposed to estimate the model in exponential form using the PPML estimator, which gives effective results, even in the presence of "0" observations and varying variance. The exponential representation of the multidimensional gravity model estimated using the PPML estimator is as follows:

$$TA_{ijt} = \exp(\beta_0 + \beta_1 LNGDP_{it} + \beta_2 LNGDP_{jt} + \beta_3 LNDIST_{ij} + \beta_4 X_{ijt}) + \mu_i + \gamma_j + \lambda_t + e_{ijt} \quad \textbf{(5)}$$

The presence of unit effects was examined with the likelihood ratio (LR) test. The constrained model with no effect and unconstrained model with effects in the LR test were estimated using the maximum likelihood method, and LR test statistics were generated. In the LR test, the main hypothesis was made assuming that the restricted model was valid. Rejection of the main hypothesis meant that valid effects should be included in the model (Yerdelen Tatoglu & Gul, 2019).

EMPIRICAL RESULTS

The presence of unit and time effects was tested with the LR test in triple, double and single combinations. The test results are shown in Table 2. The first line in the table refers to the LR test with two units and a time effect. The tests in the second, third and, fourth lines give the results of the LR test which was performed to test the significance of the effects in pairwise combinations. The last three lines are the results of the LR test, which was performed to test the significance of the effects individually. Examination of all the results showed that the main hypothesis could not be rejected with the LR test for the presence of the time effect and that there was no time effect. We then decided to estimate the multidimensional panel gravity model with two-unit effects.

Table 2. *LR test results*

Test	Basic Hypothesis	LR Statistic	Probability
1	$H_0: \sigma_\mu = \sigma_\gamma = \sigma_\lambda = 0$	168.61***	0.000
2	$H_0: \sigma_\mu = \sigma_\gamma = 0$	166.67***	0.000
3	$H_0: \sigma_\mu = \sigma_\lambda = 0$	109.79***	0.000
4	$H_0: \sigma_\gamma = \sigma_\lambda = 0$	18.59***	0.000
5	$H_0: \sigma_\mu = 0$	108.99***	0.000
6	$H_0: \sigma_\gamma = 0$	18.47***	0.000
7	$H_0: \sigma_\lambda = 0$	0.0003	0.497

Note: *** represents 1% significance level.

After the LR tests, the model was estimated using the PPML estimator. The results of the estimation are shown in Table 3. According to the estimation results in Table 3, the effect of the variable $\ln GDP_{jt}$ on the number of tourist arrivals is positive and statistically significant. Accordingly, a 1% increase in GDP per capita in the countries of origin increases the number of tourists by 0.369%; however, it was found that the parameter for the variable $\ln GDP_{it}$ was not statistically significant. Thus, it was assumed that the changes in income in the country of origin are more important for tourism demand, while the change in income in the destination country does not affect that demand. The $lnDIST_{ij}$, $lnEFP_{it}$, and $lnRP_{ijt}$ variables have a negative and statistically significant impact on tourism demand. It was found that a 1% increase in the distance between countries, ecological footprint and relative prices reduces the number of tourists by ~0.877%, 0.382% and 0.161%, respectively. We found that the tourism demand was negatively affected by the $VISA_{ij}$ variable, and positively and statistically significantly affected by the BOR_{ij} and $LANG_{ij}$ variables. However, the "common language", "common border" and "visa restrictions" variables were included in the models without using their natural logarithms. Since the PPML is estimated in exponential form, the inverse logarithm should be applied while evaluating the parameters associated with the variables in question[3]. The results obtained after the conversion show that the tourism demand in the countries with visa restrictions is 28.78% lower than in the countries without visa restrictions. It was found that the tourism flow between the countries that share a common language was about 51% higher than the countries that do not. In addition, it was determined that the tourism flow between the neighboring countries was about 83% higher than the countries that do not.

Table 3. *PPML estimation results*

Variable	Coefficient	Robust Standard Error	Probability
$lnGDP_{jt}$	0.369****	0.115	0.001
$lnGDP_{it}$	-0.007	0.020	0.720
$lnDIST_{ij}$	-0.877***	0.030	0.000
$lnRP_{ijt}$	-0.161***	0.057	0.005
BOR_{ij}	0.605***	0.059	0.000
$VISA_{ij}$	-0.253***	0.087	0.004
$LANG_{ij}$	0.410***	0.077	0.000
$lnEFP_{it}$	-0.382**	0.201	0.058
Constant	25.336***	4.324	0.000

Note: *** and **, express 1%, and 5% significance level, respectively.

DISCUSSION AND CONCLUSION

The tourism sector has a multiplier effect on the economy. Tourism plays an important role in national economies, in terms of GDP, the share of tourism revenues in export earnings, value-added and employment. Some studies claim that environmental factors affect tourism demand, but few studies examine the impact of the ecological footprint on tourism demand. In this study, tourism demand was examined in the context of

[3] The $(e^{\beta_n} - 1) * 100$ formula was used for transformation, and number e was taken as 2.718. β_n represents the coefficient for the variable to be calculated.

environmental quality using the ecological footprint for the top ten countries that attracted the most tourists worldwide from 2008 to 2017. To this end, a multidimensional panel gravity model was used to analyze tourism demand for the top ten countries from twenty-seven origin countries that send the most tourists. The countries included in the analysis played a significant role in both environmental quality degradation and attracting international tourists. In addition to environmental quality, the effects of per capita income, distance, relative price, common language, common border, and visa restrictions on tourism were determined.

As a result of the study, it was found that the increase in the ecological footprint has a negative impact on tourism demand. One of the other results of the study was that non-economic factors are more important than the economic factors of income and price; however, we found that per capita income (0.338), which is an economic factor, is more important than relative price (-0.150) in terms of coefficients. It was found that visa restrictions, common language, and common border variables are factors that significantly affected tourism demand. It was also found that the tourism demand was lower in countries that applied visa restrictions than in countries that did not. Therefore, policymakers and governments can negotiate visa agreements for tourists visiting their countries. Speaking a common language strengthened the cultural ties and facilitated communication. A common border was an advantage because it both reduced transportation costs and had similar geographical and cultural characteristics; therefore, destination countries that want to increase their tourism demand should be able to use some active elements, such as advertising and promotion, which turn the cultural link into an advantage. Distance factor had a negative impact on tourism demand, as it reflected both higher transportation costs and greater inconvenience due to long journeys. To eliminate this disadvantage, measures should be taken to reduce transportation costs, with public support if necessary. Findings are consistent with below studies: in terms of environmental degradation, Chaudhry et al. (2021); in terms of economic size, Chasapopoulos et al. (2014) and Ghosh (2020); in terms of distance, Akter et al. (2017) and Malaj (2020); in terms of relative price, Khadaroo and Seetanah (2008) and Ulucak et al. (2020); in terms of common border, common language and visa restrictions, Kaplan and Aktas (2016), Balli et al. (2013) and Okafor et al. (2018).

This study contains valuable information for tourism stakeholders and policymakers. First, we have confirmed that environmental degradation can have a negative impact on tourism. This situation shows that a country should pay attention to the quality of its environment to ensure the sustainability of tourism demand. In light of these findings, we recommend appropriate measures to reduce the ecological footprint. In this context, environment-related taxes can be used as an important policy tool. In addition to environment-related taxes, tax policy measures such as real estate and vehicle taxes that may have an impact on the environment can also be considered. These environmental taxes can be used to fund environmentally friendly technologies. Given the growing awareness that tourism is inextricably linked to the environment, countries must prioritize environmental quality to ensure sustainable tourist flows.

The use of renewable energy sources by countries that strive for sustainable environmental quality is also an important attraction for tourism. Increasing the use of renewable energy is important for reducing greenhouse gas emissions. It also promotes tourism development and economic growth. The growth of a country can increase depending on the development of tourism and the efficiency of renewable energy sectors. For this reason, it is considered that countries should increase their investments in the renewable energy sector based on the relationship between tourism development and ecological footprint. As suggested by Isik et al. (2018), countries can designate primary industrial zones for renewable energy and subsidize their traditional energy sectors. In this way, growth in tourism and renewable energy industries can be achieved, and countries can produce renewable energy. In addition, tax incentives for investment in the renewable energy sector and the removal of barriers to investment contribute to the development of the sector. By using renewable energy, these countries can give themselves an environmentally friendly image. In this way, both the negative effects of tourism on the environment can be eliminated and the positive effects of environmental quality on tourism can be increased. On the other hand, the widespread use of renewable energy is a costly process that can be fraught with difficulties, especially for less developed countries. To this end, countries and organizations such as the United Nations and the World Bank may develop a comprehensive agreement within the framework of sustainable tourism development and renewable energy production and provide financial assistance to less developed countries to ensure that they comply with the agreement. It is believed that greenhouse gas emissions and climate change impacts can be reduced in the future through the above measures.

