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**Address** Akdeniz University, Tourism Faculty  
Dumlupınar Boulevard  
Post Code: 07058 Campus ANTALYA,  
TÜRKİYE

**Telephone** + 90 242 227 45 50  
+ 90 242 310 20 20

**Fax** + 90 242 227 46 70

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## ENVIRONMENTAL SUSTAINABILITY AT DESTINATION LEVEL: THE ROLE OF TOURIST CITIZENSHIP BEHAVIOR

Carla RODRIGUEZ-SANCHEZ<sup>1</sup>

*Department of Marketing, Faculty of Business & Economics,  
University of Alicante, Spain*  
ORCID: 0000-0002-5801-6801

Eduardo TORRES-MORAGA

*Department of Business Administration, School of Economics and Business, University  
of Chile, Santiago, Chile*  
ORCID: 0000-0003-3089-4116

Franco SANCHO-ESPER

*Department of Marketing, Faculty of Business & Economics,  
University of Alicante, Spain*  
ORCID: 0000-0002-6073-1935

### ABSTRACT

Tourist citizenship behavior (TCB) has become a key part of tourist destination management. This study explores how TCB can help tourist destination sustainability. A model is proposed to analyze the relationship between TCB and tourist environmentally responsible behavior. The study also examines which factors are part of this process. Specifically, the influence of the perceived sustainability of a destination on TCB is analyzed, with mediation by destination identification (DI) and perceived value (DPV). According to our findings, perceived sustainability is positively associated with DI and DPV. These two variables are associated with greater TCB. TCB is positively related to environmentally responsible behavior. Accordingly, TCB could encourage tourists to care for the environment by acting as if they were more than just tourists. Implications for destination management organizations are provided to improve destination sustainability and promote both TCB and environmentally responsible behavior among tourists.

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<sup>1</sup> Address correspondence to Carla Rodriguez-Sanchez (PhD), Department of Marketing, Faculty of Business & Economics, University of Alicante, Spain. E-mail: [carla.rodriiguez@ua.es](mailto:carla.rodriiguez@ua.es)

## INTRODUCTION

Tourism is an important and dynamic economic sector. It is a prime source of employment and economic development around the world (UNWTO, 2022). However, it also causes problems that compromise the sustainability of many destinations (Streimikiene et al., 2021). Therefore, destination management organizations (DMOs) must take actions to promote the sustainability of their destinations. This perceived sustainability by tourists is crucial (Wang et al., 2021) since it can be used as an indicator of efficacy of sustainability strategies implemented at a specific destination (Sánchez-Fernández et al., 2019). In addition, if tourists perceive that a destination is striving to be sustainable, they will have more of an incentive to adopt socially responsible behaviors. This idea is supported by social exchange theory (Homans, 1958), which provides a framework that describes what happens when people feel the need to reciprocate behaviors or actions in response to some benefit. If a destination makes tourists feel like it cares about sustainability, they will feel a voluntary desire to promote and support that destination through trust and reciprocity (Tsaour et al., 2021). This type of behavior, known as tourist citizenship behavior (TCB), was introduced by Liu and Tsaour (2014, p. 89) in the context of tour groups. It is defined as “discretionary and altruistic behaviors demonstrated by tour members during group package tours that sustain effective functioning of the tour”.

The primary component of TCB is the voluntarily engaged tourist behavior, which has positive effects on the final tourist experience. TCB has three dimensions (Groth, 2005; Tsaour et al., 2021). At the destination level, the first dimension is the recommendation of the tourist destination. The second is offering feedback to DMOs. The third is helping other tourists who travel to the destination. Accordingly, those who display TCB behave as more than mere tourists. Instead, they act like citizens of their chosen destination (Liu et al., 2021). For there to be TCB, tourists must feel connected to the place they are visiting and must feel a strong commitment toward it (Shafiee et al., 2020). Unsurprisingly, past research has found that two key antecedents of TCB are destination identification and the value perceived by tourists towards a particular destination (Tsaour et al., 2021). Furthermore, a key behavior for destination sustainability that may result from TCB is the environmentally responsible behavior of tourists. This behavior can be understood as an extension of TCB because social identification due to responsible actions at the destination could motivate tourists to care for the environment through actions that go beyond what is expected of them (Su & Swanson, 2017).