Policymakers should consider all other variables that have been shown to be effective in the model when determining actions. Tourism stakeholders should take a proactive approach to create sustainable forms of tourism. Tourism businesses should recognize the impact of production processes resulting from tourism movements and adjust their activities to take these impacts into account. In addition to tourism businesses, regulators should also monitor the impact of tourism policies on tourism demand in countries and revise these policies as necessary. Sustainable tourism requires the participation and consensus of the political authorities as well as tourism sector stakeholders. A wide range of economic benefits from the tourism industry, such as job creation and increased tax revenues, could be diminished if appropriate measures are not taken. Due to environmental degradation, they may not be able to sustain their tourism development. Therefore, policymakers should focus their agendas on environmentally sustainable tourism practices to promote tourism development. The inclusion of economic and sociocultural factors would expand the existing literature and provide a more comprehensive framework for studying sustainable tourism development.

While the damage we cause to the environment in the development process is destroying the environment, on the other hand, development is moving away from sustainability due to the worsening. This situation deprives future generations of the possibility to live in an environment with good conditions. For this reason, it is necessary to establish common and mutually supportive goals that consider the interactions between people, resources, environment, and development in global cooperation.

The 2019 Coronavirus (COVID -19) pandemic led to unprecedented global health, social, and economic crises. The travel and tourism sectors were one of the hardest-hit industries (UNTWO, 2020). Many countries have imposed travel restrictions on tourists by closing all or part of their borders and sometimes suspending international flights; therefore, international tourism is expected to increase in the coming years as the tourism sector begins to return to pre-pandemic activities. The pandemic has reminded us of the importance of involving all relevant stakeholders, including the travel and tourism industry, in decision-making and planning for the future. Although COVID -19 has had a devastating impact on the travel and tourism industry, people's desire to travel and explore the world has not diminished. By 2020, approximately $4.9 trillion in GDP will be lost and 62 million jobs will be lost. With climate change worsening at an alarming rate and a looming biodiversity crisis, countries have an important role to play in proactively incorporating environmental sustainability into their visions and strategies for the travel and tourism sector, as well as their country planning in general. Looking at the global economic and social recovery of COVID -19, it is clear that no single group can meet the challenges ahead alone. It will take the commitment and partnerships of multiple stakeholders if we are to pave the way to a better future together. As commitment to sustainability increases because of COVID -19, governments and destinations alike should capitalise on this renewed interest and build on the Paris Agreement to further improve wildlife and environmental conservation in collaboration with the private sector and local communities.

This study contributes to the current literature by using a multidimensional panel gravity model and examining environmental effects in addition to the variables used. Furthermore, the model is estimated using the PPML estimator, which performs well even with "0" observations and variance changes that may occur in the dependent variable. However, the study also had some limitations. The inability to include sociocultural factors that cannot be converted into a quantitative variable to the model is a limitation. The findings obtained with a larger sample can be confirmed by increasing the number of countries. The data used for the study are from 2008–2017 and the study does not consider the effects of seasonality because the variables used were not daily or monthly published data. Since the time dimension was limited, the relationship between the variables could not be examined by including the effects of different periods. Future studies on tourism demand could be developed within the announced limitations. In addition, they could be expanded to include other key factors, such as destination accessibility, country risk, institutional factors, cultural distance, tourism promotion, and public spending on tourism. On the other hand, several types of tourism demand could be analyzed by adding age variables representing specific age groups within a country or variables representing regional differences.

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APPENDICES

Appendix A. *Literature review*

Author (Year)	**Countries/Regions/ Organization, Period**	**Indicators**	**Method**	**Results**
Khadaroo and Seetanah (2008)	28 countries, 1990–2000	Tourist arrivals, relative prices, distance, GDP of origin countries, population, common border, common language, tourism infrastructure, proximity	GMM	Tourism infrastructure has a significant impact on tourism demand in countries. GDP has a positive and distance has a negative impact on tourist arrivals.
Seetanah et al. (2010)	South Africa, 1985–2000	Tourist arrivals, relative prices, real GDP per capita of South Africa and origin countries, distance, number of rooms, common border, common language, politic instability	Panel FMOLS	Tourism demand is susceptible to tourism price changes in both South Africa and competing destinations. The variables of development, common border, distance, tourism infrastructure, and common language affect tourism demand.
Eryiğit et al. (2010)	Turkey, 1995–2005	Tourist arrivals, tourism climate index, bilateral trade, population, distance, relative prices, GDP per capita of Turkey and origin countries, dummy variables for 1999 earthquake, Iraq War, neighbor effect, September 11 attacks	GLS	Distance and climate negatively affect tourism demand in Turkey. The effect of the relative price variable is statistically insignificant.
Balli et al. (2013)	Turkey, 1995–2010	Tourist inflows, GDP per capita of origin countries, population, trade, visa-free, CPI, number of the rooms in hotels, Turkish soap operas	GMM	The absence of visa requirements and GDP have a positive impact on tourism demand.
Velasquez and Oh (2013)	Peru, 1990–2011	Tourist arrivals, GDP, and GDP per capita of Peru and origin countries, common border, common language, visa requirements, relative prices	RE	While relative prices and visa requirements have a negative effect on tourist arrivals, common border and language have positive effect on tourist demand.
Chasapopoulos et al. (2014)	Greece, 2001–2010	Tourist arrivals, GDP per capita of origin countries, relative price, competitive prices, comparative prices, ratio of bilateral trade to GDP of Greece and origin countries, distance, political	System GMM	Distance and trade are the main indicators affecting the tourism demand for Greece. Political stability and GDP variables also

		stability, gross investment spending in transport infrastructure, a dummy variable for 2004		contribute significantly to tourism demand.
Kaplan and Aktas (2016)	Turkey, 1996–2014	Tourist arrivals, distance, border, a part of OECD country in EU, a non-part of OECD country in EU, an eastern bloc country, another part of OECD country, an African country, a west Asia country. a west America country, a country in Asia, GDP per capita of Turkey and origin countries, dummy variables for 2008 crisis and 2010 Arab spring crisis	PPML	GDP per capita has a positive and distance is negative on tourism demand.
Santeramo and Morelli (2016)	Italy, 1998–2010	Tourist arrivals for structures and agricultural, GDP per capita of origin countries, population, number of touristic and agritouristic structures, distance, common currency, Schengen agreement, agricultural population	Quantile PPML estimator	Distance, GDP, urbanization rate and agreements are the main determinants demand of agritourism in Italy.
Akter et al. (2017)	Bangladesh, 2009–2012	Tourist arrivals, GDP of origin countries, distance, population, exchange rate ($), CPI	Panels corrected standard errors estimator	There is a positive relationship between tourism demand and GDP and population. The effects of distance, exchange rate and CPI are negative.
Khoshnevis Yazdi and Khanalizadeh (2017)	United States, 1995–2014	Tourist arrivals, GDP of USA and origin countries, distance, CPI, exchange rate, total number of flights in international airports, dummy variable for September 11 attacks	Panel ARDL	GDP, CPI, exchange rate and certain events in the country significantly affect tourism demand.
Deichmann and Liu (2017)	Croatia, 1993–2015	Tourist arrivals, GDP per capita of origin countries, exchange rate, distance, population, visa-free	SUR	The absence of visa requirements has a positive effect on tourism demand.
Okafor et al. (2018)	222 countries, 1995–2015	Tourist arrivals, GDP per capita of destination and origin countries, population, distance, common official language, and unofficial language	FE, RE, PPML	Language variables havea positive effect on tourist arrivals.
Yerdelen Tatoglu and Gul (2019)	14 countries, 2008–2016	Tourist arrivals, GDP per capita of destination and origin countries, exports, imports, distance, PPP, dummy for Mediterranean Coast	ML	Distance and economic factors have a significant impact on tourism demand.
Tang et al. (2019)	China, 2004:01–2015:12	Tourist arrivals, GDP per capita of origin countries, relative prices, air quality	Johansen cointegration, VECM	Air pollution has negative impact on tourist arrivals in long the term. However, in the short term, there is no statistically significant relationship between air pollution and tourist arrivals

Zhou et al. (2019)	China (Beijing), 2005–2016	Tourist arrivals, distance, population, exchange rate, GDP per capita of Beijing and origin countries, air pollution variables (Air quality, PM_{10}, $PM_{2.5}$, SO_2, NO_2)	PPML	Air pollution has a negative impact tourist flows in Beijing.
Ghosh (2020)	Australia, 1991–2018	Tourist arrivals, distance, population, GDP per capita of Australia and origins, money supply, KOF globalization index, relative consumer price index, relative exchange rate, uncertainty index, common language, membership to the commonwealth set of nations	CCE	While GDP and globalization have a positive impact on tourism demand, prices and distance have a negative impact.
Malaj (2020)	Albania, 2001–2018	Tourist arrivals, GDP per capita of Albania and origin countries, political stability, distance, similar climate, border, total infrastructure investments, absence of violence and terrorism	Pooled OLS, FE, and RE	There is a positive relationship between tourism demand for Albania and the variables of per capita GDP of Albania and the countries of origin, the existence of common borders, political stability, total infrastructure investments, absence of violence and terrorism.
Ulucak et al. (2020)	Turkey, 1998–2017	Tourist arrivals, distance, relative exchange rate, GDP per capita of Turkey and origin countries, relative CPI, terror incidents, KOF globalization Index, Money supply, household debt level	CUP-FM, CUP-BC	GDP per capita, relative exchange rate and globalization have a positive impact on tourism demand. The effects of CPI, terrorism, debt level and distance on tourism demand are negative.
Zhang et al. (2020)	58 major cities in China, 2013:10–2017:12	Tourist arrivals, air quality index, $PM_{2.5}$, tourism income	GMM	$PM_{2.5}$ and air quality index have a negative impact on both tourist arrivals and tourism income.
Altaf (2021)	India, 2000–2018	Tourist arrivals, distance, population, relative price, CPI, GDP per capita of India and origin countries, exchange rate ($), bilateral exports and imports, Political risk.	2SLS	The variables GDP, political stability, population and import rate have cvdf tourism demand positively to India, while distance, export and relative price variables affect negatively.
Chaudhry et al. (2021)	20 countries, 1991–2018	Tourism receipts, institutional performance, trade openness, real exchange rate, ecological footprint	DCCE	The relationship between tourism receipts and ecological footprint is negative and statistically significant.

Note: *DCCE: Dynamic common correlated effects; OLS: Ordinary Least Squares, 2SLS: Two-stage least squares; CUP-BC: Continuously updated bias-corrected estimator; RE: Random effects model; CCE: Common correlated effects; PPML: Poisson pseudo-maximum likelihood estimator; VECM: Vector error correction model; ML: Maximum likelihood; SUR: Panel seemingly unrelated regression; CUP-FM: Continuously updated fully modified estimator; ARDL: Autoregressive distributed lag; GLS: Generalized least squares; GMM: Generalized method of moments; FMOLS: Panel full modified OLS; FE: Fixed effects model.*

Appendix B. *The sources of the variables*

TA_{ijt}	The number of tourists from country of origin to the countries of destination	OECD Database
GDP_{it}	GDP per capita of the countries that accept tourists	World Bank Database
GDP_{jt}	GDP per capita of the countries that send tourists	World Bank Database
$DIST_{ij}$	Distance between the capitals of the countries that accept and send tourists and is expressed in km	CEPII Database
RP_{ijt}	The relative price level between the tourist receiving and tourist sending countries	The calculation was made with data obtained from the World Bank database.
BOR_{ij}	Common borders (It takes the value 1 if the two countries have common borders, if not, it is 0.)	CEPII Database
$VISA_{ij}$	Visa restrictions (If country i requests a visa from the citizens of country j, it takes the value 1, if not, it is 0.)	DEMIG visa database
$LANG_{ij}$	Common language (If countries share a common official or primary language, it takes the value 1, if not, it is 0.)	CEPII Database
EFP_{it}	Ecological Footprint (gha)	Global Footprint Network database

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BIBLIOMETRIC ANALYSIS AND LITERATURE REVIEW OF MOUNTAIN TOURISM

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ABSTRACT

In recent years, the adventure-seeking behaviour of tourists has increased the consumption of mountain tourism. The research on mountain tourism, however, is fragmented, highlighting the gaps in the current literature. This study uses bibliometric analysis to summarise the literature from 1462 articles published on mountain tourism between 1982 to 2022. The study uses bibliographic data to carry out descriptive and network analysis. The co-authorship network is used to highlight the impactful contributors to mountain tourism research. Further, keyword co-occurrence and bibliographic coupling networks helped in identifying the economic development, nature conservation and preservation, climate change and future of mountain tourism, and tourist satisfaction and marketing as the themes in the mountain tourism research. The content analysis of these clusters delivers insight into past research and suggests research for future avenues. The study offers advantages to the researchers and practitioners by suggesting future research avenues and policy actions.

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INTRODUCTION

Mountain tourism is the practice of travelling to hilly areas or mountains as an adventure or leisure-seeking activity (Geneletti & Dawa, 2009; Nepal & Chipeniuk, 2006). The unique characteristics of the mountain such as landscape, topography, and biodiversity offer an experience of calmness to the tourists. It encompasses a broad range of sports and leisure activities such as skiers, backpackers, and snowmobilers (Fredman, 2008). Mountain tourism has been facilitated by the authorities at destinations which are hilly and have limited economic opportunities. When well planned, mountain tourism has the potential to deliver substantial economic and

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social benefits to residents. For example, a person at a mountain tourism destination may explore employment opportunities as a tour guide, transportation business, rafting and paragliding trainer, or food stall owner, to boost their livelihood. However, unplanned mountain tourism development has seen an outburst of tourists as it leads to unsustainable development and excessive resource consumption (Singh et al., 2009; Sundriyal et al., 2018). Thus, it has caused massive unrest among the locals and a negative attitude towards the tourists. Thus, it is recommended that stakeholder cooperation is essential in mountain tourism policy-making and development (Maroudas et al., 2011).

Mountain tourism has often been considered a means of economic development. A significant advantage of mountain tourism is its ability to attract tourists throughout the year (Steiger et al., 2022). Researchers have considered it as a channel for economic growth at mountain destinations. However, its development has always been watched through the lenses of sustainable development (Bourdeau et al., 2010; Paunovic & Jovanovic, 2017). The sustainability concerns in mountain regions have been significant because of the scarcity of resources and the serious loss of flora and fauna because of a catastrophic event. The increasing flow of tourists to mountain destinations also brings harm to the social fabric at such destinations (Gill & Williams, 1994). Several researchers have linked ecotourism development to mountain tourism (Bhalla et al., 2020; Varley & Medway, 2011). The development of mountain tourism also faces challenges. Researchers have questioned its sustainability because of its dependence on climate and the growing threat of climate change thwarting its development (Luthe et al., 2012). Similarly, it faces challenges of limited natural resources (Dornier & Mauri, 2018), accessibility (Palomo, 2017), pricing, and overtourism (Malik & Bhat, 2015). As these challenges grew, the academicians started to dig deeper into the mountain tourism development and hence literature mushroomed up.

In the recent decade, the growth of research on mountain tourism has necessitated the need to understand the present status of research. del Río-Rama et al. (2019) carried out a bibliometric analysis to understand what has been done in the research on mountain tourism. The study did not dig deep into future research avenues based on the bibliometric findings. Zeng et al. (2022) carried out a bibliometric analysis of the studies on mountain tourism published in WoS-indexed journals from 2010-to 2020. Chakraborty and Ghosal (2022) carried out a bibliometric analysis to study mountain tourism research focusing on the Himalayan region. However, the focus of these studies is narrowly focused in terms of coverage, geographical location, and methodology used, highlighting a knowledge gap.