Very few studies have looked at TCB in relation to tourism destinations, despite the fact that TCB is crucial for managing tourist sites (e.g., Torres-Moraga et al., 2021; Xu & Lu, 2023). Most studies have examined TCB with respect to a specific tourist service rather than a tourist destination (e.g., Shafiee et al., 2020; Yen et al., 2022). Furthermore, no study has provided an in-depth investigation of the sustainability-related opportunities that this type of behavior could offer DMOs. In order to bridge this research gap, the current study explores the role of TCB as an antecedent of tourist environmentally responsible behavior (ERB). It also examines the underlying processes (drivers) that affect this relationship. Factors affecting tourist ERB can be classified into internal psychological mechanisms and external destination-related characteristics (Luo et al., 2020). The aim of this research is twofold: (a) to analyze the influence of destination perceived sustainability (DPS) (external factor) on TCB, considering DI and DPV (internal factors) as both consequences of DPS and at the same time predecessors of TCB; (b) to study how TCB relates to the environmentally responsible behavior of tourists.

This study offers notable theoretical contributions to the broader field of tourist destination management and specifically to the realm of sustainable tourism literature. First, the study extends the use of TCB not only to the tourism organization level (e.g., Tsaur et al., 2021; Yen et al., 2022) but also to the tourist destination level. Second, the study offers a more in-depth application of social exchange and social identity theories in destination management, providing new insights into how to promote TCB using tourists' perceptions of a destination's sustainability actions. If tourists perceive a destination as being committed to sustainability and identify with it, they are more likely to act like citizens of that destination. Third, previous studies (e.g., Liu et al., 2021) have implied that TCB supports the sound management of tourist destinations. The current study also shows that TCB supports destinations' environmental sustainability by promoting tourist ERB.

## THEORETICAL FRAMEWORK

### **Perceived Sustainability and Tourist Citizenship Behavior (TCB)**

Tourists' evaluations of a given destination in terms of its sustainability differ according to whether those who visit that destination perceive it as sustainable or not (Pulido-Fernandez & Lopez-Sanchez, 2014). Consequently, if the goal is for tourists to act like citizens of a given destination by behaving responsibly and sustainably, they must first

perceive that the destination is already taking sustainability-related actions. Thus, destination perceived sustainability is crucial for promoting TCB. Perceived sustainability is “the tourist’s cognitive-affective evaluation of sustainability policies implemented at a particular destination by managers and destination marketing organizations” (Sánchez-Fernández et al., 2019, p. 178). This sustainable management should be based on the three dimensions of sustainability; environmental, economic, and socio-cultural (Mathew & Sreejesh, 2017). However, the environmental dimension has thus far been the target of most of tourism scholars’ attention. Concern for the environmental dimension means taking actions to care for the environment (Altunel & Yalçın, 2022). Managing renewable and non-renewable resources, protecting natural capital, and making the best use of environmental resources are a few examples (Agyeiwaah et al., 2017).

Considering tourists’ perceived sustainability of a destination when developing sustainable strategies not only allows destination managers to focus their marketing strategies more sharply and attract more tourists (Shafiee et al., 2019) but can also promote the sustainability of the destination itself. When tourists perceive a given destination as sustainable, they are more willing to behave responsibly (Penagos-Londoño et al., 2021). This situation can be explained by the concept of customer citizenship behavior toward the environment (CBE) (Tuan, 2018), which is based on social exchange theory (Homans, 1958). As Tuan (2018, p. 3) explains, “when the organization behaves as a *good* citizen in the society, its customers may *learn* this behavior and develop citizenship behavior towards the organization”. Despite an apparent absence of such studies at the destination level, it is reasonable to expect the same dynamics to apply. If tourists perceive sustainability strategies in the tourist destination they visit, they can *learn* from them and thus perform TCB in that destination. Additionally, if tourists perceive that a destination behaves like a *good* citizen in society, they will feel the need to reciprocate behaviors or actions. Thus, tourists can contribute to the sustainability of a tourist destination. The literature also suggests that this process occurs when consumers identify with an organization and when they perceive high value in the exchange experience (Tsai et al., 2017; Tuan, 2018). As a result, the identification of tourists with a given destination and their perceived value of it can potentially serve as mediating factors in the relationship between destination perceived sustainability and TCB.