Since the literature on mountain tourism is expanding, therefore, it is necessary to extend the knowledge base on this field. The upcoming researchers need to identify research topics that lead to the development of sustainable mountain tourism. The focus should not only be on ensuring the tourism industry, but the inclusive development of other stakeholders should also be the primary motive of the researchers. However, to suggest new and upcoming themes, it is also important that researchers know and understand what has already been researched in mountain tourism. A literature review in the context of mountain tourism will help in understanding how the concepts, definitions, and methodologies evolved. The research gaps identified in the literature will act as future research agendas for the upcoming researchers. Therefore, through the current study, we aim to bridge the gaps by addressing three research questions: **RQ1**. Who are the major contributors to mountain tourism research? **RQ2.** What are the main thematic areas over the years in mountain tourism research? **RQ3.** What is the future of mountain tourism research? These three questions are frequently used in the bibliometric analysis to understand top contributions, past research trends and themes, and help in suggesting future actions. Answering these questions will make twin contributions, first, it will help the upcoming researchers by summarising the literature on mountain tourism and help in identifying top contributors for research collaboration. The researchers from nations where research on mountain tourism is primitive would be benefitted from the developed constructs in the advanced nations. Second, the study contributes to the theory of mountain tourism by applying software-based bibliometrics to study literary trends.

METHODOLOGY AND FINDINGS

Bibliometrics has been used across domains to summarise and map the research such as tourism (Kumar et al., 2020; Shekhar, 2022), finance (Pattnaik et al., 2020, 2022), family businesses (Shekhar et al., 2022), and marketing (Kumar et al., 2022; Lim et al., 2021). Keyword co-occurrence, bibliographic coupling, and prestige analysis techniques have been commonly adopted in bibliometric analysis. The present study carried out network analysis such as bibliographic coupling analysis, citation analysis, keyword co-occurrence for author and indexed keywords, and co-citation analysis using the VOSviewer (Version 1.6.18) software package. It has been widely used in studies because of its ability to analyse bibliometric data and its reliable statistical algorithms (Van Eck & Waltman, 2011). The study uses fractional counting over full counting measures to provide more reliable estimates in the counting of the results (Perianes-Rodriguez et al., 2016). Prestige Analysis is carried out using the Gephi for its suitable algorithms. The literature published in the Scopus indexed journals is selected and the bibliometric analysis conducted to answer these RQs. Studies have shown the bibliometric analysis is well suited to summarise the knowledge in a theme. RQ1 is answered following the bibliometric protocol developed by Khanra et al. (2020). The bibliographic data downloaded from the database is tabulated to identify the top contributions based on publication count. Then bibliographic coupling, citation analysis, and prestige analysis are used as compliments to identify the top contributors among author, institutes, and countries. The co-authorship analysis reveals if there exists sharing of knowledge through author collaboration. Then, findings from keyword co-occurrence, co-citation, and bibliographic coupling help in answering the RQ2 by identifying thematic areas. In the keyword analysis, a separate analysis is conducted for author-keywords and indexed keywords by using the density analysis. Next, future research actions (RQ3) are suggested based on the evolution of these themes and clusters using the dynamic co-citation analysis. It helps in understanding the evolution of the knowledge clusters, their peak duration, and if they have become exhausted during the evolutionary phase.

Literature Selection

As per the adopted protocol, the literature selection is carried out in three stages, the *scanning phase, curating phase, and analysing of the sample* (Khanra et al., 2020). Scopus database is preferred over its peers such as Web of Science or Google Scholar for its vast coverage and stringent review protocol (de Granda-Orive et al., 2011; Falagas et al., 2008; Yataganbaba & Kurtbaş, 2016; Zyoud & Fuchs-Hanusch, 2017). Thus, the present study retrieves literature from the Scopus database using the search string with the title-abstract-keyword option.

Phase I- Scanning Phase

A prior search of the documents suggests that researchers have used the terms mountain tourism, mountain vacation, hill tourism, hill vacation, and mountain visit to indicate mountain tourism. Thus, the search string: TITLE-ABS-KEY (mountain OR hill AND Tourism) was finalised. Using the mentioned search string, we retrieved 4060 documents (on 1st April 2022) including articles, conference papers, review articles, book chapters, and editorials published in several research domains including management, geology, social sciences, and environmental studies.

Phase II- Curating Phase

We applied several pre-determined filters to refine the results obtained in the previous step. The study focused only on the journal articles because of some assurance of quality due to the review mechanism. Then we applied the filter of the English language to ensure accuracy in the analysis. The subject area of this research is limited to disciplines of social sciences and business and management. As this study conducts a review of the last forty years of mountain tourism research, we then excluded all the publications before the year 1982. Thus, the search string was modified to TITLE-ABS-KEY (mountain OR hill AND tourism) AND (LIMIT-TO (DOCTYPE, "ar")) AND (LIMIT-TO (LANGUAGE, "English")) AND (LIMIT-TO (SUBJAREA, "SOCI") OR (LIMIT-TO (SUBJAREA, "BUSI")) AND (EXCLUDE (PUBYEAR, 1981) OR EXCLUDE (PUBYEAR, 1979) OR EXCLUDE (PUBYEAR, 1977) OR EXCLUDE (PUBYEAR, 1976)). The filters resulted in the retrieval of 1462 documents which formed the sample for the bibliometric analysis.

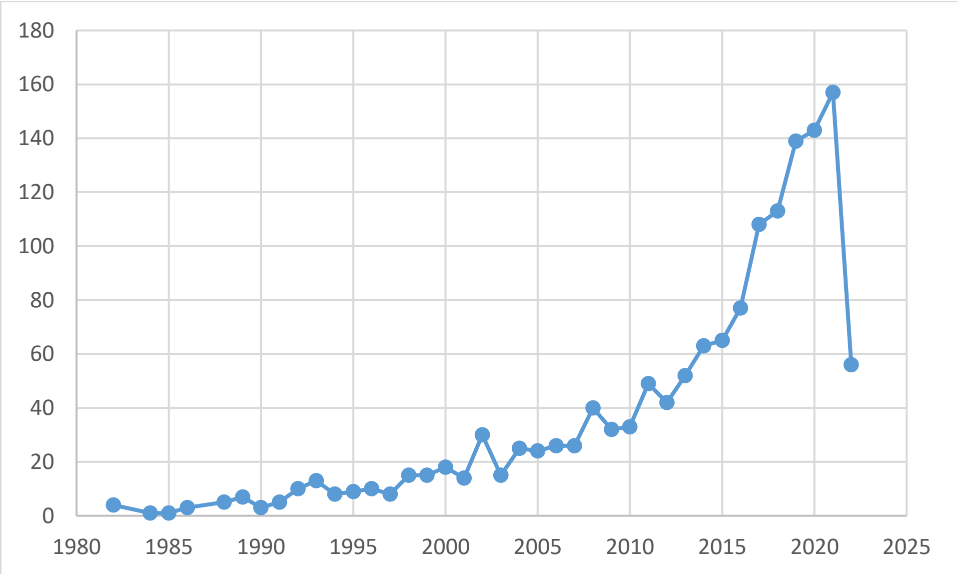

Figure 1. *Articles published on mountain tourism*

Phase III- Analysing Phase

The first article in our sample published in 1982 indicates that mountain tourism research is a mature topic in the management and hospitality research domain. The trends in mountain tourism research, as suggested in

Figure 1, indicates that the interest of academicians in this field is still growing. It is visible in the growing publications and an h-index of 63 of the analysed publications. The sample of the present study is 1464 articles, 159 authors, 98 countries, and 160 organizations. In Table 1, we list the top 10 contributors i.e. authors, organizations, countries, and publication titles on mountain tourism research based on the Total Publication (TP) count.

Table 1. *Top 10 authors, organizations, countries, and journals by publication count*

Author	TP	Organization	TP	Country	TP	Publication Title	TP
Nepal, S.K.	9	Chinese Academy of Sciences	40	United States	200	Sustainability Switzerland	101
Fuchs, M.	8	Universität Innsbruck	26	China	150	Mountain Research and Development	80
Duglio, S.	7	Università degli Studi di Torino	18	Italy	104	Journal of Mountain Science	63
Dunets, A.N.	6	Griffith University	15	Australia	97	Revue De Geographie Alpine	44
Lexhagen, M.	6	The University of Queensland	14	United Kingdom	97	Journal of Sustainable Tourism	39
Turnock, D.	6	Univerza v Ljubljani	14	Canada	96	Tourism Management	35
Williams, P.W.	6	Colorado State University	13	France	75	Geoheritage	34
Adamov, T.	5	Université Savoie Mont Blanc	13	Spain	69	Tourism Recreation Research	33
Bonadonna, A.	5	Sun Yat-Sen University	13	Poland	65	Annals of Tourism Research	27
Brida, J.G.	5	Mid Sweden University, Östersund	13	Romania	64	Geojournal of Tourism and Geosites	27

Bibliometric analysis

Bibliographic coupling

As per bibliographic coupling, if two articles cite the same references, it indicates that they relate to the same subject. It represents the overlapping in the reference lists of the publications (Kessler, 1963). Table 2 lists the prominent authors, organizations, publications titles, and countries from the collected sample. The results show that M Fuchs is the most productive and significant contributor to mountain tourism research followed by M Lexhagen and SK Nepal. Among the organizations, the University Fredrico Ii, the University of Chinese Academy, and Universite Savoie Mont-Blanc have the highest contribution to the theme. Among the countries, the United States represents the highest influence in mountain tourism research followed by China and United Kingdom. TLS stands for the total link strength and indicates the total strength of the co-authorship links of a given researcher with other researchers (Van Eck & Waltman, 2011). For instance, the TLS of 4090.4 of the United States means it has 4090.4 links with other countries. The fraction counting is because of the fractional counting option used in the analysis.

Table 2. *Most productive authors, organizations, and countries by bibliographic coupling*

Author	TLS	Organization	TLS	Country	TLS
Fuchs M.	357.55	Ev-K2-Cnr Committee, Italy	158.19	United States	4090.4
Lexhagen M.	349.55	University Federico Ii, Department of Agricultural Engineering and Agronomy, Italy	158.19	China	3300.64
Nepal S.K.	25.67	University of Chinese Academy of Sciences, China	72	United Kingdom	3094.23
Wang Y.	21	Institute of Geographic Sciences and Natural Resources Research, China	66	Australia	2740.28
Liu Y.	20	Universite Savoie Mont-Blanc, France	16	Italy	2317.44
Williams P.W.	13	Department of Economics and Political Science, Universita Della Valle D'aosta, Italy	14	Austria	2075.25
Liu J.	10	Institute of Transport Economics, Norway	7	Canada	2020.07
Duglio S.	7	Geography Department, The University, United Kingdom	4	Spain	1687.1
Turnock D.	2	Southern Cross University, Australia	3	Germany	1604.9
Dunets A.N.	1	East-West Center, United States	2	France	1434.21

Table 3. *Most productive authors, organizations, and countries as per the citation analysis*

Author	TLS	Organization	TLS	Country	TLS
Fuchs M.	326	Plekhanov Russian University of Economics, Russian Federation	104	United States	382
Nepal S.K.	319	Ev-K2-Cnr Committee, Italy	96	Canada	336
Lexhagen M.	289	University Federico Ii, Department of Agricultural Engineering And Agronomy, Italy	96	Italy	247
Fredman P.	273	Institute of Transport Economics, Norway	91	United Kingdom	245
Brida J.G.	254	Geography Department, The University, United Kingdom	60	China	228
Williams P.W.	186	University of Chinese Academy Of Sciences, China	42	Spain	195
Dunets A.N.	119	Southern Cross University, Australia	40	Australia	158
Duglio S.	109	East-West Center, United States	39	Romania	110
Li H.	92	Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, China	34	Austria	98
Adamov T.	81	Department of Economics and Political Science, Universita Della Valle D'aosta, Italy	30	France	96

Citation analysis

By this analysis, the popularity of a document is assessed by the citation count it has received over the years. Table 3 highlights the most productive and influential authors, organizations, and countries based on the citation analysis. M Fuchs was found to be the most influential author in our sample of mountain tourism research followed by SK Nepal and M Lexhagen. Among the organizations, Plekhanov Russian University of Economics (Russian Federation), Ev-K2-Cnr Committee (Italy), and University Federico Ii (Italy) are the most influential. Further, researchers from the United States, Canada, and Italy are found to be common in mountain tourism research. This approach only lists the popularity based on the citations a study receives. It assumes that seminal works in a field will have more citation count. However, this approach is biased toward old studies and does not consider the content of the study.

Table 4. *Most prestigious articles on mountain tourism*

Publication	PageRank value	LCC	GCC
Kuščer and Dwyer (2018)	0.007099	8	12
Sood et al. (2017)	0.005661	34	60
Río-Rama et al. (2019)	0.005447	15	24
Kuščer et al. (2016)	0.005236	42	73
Araújo et al. (2019)	0.005078	7	10
Kušcer (2014)	0.004754	1	6
Maroudas et al. (2011)	0.004424	17	36
Ziegler et al. (2021)	0.004362	4	5
Lai et al. (2015)	0.004104	26	41

Note: Local citation count (LCC) is from Scopus and Global citation count (GCC) is from Google Scholar

Prestige Analysis

The bibliographic coupling approach is claimed to be biased towards new studies and citation analysis is assumed to be biased towards older studies. Thus, there is a need for an analysis that overcomes the limitation of other approaches. Prestige analysis is one such analysis that ranks the studies based on several parameters including citations, publication title, age etc. It uses the PageRank algorithm to assess the worth of the article. This algorithm is given in Gephi as a statistical tool for analysing the network diagram. Using the PageRank algorithm (Brin & Page, 1998) in the Gephi (Bastian et al., 2009), we identify the most prestigious articles (Table 4) published in the mountain tourism research in the business, management, and social science domain. These articles are published in top sources and have good citation counts. Past bibliometric studies suggest using two different citation metrics. First is LCC or Local Citation Count and second is GCC or Global Citation Count (Pattnaik et al., 2020). The LCC here refers to the number of citations that an article has received from the articles downloaded in our sample. Whereas, GCC is the total citations received by an article from other articles as indicated on the Google Scholar platform. The results suggest that Kuščer & Dwyer (2018), Sood et al. (2017), and Río-Rama et al. (2019) are the most prestigious articles in our sample. Most of these articles are published in the last five years which indicates that recent articles have gained prominence.

Co-word analysis

To identify the various themes in mountain tourism research, we ran a keyword co-occurrence analysis on the author-provided keywords and journal-indexed keywords. The main idea was to get a review of the research that has been undertaken in mountain tourism. The authors in our sample provided 4223 keywords while publishers indexed them with 2718 keywords. In the VOSviewer keyword co-occurrence network, the density of the keyword indicates its occurrence. In Table 5, the top author and indexed keywords having the highest frequency in mountain tourism research are listed. The results reveal that sustainability and climate change is the primary concern for the authors while carrying out mountain tourism research. They suggest sustainable development through developing geotourism, sustainable tourism, ecotourism, and rural tourism. However, journals index them in broader aspects of tourism development and management, tourism economics, and tourism destinations in mountain regions.

Table 5. *Most frequent author and indexed keywords*

Author Keyword	TLS	Indexed Keyword	TLS
Sustainability	29	Tourism Development	267
Climate Change	26	Mountain Region	219
Geotourism	20	Tourist Destination	169
Sustainable Tourism	20	Ecotourism	142
Ecotourism	19	Tourism Management	118
Rural Tourism	18	China	100
Landscape	16	Sustainable Development	99
Conservation	14	Sustainability	81
Sustainable Development	14	Tourist Attraction	71
Protected Areas	13	Tourism Economics	69

Figure 2 represents the network of the author-provided keywords while in Figure 3, we represent the network of indexed keywords. The network diagrams were then uploaded in the Gephi to find the commonalities of the theme using the modularity class statistics (Blondel et al., 2008; Lambiotte et al., 2008). The modularity class helps in clustering the common attributes and determining the community structure. It is interesting that in the two network diagrams, keywords cover the following common themes: (1) Nature protection and resident perception and interest (Author keywords: sustainable development, sustainable tourism, conservation, protected areas, nature, sustainability; Indexed keywords: Sustainability, nature conservation, heritage conservation, environment protection, nature-based tourism), (2) Economic development (author keywords: sustainable tourism, rural tourism, agriculture, agritourism, rural tourism, stakeholder development; indexed keyword: tourism economics, ecotourism, tourism market, regional development), (3) Tourist satisfaction (author keywords: tourist satisfaction, motivation, destination image; indexed keywords: tourist behaviour, tourist attraction, recreational activity), and (4) Climate preservation and conservation (author keywords: climate change, tourism impacts, geoheritage, geosites, geotourism; indexed keywords: climate change, environmental impact, mountain region, land use). Additionally, indexed keywords also highlight the main countries and regions of research (France, Italy, Eurasia, India).