### *Identification and value perception of the destination*

When it comes to consumer identification, scholars have conceptualized tourists' destination identification as the sense of connection to a destination that defines them (Hultman et al., 2015). This type of identification is based on the values and personality traits that tourists share with the destination (Wen & Huang, 2021). Accordingly, destination identification is a subjective process that takes place when the perceived identity of the tourist destination and consumer identity are aligned (Hu et al., 2021). The focus, therefore, should be on developing a stronger sense of connection. This focus is especially important when efforts are based on actions that are directly related to caring for the environment (Su & Swanson, 2017). Initiatives centered on destination social responsibility are important to make tourists identify more strongly with the destination (Su et al., 2016). For example, destination social responsibility actions can enhance tourists' destination identification when they perceive these actions to be environmentally friendly (Su & Swanson, 2017). In fact, when these actions meet tourists' expectations, tourists develop a positive perception of the destination, which in turn makes them connect with the place they visit (Su & Swanson, 2017). When a destination performs sustainable actions, the projected image helps tourists connect the destination with their own self-definition (Hu et al., 2021), which enables stronger identification by tourists (Su et al., 2016). Based on this reasoning, this hypothesis is stated:

*H1: Destination perceived sustainability is positively associated with destination identification.*

Destination identification is also an important tool for developing long-term relationships with tourists due to the close connection forged between tourists and the place they visit (Nysveen et al., 2013). This connection may manifest itself as social identification, where tourists identify themselves as members of the destination society without actually being part of it (Kock, 2021). Tourists can identify themselves not only with tangible elements such as tourist attractions but also with intangible ones such as the cultural expressions of the tourist destination, its inhabitants, and their lifestyle. When this social identification satisfies the identity needs of tourists, they may develop a greater commitment to the place (Tournois & Rollero, 2020). This stronger commitment might enhance their self-confidence, which would then affect how they behave as citizens (Ahearne et al., 2005). This approach is compatible with social identity theory (Tajfel & Turner, 1979), which states that travelers are more willing to act in a way that helps a destination when they are in line with that destination's guiding

values. Thus, studies have reported that stronger identification with a place encourages tourists to help other tourists, provide feedback to the destination, and promote the destination through positive word of mouth (WOM) (Rather et al., 2020; Zhang et al., 2022). It encourages tourists to perform citizenship behavior toward the tourist destination. Another assumption is that travelers who identify with a destination are more loyal with such destination (Kusumah, 2023) and would also wish it to maintain improving its tourism offerings so they may continue to enjoy them in the future (Mursid & Anoraga, 2021). These reasoning led to the following hypothesis:

*H2: Destination identification (DI) is positively associated with tourist citizenship behavior (TCB).*

Regarding perceived value, the enhancement of destination perceived value involves a process where tourists receive, select, organize, and interpret experience-based information in relation to a given destination (Prebensen et al., 2013). This process is especially relevant for destinations that struggle to create a perception of sustainability. When a destination shows commitment to environmental conservation activities, tourists receive, select, organize, and interpret information related to these activities, which generates positive perceived value for tourists (Hu et al., 2021). Thus, it is possible to achieve a higher perceived value when tourists perceive that a given destination is committed to sustainable activities connected to their values (Iniesta-Bonillo et al., 2016). If tourists perceive that a destination has a genuine interest in caring for the environment, conserving culture, and supporting the local economy, They are more likely to perceive the destination as having higher value (Sánchez-Fernández et al., 2019). Based on this idea, this hypothesis is stated:

*H3: Destination perceived sustainability is positively associated with perceived value.*

As for destination identification, perceived value, especially in the case of sustainable destinations, might result in long-term relationships (Breiby et al., 2020). Tourist' perceived value of a destination could gradually generate a stronger sense of connection and involvement with a place (Xie et al., 2021). According to social exchange theory, in an exchange relationship, individuals are inclined to assist those who have previously supported them. Thus, tourists may be encouraged to behave more civically, which is positive for tourist destinations (Tsai et al., 2017). Perceived value could lead tourists to perform tourist citizenship behaviors

by helping others, sharing positive WOM, and providing feedback to the destination (Tsaur et al., 2021). For instance, customers in the bed and breakfast (B&B) sector were willing to recommend and speak highly of the service (WOM) and help other customers when they perceived greater value in their relationship with the service provider (Tsai et al., 2017). It is expected that if tourists perceive that the place they visit offers them good value (especially in terms of sustainability), their sense of belonging to the destination will be stronger (Han et al., 2019). So, in this context, they might be more prone to assume extra responsibilities to promote the goals of the tourist destination (Tsai et al., 2017). In light of this, the following hypothesis is proposed:

*H4: Destination perceived value (DPV) is positively associated with tourist citizenship behavior (TCB).*

### **TCB and Tourist Environmentally Responsible Behavior (ERB)**

Tourist environmentally responsible behavior or pro-environmental behavior (TPEB) is defined as “tourists’ behaviors (e.g. on holiday) that promote environmental protection and avoid harming natural ecosystems, including selecting environmentally-friendly travel modes and products” (Xu et al., 2020, p. 1445). Examples include waste reduction and recycling (e.g., Han et al., 2018), water conservation (e.g., Rodriguez–Sanchez et al., 2020), and energy saving (e.g., Aall, 2011), as well as a reduction in the consumption of products that could damage the tourist destination ecosystem (e.g., Lee, 2011). Tourist ERB is widely regarded as an excellent measure of effective sustainable management in tourist destinations due to its ability to mitigate the adverse environmental effects associated with tourism (Juvan & Dolnicar, 2016; Luo et al., 2020). Furthermore, environmentally responsible behavior can minimize adverse impacts not only on the environment but also on the tourist destination's economy and its socio-cultural aspects (Sahabuddin et al., 2021).

Environmentally responsible behavior by tourists is reflected by a high level of commitment and dedication to protecting the environment (Luo et al., 2020). Thus, tourists will behave in an environmentally responsible manner to the extent that they feel a strong tie with the tourist destination they visit (Confente & Scarpi, 2021). This link between tourists and a destination develops when they feel socially identified with the destination because of the social responsibility actions of the destination to benefit its environment (Tuan, 2018). Tourists in this situation may participate more actively in the process of value co-creation (Arica &

Çorbacı, 2020; Hur et al., 2018) through TCB to benefit a tourist destination by taking actions to care for its environment (Lin & Lee, 2020; Tuan, 2018). While there is a lack of research investigating the direct correlation between TCB and tourist (ERB), there is an underlying logic to such a relationship. Given a strong connection with a destination, TCB may be expected to drive tourists to protect the place they visit through environmentally responsible behavior. Therefore, it is proposed that:

*H5: Tourist citizenship behavior (TCB) is positively associated with environmentally responsible behavior (ERB).*

## METHODOLOGY

### Participants and Data Collection

Data from participants were gathered through the utilization of an online survey platform (Qualtrics). Relevant scholars in the realm of sustainability and tourism have underscored that the phenomenon of social desirability can exert an adverse influence on self-reported data (Juvan & Dolnicar, 2016). Consequently, researchers are encouraged to design their studies in a manner that mitigates the potential impact of social desirability bias (Larson, 2019). To mitigate this limitation, several proactive measures were implemented in this study. Firstly, the introductory paragraph incorporated the following elements: i) it provided a comprehensive overview of the study's objectives without explicitly underscoring the importance of sustainability issues, ii) it stressed the absence of definitively right or wrong responses, iii) it ensured complete anonymity and privacy by refraining from requesting any personal information throughout the questionnaire, and iv) respondents were explicitly instructed to complete the survey individually, without the presence of third parties, such as family or friends. Secondly, v) the questions were thoughtfully arranged to prevent any inadvertent influence on respondent answers or the inadvertent disclosure of excessive information, and iv) a neutral background color (grey) was deliberately chosen to avert any potential association with sustainability.

The inclusion criteria for this study encompassed exclusively those individuals who had engaged in travel within the preceding six-month period. The study was performed at the tourist destination level in Chile. Thus, respondents were requested to think about their most recent travel destination in Chile before answering the questionnaire. Chile serves as an excellent case study for sustainable tourism research, given its remarkable

strides towards achieving economic prosperity and reducing poverty in recent years. Moreover, the country is diligently striving to meet its emission reduction targets, underscoring its commitment to sustainability (Kirikkaleli et al., 2022). The study was aimed at domestic tourism, so the final sample comprised only residents in Chile traveling to other locations within the country. Despite employing a non-random quota sampling method, various sociodemographic factors were considered to ensure the sample's representativeness of the population (data available upon request). Respondents were requested to fill out an online questionnaire after getting an email inviting them to take part in the study. They were made aware that participation was voluntary and anonymous. The data gathering process met all ethical criteria described in the ICC/ESOMAR Code (ESOMAR, 2017). Data were gathered between October and December 2019. The final sample size was 629 individuals after removing serial responses, duplicate cases, atypical cases, and incomplete questionnaires. The sample profile is shown in Appendix 1.