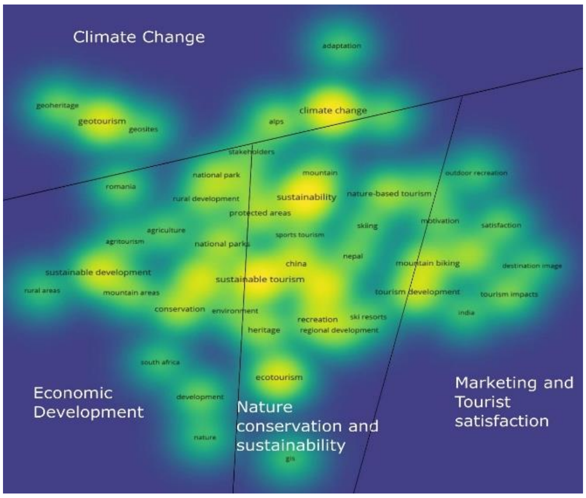

Figure 2. *Keyword co-occurrence of author keywords*

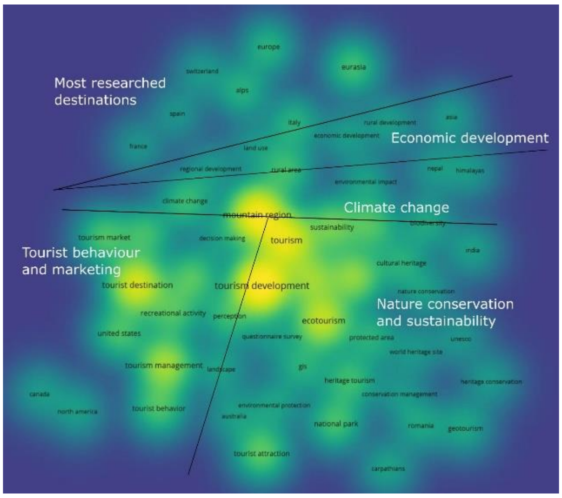

Figure 3. *Keyword co-occurrence of indexed-keywords*

Co-authorship analysis

The network (Figure 4) is divided into six groups. In group 1, M Yang (3 links), L Hens (5 links), X Ou (3 links), and R de Wulf (4 links) collaborated and published articles on mountain tourism. In group 2, we have L Zhou (4 links) and BJ Lewis (3 links). In group 3, we have the collaboration of M Voda (5 links) and A Torpan (3 links). In group 4, A Muhar (5 links) and L Khartishvili (3 links) have frequently collaborated in researching mountain tourism. In group 5, K Huang (5 links) and P Pearce (3 links) have a research collaboration. In group 6, RYM Li (3 links) and L Zeng share research collaboration. Although there are collaborations among the researchers, however, the count of authors in each group is very low. There is a need to expand these networks by including authors from several domains, institutions, and countries.

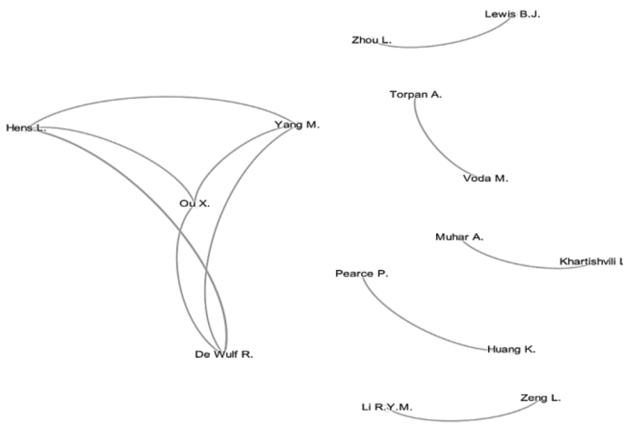

Figure 4. *Co-authorship network*

Thematic areas

The co-citation analysis helps in the identification of the following themes in mountain tourism research. Through the dynamic co-citation analysis, we identify the evolution and trends of these clusters (Table 6). Both analyses were carried out using the VOSviewer. The co-citation and dynamic co-citation analysis resulted in 859 studies (58.75% of the sample). The clusters are discussed in the following sub-sections. Cluster 2 is the largest in the study followed by Cluster 3, Cluster 1, and Cluster 4. Cluster 4 is the latest as the studies focus on the topic of future of the mountain tourism because of climate change. The dynamic co-citation evaluates the evolution of these clusters. For instance, the studies in cluster 1 originated in 1989 and it has the oldest studies. Yet, it does not have the highest study count among the clusters. Whereas, Cluster 4 has the least number of studies and originated much later than other clusters. Thus, C4 can be termed an emerging cluster and researchers can focus on topics to study from this cluster. Although C2 and C3 have the most studies, the studies continue to explore these topics. It shows that there still exists a lot of study gaps in these clusters that the researchers are exploring globally. The qualitative content of these clusters is discussed in the following sub-sections. Figure 5 is the visual representation of the co-citation analysis clusters drawn in Gephi. The nodes or the articles are represented as circles. Each cluster has its colour and is divided based on the modularity class statistic. The network shows that studies in each cluster are unique but are connected to the other clusters. For instance, studies in cluster 4 on climate change are closely entangled with studies in cluster 1 on economic development. It means that climate change and its impact on mountain tourism will influence the economic contribution made by the mountain tourism industry. Similarly, studies in the other clusters are related to each other.

Cluster 1: Economic Development through mountain tourism

Economic development has been a major concern for policymakers at mountain destinations because of the non-availability of earning opportunities (Kumar & Shekhar, 2020). Mountain tourism has been viewed as not only an alternate source of income but also the only livelihood possibility for the regions that offer scenic beauty and adventure and cannot be commercialized. Mountain destinations offer the possibility for the development of several typologies of tourism i.e. adventure tourism, wellness tourism, agro-tourism, rural tourism, and eco-tourism. Lun et al. (2016) identified the critical success factors for the development of rural tourism in mountain destinations and identified communication as a key driver. Although the question of economic contribution is undeniable (Mutana & Mukwada, 2018a; Putkaradze & Abuselidze, 2019), scholars also pointed out that several mountain destinations are moving beyond winter tourism to ensure tourist survival throughout the year (Gilani et al., 2018). Mountain tourism has the potential to restrict poverty and assist people in raising their standard of living (Liang & Bao, 2018). In addition, most of the common destinations have become mature and therefore the revenue-generating capacity has also declined (Danzi & Figini, 2022). Scholars also identified the possibility of the development of niche tourism such as health tourism (Dunets et al., 2020) and bike tourism (Buning & Lamont, 2020). Tourism may also generate creative workforce and may lead to migration of people (Thulemark et al., 2014). It might help the government in distributing people from high density land.

Cluster 2: Nature protection and conservation in mountain tourism

In this theme, the focus of researchers was on the impact of mountain tourism development on the environment and nature. The studies further necessitated the need for strong environmental protection and nature conservation. They also studied the perception of the residents on the development of mountain tourism and towards the tourists. The studies focus on making mountain tourism destinations more sustainable. Kuščer and Dwyer (2018) argued that the larger ski resorts served tourists more environmentally efficiently. In addition, the altitude of the mountain forces management to behave more responsibly. The sustainability level of the destination also depends on innovative practices (Kuščer et al., 2016). Mountain tourism however cannot be developed without the participation of the locals (Maroudas et al., 2011). A positive perception of the tourists helps in enhancing the economic contribution of the industry (Brida et al., 2011), whereas negative environmental consequences trouble them (Ali, 2020). Community participation also explains the variance in the economic contribution of the mountain tourism industry at different sites (Nyaupane et al., 2006). Since community participation is essential, practitioners must try to minimise stakeholder conflict (Dangi & Gribb, 2018). Stakeholders must engage in collaborative planning to develop the industry and engage in the conservation and protection of the natural resources at such destinations (Kumar et al., 2018). A desirable framework to support community development and co-management must be employed by the practitioners. Suitable approaches for making mountain tourism sustainable should be adopted (Brătucu et al., 2017). By focusing on improving the productivity and value chains of local tourism operators, practitioners can make mountain tourism more sustainable (Fuchs et al., 2015).

Cluster 3: Tourist satisfaction and marketing of mountain tourism

The articles in this cluster focused on tourist behaviour, understanding their perception and related aspects of marketing such as segmentation of mountain tourists based on their behaviour and demographics. Practitioners must try to create a suitable destination image for the mountains that can attract tourists (Araújo et al., 2019). Mauri and Nava (2021) observed that bored tourists have higher expenditures and involve in many activities. Thus, practitioners must identify tourists with a longer average length of stay (Lal et al., 2019). This will prove to be a more sustainable option. Moreover, motivation plays a significant role in visiting a destination. Taher et al. (2015) observed that the mountain landscape and behaviour of the organizing company strongly influence visit and revisit motives. Thus, mountain tourists can further be segregated based on their motivation and revisit intention. Further, tourists that have higher disposable income and strong educational backgrounds can be a vital segment (Strobl et al., 2015). Safety has been assessed as an important influencer for mountain tourists (Rebelo et al., 2017). Thus, practitioners must ensure that at mountain destinations only trained and skilled staff is recruited to carry out activities. Practitioners must also engage in continuous monitoring of the risk at such destinations based on tourist socio-demographic profiles (Jones & Yamamoto, 2016). Lastly, the focus at these destinations must be on enhancing the visitor experiences. Enhanced tourist experiences result in loyalty and generate revisit intention. Proper use of technology at such places can further help in boosting the destination image and tourist experience. Environmental reviews on social media and online platforms can help in influencing the tourist's decision to visit the mountain destination (Bigné et al., 2020). Visit motives for several types of tourists such as rural tourism may further assist in getting insights into tourist behaviour. It will help in modelling the tourism products, setting effective pricing, and engaging in suitable promotion mix strategies for the mountain tourism industry (Kumar et al., 2021).

Cluster 4: Climate change and the future of mountain tourism

Mountain tourism, particularly where winter sports are the main theme, is highly vulnerable to changes in climate and increasing global temperatures (Nyaupane & Chhetri, 2009). These destinations are at risk of becoming obsolete and pose serious challenges to the residents. Therefore, there is a need to critically assess these challenges and adopt mitigation strategies (Palomo, 2017). Steiger and Scott (2020) suggested that climate change will have an impact on the destination's reputation and competitiveness. Thus, adaptation strategies, such as artificial snowmaking must be adopted to restore these sites (Haanpää et al., 2014). Another practice could be to carry out destination discontinuity and shift the tourists to a similar destination in a nearby vicinity with similar characteristics and infrastructure. Extreme climatic conditions also will have an impact on the mountain tourism future (Jedd et al., 2017). Pröbstl-Haider et al. (2021) observed that extreme summer could have an impact on the tourist consumption of outdoor activities. Over-tourism in mountain destinations is a common phenomenon because of the extreme heat in the plains (Barbhuiya, 2021). Practitioners must adopt GIS to monitor the changes in climatic conditions and observe any future abnormalities. If the extreme climatic events are regular, then, the destinations must be abandoned to protect the life of the visitors. If such calamities are non-recurring, mitigation strategies could be adopted to safeguard the industry and people. Over tourism must be restricted at all costs as it has an impact on the long-term survival of the mountain tourism industry.

Table 6. *Evolution of thematic clusters*

Year	C1	C2	C3	C4	Total
1989	1				1
1991		2			2
1992	1		2		3
1993		1			1
1994	1	1			2
1995	1		1		2
1996	1	1			2
1997	1	2	1		4
1998	1	3	1		5
1999	1	1	3	1	6
2000	1	6	3	1	11
2001	1	3	3		7
2002	4	6	1		11
2003	4	3			7
2004	1	4	3		8
2005	3	7	4		14
2006	1	4	6		11
2007	2	5	4	1	12
2008	1	11	13		25
2009	5	8	2	3	18
2010	7	8	6	2	23
2011	5	14	5	4	28
2012	6	6	2	2	16
2013	5	10	15	1	31
2014	4	17	15	1	37
2015	7	14	16	3	40
2016	12	22	23	4	61
2017	14	35	13	5	67
2018	11	43	24	2	80
2019	11	50	20	8	89
2020	7	62	19	4	92
2021	22	53	21	6	102
2022	8	20	12	1	41
Total	**150**	**422**	**238**	**49**	**859**

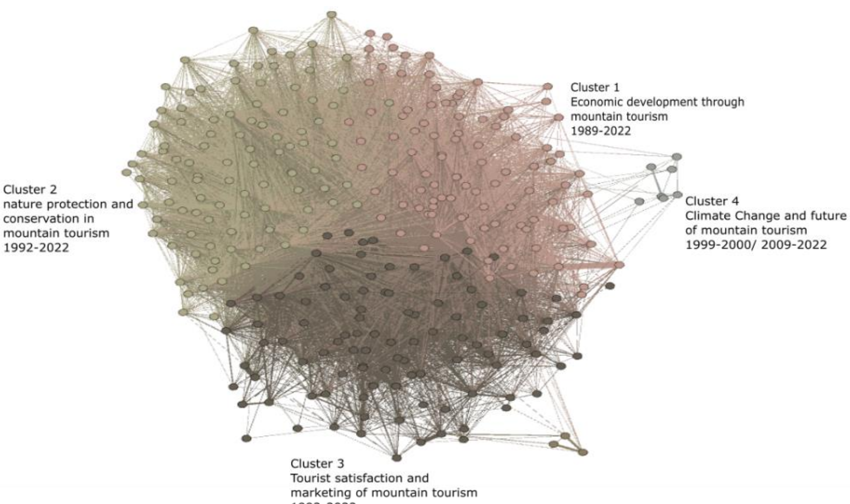

Figure 5. *Visual representation of co-citation clusters*

GAPS IN LITERATURE AND RECOMMENDATIONS

Methodological novelty

Most of the reviewed literature had adopted similar methodologies with respect to study design, data collection, and data analysis. Most of the studies in cluster 2 are case studies (Dabrowski, 2005; Gardner & Sinclair, 2011; Mason & Leberman, 2010) or descriptive studies using focused group discussions or interview-based discussions. Studies in cluster 1 adopted scenario-based modelling to predict the economic impact of mountain tourism development. Several studies have adopted structural equation modelling (SEM) in cluster 3 to meet their objectives (Zeng & Li, 2021). The use of literature reviews is a common method adopted by many studies in clusters 2 and 3 (Mutana & Mukwada, 2018b; Sánchez-Cañizares et al., 2018). We suggest that future studies could identify the basic building blocks in the mountain tourism framework and empirically test and statistically validate it using quantitative measures. Studies in cluster 3 are empirical as they relate to identifying motives and perceptions of the tourists and observing their behavioural patterns. Future scholars may adopt suitable approaches (such as the TCCM approach) to identify the prominent methodological frameworks used in the literature on mountain tourism and focus on tourists' attitudes and behaviours toward sustainability in mountain destinations.

New themes for mountain tourism research

Mountain tourism development is a multidisciplinary and intradisciplinary knowledge domain connecting hospitality and tourism management with geology, business and management, environmental studies, social sciences, and economics. We identified four major themes that have been the focal point of mountain tourism research related to business management and social sciences. The first theme (Cluster 1) suggests that mountain tourism development leads to rural development and raises the standard of living (Abrudan & Turnock, 1998). The second theme (Cluster 2) highlights that nature protection and conservation are essential for the longevity of mountain tourism (Gunya et al., 2021). The third theme (Cluster 3) focuses on increasing tourist satisfaction by understanding their behaviour and marketing (Huang et al., 2014; Truong et al., 2018). The fourth theme suggests that climate change may prove to be a challenge for the development of winter mountain tourism (Cluster 4).