### **Measures**

The questionnaire included the following measures: (i) destination perceived sustainability, a reflective second-order three-dimensional scale adapted from Iniesta-Bonillo et al. (2016); (ii) destination identification (DI), adapted from Su and Swanson (2017); (iii) destination perceived value (DPV), based on the scale provided by Iniesta-Bonillo et al. (2016); and (iv) tourist citizenship behavior (TCB), a reflective second-order three-dimensional scale adapted from Groth (2005). The dependent variable of the model was tourist environmentally responsible behavior (ERB), based on the scale adapted from Su and Swanson (2017). The measurement used scales derived from a comprehensive literature review and were adapted for this project (see Appendix 2). Thus, all variables are in reference to the visited tourist destination (i.e., at destination level). A seven-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*) was used to evaluate each survey question. The main descriptive statistics are shown in Appendix 1.

A rigorous back-translation protocol was used to address potential biases stemming from using a measurement instrument in languages other than the original, following the guidelines set forth by Van de Vijver and Hambleton (1996). The initial version of the questionnaire was written in English and revised by an English-native proofreader. Given that the study took place in Chile, the questionnaire items were further translated into Spanish by a proficient Spanish-speaking academic researcher. Following

this, we enlisted the services of a professional proofreader to meticulously assess the precision of the translation. Subsequently, the initial English-native proofreader conducted a reverse translation of the modified items back into English. In the final stage, three external associate professors specializing in the field of tourism and hospitality, proficient in both English and Spanish, conducted a comprehensive evaluation of the translations and the items to ensure their accuracy and validity. The final survey items in both languages can be found in Appendix 2.

### **Analytical Approach**

The estimation procedure consisted of two sequential stages. Initially, the measurement instrument's reliability and validity (psychometric properties) were evaluated through the application of confirmatory factor analysis (CFA). Furthermore, the perceived sustainability of the destination and TCB were scrutinized to confirm their status as second-order constructs. Common method bias related to using a survey as a tool for data gathering was then examined. To do so, the approach developed in Bagozzi et al. (1991) was implemented. Secondly, the structural component of the model was estimated utilizing covariance-based structural equation modeling (CB-SEM). Lastly, mediation analysis was carried out to evaluate the nature of the relationship in the model. We used JASP 0.16.1 and EQS 6.2 to run the analyses.

## **RESULTS**

### **Measure Validation**

Table 1 displays satisfactory fit indices for the CFA. The composite reliability index (CRI) demonstrated values surpassing the recommended threshold of 0.65 in all instances (Steenkamp & Geyskens, 2006). These results confirm construct reliability. All item loadings were significant and above 0.5, which supports convergence validity. Furthermore, it was observed that the average variance extracted (AVE) exceeded the threshold of 0.5 for all factors, thereby providing evidence of convergent validity. Additionally, the 95% confidence intervals for the correlations between each pair of components did not encompass unity, as reported by Anderson and Gerbing (1988). Finally, the AVE scores consistently demonstrated superior performance compared to the squared between-construct correlations. The joint interpretation of these findings supports discriminant validity (see Table 2).