There is limited research that interconnects mountain tourism and other disciplines, such as operations, strategic management, finance, and taxation. There is negligible research on the role of ancillary industries such as hospitals and healthcare at mountain tourism destinations, the role of mountain tourism in wellness tourism, and opportunities for wedding and glamping tourism in mountain tourism destinations. In addition, themes and issues such as financing options and tour packages for mountain tourists, taxation benefits to the mountain destination conservation and development, and post-pandemic sustainable behaviour of the tourists are yet to be studied in detail. These themes are of importance because of the increased focus of the organizations on their corporate social responsibilities, availing tax benefits, and altered consumer behaviour post-pandemic.

New directions for mountain tourism research

Budding researchers should incorporate the concepts from other management and allied areas to have a deeper understanding of issues in mountain tourism. In addition, the 'sustainable competitive advantage' necessary to sustain mountain tourism destinations because of climate change may pave way for effective management strategies. Furthermore, educating tourists about the consequences of their behaviour and using the Theory of Planned Behaviour (TPB) to plan tourism activities at such destinations will provide new directions for research. Shifting the tourist burden from peak seasons to off-seasons by developing other activities will benefit hospitality managers. Using advanced technologies and big data analytics may help provide more input towards the behaviour of the tourists and residents perceptions. Seminal works may be developed from these concepts to provide new directions to mountain tourism research.

DISCUSSION

Prior literature suggests that the research on mountain tourism is scattered geographically across various disciplines and journals. The present study addresses the gap by making the following contributions to the theme.

Recognizes key contributors and prestigious articles. We applied bibliometrics to answer RQ1, which aimed at identifying the top contributors in mountain tourism research. Table 1-3 suggests that SK Nepal, M Fuchs, M Lexhagen, and S Duglio are prominent authors in mountain tourism research. In terms of organizations, the University Federico Ii, the University of Chinese Academy of Sciences, and the Ev-K2-

Cnr Committee, Italy are the top contributors. In terms of countries, the United States, China, Italy, and Canada have the highest contribution to mountain tourism research. The co-authorship network suggests that authors have very minimum collaboration in mountain tourism research. The absence of cross-institutional research collaboration further suggests a low level of inter-institutional collaboration among the researchers. The most prestigious articles in our sample are listed in Table 4. Most of these articles have been published after 2013 indicating novel research in recent years.

Identification of thematic areas. Through the RQ2, we aimed to identify the prominent and recent themes in mountain tourism literature. The question is answered using the co-citation analysis of the documents. In the recent articles, we find a strong focus on the identified themes. Cluster 1 focuses on the economic development of the regions through the development of mountain tourism. Cluster 4 focuses on the reducing winters and their impact on the future of winter sports and tourism at mountain sites. Cluster 3 highlights the changing behaviour of mountain tourists and the need for a stronger emphasis on the marketing aspects of mountain tourism. And, Cluster 2 focuses on the need for nature protection and conservation at the mountain sites because of over-tourism and its consequences.

The evolution of the clusters reveals that Cluster 2 is the most researched cluster that focuses on nature conservation and sustainability. Cluster 4 is the latest cluster that focuses on climate change and the future of winter tourism at mountain destinations. Since the issue is new, therefore, this cluster has the least studies but its importance is growing in the coming decade.

Future research scope. Through RQ3, we aimed to identify and recommend future research scopes to mountain tourism researchers. First, we suggest that researchers must continue focusing on exploring the existing themes in mountain tourism research. Second, they must also place some attention on the new themes that have not yet been studied and provide new directions to mountain tourism research. In addition, the study stresses the need to conduct multi-disciplinary and interdisciplinary research in mountain tourism research. The researchers should bridge the knowledge gap across disciplines. For instance, the research domain of operations and strategic management must be connected with mountain tourism to determine the carrying capacity for mountains and manage tourist footfall during the peak season. Studying mountain tourism through citizen science will help in throwing useful insights into tourist behaviour. Furthermore, integrating agritourism, rural tourism, and adventure tourism may provide economic development to the neglected and tribal areas in the economy. The present study will help the researchers in identifying the basic building blocks of mountain tourism research and add value to their contribution.

CONCLUSION AND LIMITATIONS

In this study, we present a comprehensive review of mountain tourism research. We applied suitable bibliometric analysis following a robust protocol to retrieve the literature from the Scopus database to identify top contributors, most productive authors, top-cited articles, and institutions in mountain tourism research. We further identified four thematic areas relating to economic development due to mountain tourism, nature preservation and conservation as a challenge in mountain tourism, climate change and future of the mountain tourism, and marketing of mountain tourism through understanding tourist behaviour. Then we identified research gaps from the findings and suggested future thematic areas and new directions for mountain tourism research concerning methodological and theoretical advancement. The study also offers several implications for the practitioners and the researchers. The study makes several contributions to the theory. First, it enriches the extant literature on mountain tourism by summarising the past research work and suggesting future research actions. Second, it allows for use of bibliometrics, a widely appreciated literature review technique, in the field of mountain tourism. Researchers could similarly study the other tourism typologies to understand their development. For industry practitioners and managers, the study recommends research-guided development of the mountain tourism industry. Providing suggestions about tourist post-pandemic behaviour should be one of the priorities. In addition, managers should try to make mountain tourism products evolve. One of the concepts widely used in understanding a product is the five levels of the products developed by Kotler (Kotler & Armstrong, 2017). Managers must try to make potential products of today, and the basic or expected products of tomorrow. It is one of the probable ways through which tourist satisfaction could be enhanced. Managers must involve local players in the tourism supply chain clusters to enhance resilience in the event of climate change effects. The formation of local tourism clusters in the mountains for knowledge sharing will further boost the shock-absorbing capacity of the industry. The concept of Creating Shared Value (CSV) can further boost the socioeconomic contribution of the industry.

The present study suffers from limitations that are inherent to the bibliometric analysis. The findings and discussions are based on the analysed sample. Future studies may include literature from multiple databases to enlarge the sample size. Studies can also focus on articles published specifically in journals focusing on mountain tourism research as it would provide them with a more up-to-date state of mountain tourism research. There may exist several studies that might not have been missed out from our sample because of our search string. It is because several types of tourism activities might take place at mountain destinations and since we searched only for 'mountain' in the search string, these studies might get omitted from our sample. Thus, future studies could include studies that focus more on a specific form of tourism at such destinations and extend the findings of the present study. Despite the limitations, we believe that the present study will assist the upcoming researchers to adopt novelty in the research themes and methodology and provide a new direction to advance research on mountain tourism.

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Article Structure

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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.*

Introduction part of the study should provide a general overview of the importance of the topic that is going to be covered in the manuscript. Readers should have an insight into the topic and reasons for conducting the current study. After introducing the topic, the **research aim should be clearly stated**. At the end of the introduction part, the presentation of the paper structure should be provided with a short description of what is going to be addressed in each part of the manuscript. Authors are advised to avoid reviewing the literature and detail description of the methodology in this part of the paper.

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Methodology part should be reserved for description of research design and method used to answer to study's research questions. It is expected that the appropriate literature for using the related method is presented. In addition, it is essential to pay attention to the issues such as explaining the characteristics of settings in which the study is conducted, sampling techniques as well as data collection method. The information on how were the questionnaires or interview questions derived should be provided in detail. In addition, the research analysis used in the current study, as well as the reasons for using this particular analysis should be presented. Descriptions mentioned in this part can be avoided in the case of an opinion piece.

Results: After the description of the methodology, results derived from the conducted data analysis should be presented at this part. The type of analysis was used as well as statistical tests, reliability and validity tests, should be properly explained at this part of the study. After that presentation of the results should come. Findings and hypotheses evaluations should be presented according to the research approach and analysis, with the appropriate elaboration on the same. Tables, graphics, and figures should be presented at this part as well. Authors should make sure not to overuse the tables, but to combine several statistical data into one table where possible.

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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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