Table 1. *Reliability and convergent validity*

Construct and items	Std. load.	Robust t	CRI	AVE
<b>DESTINATION PERCEIVED SUSTAINABILITY (DPS)</b> (Iniesta-Bonillo et al., 2016)				
<b>ECONOMIC</b> (dimension 1)				
DPSe1	.68	21.49**	0.81	0.52
DPSe2	.81	36.54**		
DPSe3	.71	17.50**		
DPSe4	.69	18.86**		
<b>CULTURAL</b> (dimension 2)				
DPSc1	.81	34.53**	.86	.67
DPSc2	.86	54.48**		
DPSc3	.79	26.86**		
<b>ENVIRONMENTAL</b> (dimension 3)				
DPSen1	.78	29.79**	.76	.52
DPSen2	.73	22.20**		
DPSen	.64	15.53**		
<b>DESTINATION IDENTIFICATION (DI)</b> (Su and Swanson, 2017)				
DI1	.76	28.22**	.89	.67
DI2	.88	73.47**		
DI3	.86	54.77**		
DI4	.77	27.34**		
<b>PERCEIVED VALUE (DPV)</b> (Iniesta-Bonillo et al., 2016)				
DPV1	.77	21.14**	.91	.72
DPV2	.89	81.57**		
DPV3	.86	44.96**		
DPV4	.88	77.73**		
<b>TOURIST CITIZENSHIP BEHAVIOR (TCB)</b> (Groth, 2005)				
<b>TCB RECOMMENDATION</b> (dimension 1)				
TCBR1	.83	48.44**	.89	.63
TCBR2	.86	68.21**		
TCBR3	.73	25.63**		
TCBR4	.81	39.16**		
TCBR5	.74	21.76**		
<b>TCB HELPING</b> (dimension 2)				
TCBH1	.857	63.96**	.86	.66
TCBH2	.788	36.26**		
TCBH3	.797	34.15**		
<b>TCB FEEDBACK</b> (dimension 3)				
TCBF1	.821	51.93**	.87	.63
TCBF2	.818	48.99**		
TCBF3	.761	35.13**		
TCBF4	.771	31.38**		
<b>ENVIRONMENTALLY RESPONSIBLE BEHAVIOR (ERB)</b> (Su and Swanson, 2017)				
ERB1	.79	26.90**	.91	.64
ERB2:	.81	29.34**		
ERB3	.80	25.07**		
ERB4	.72	21.25**		
ERB5	.83	44.03**		
ERB6	.84	54.61**		

S-B  $\chi^2$  (558 df) = 1575.95 ( $p < .01$ ); BBNFI = .981; BBNNFI = .986; CFI = .988; IFI = .988; RMSEA = .055 [.052; .058].

CRI = composite reliability index; AVE = average variance extracted.

\*\* $p < 0.01$ ; \* $p < 0.05$

Table 2. *Discriminant validity*

	DPSeco	DPScult	DPSenv	DI	DPV	TCBrec	TCBhelp	TCBfeed	ERB
DPS economic	<b>.50</b> [.64; .74]	.48	.29	.20	.38	.49	.34	.32	.34
DPS cultural		<b>.62</b> [.48; .59]	.29	.14	.37	.51	.32	.26	.41
DPS environmental			<b>.51</b> [.39; .49]	.14	.21	.28	.18	.17	.26
Destination identification (DI)				<b>.65</b> [.44; .54]	.24	.23	.31	.40	.05
Destination perceived value (DPV)					<b>.70</b> [.65; .75]	.61	.49	.50	.20
TCB recommendation						<b>.62</b> [.53; .63]	.59	.51	.47
TCB helping							<b>.64</b> [.52; .62]	.62	.38
TCB Feedback								<b>.63</b> [.74; .84]	.41
Environmentally responsible behavior (ERB)									<b>.63</b> [.39; .47]

The diagonal of the matrix displays the average variance extracted (highlighted in bold), while above the diagonal, the shared variances are depicted as squared correlations. On the other hand, below the diagonal, the matrix provides the 95% confidence interval for the estimated correlations between factors.

Once reliability and validity had been confirmed, the dimensionality of perceived sustainability and tourist citizenship behavior (TCB) was assessed. The existing literature supports the perspective of considering both constructs as reflective second-order constructs. This viewpoint is exemplified in studies conducted by Kim et al. (2020) and Kim and Tang (2020) concerning TCB, as well as by Iniesta-Bonillo et al. (2016) and Mathew and Sreejesh (2017) in relation to perceived sustainability. Multidimensionality was assessed following the rival model process proposed by Steenkamp and van Trijp (1991). Model 1 (first-order model) considered both perceived sustainability and TCB as unidimensional constructs. Model 2 assumed TCB as a second-order construct with three dimensions, whereas perceived sustainability was assumed to be unidimensional. Lastly model 3 considered both perceived sustainability and TCB to be second-order constructs.

To determine the model that exhibited the most favorable fit, chi-squared difference tests ( $\chi^2$ ) were conducted, as suggested by Bagozzi and Dholakia (2006). Notably, a statistically significant difference at the 1% level was observed between Model 2 and Model 1 ( $c2 = 1,137.97$ , 12 df,  $p .01$ ), which provides evidence that TCB is a second-order factor. Perceived sustainability may also be a second-order construct, based on the same reasoning ( $c2 = 805.34$ , 14 df,  $p .01$ ). In terms of the remaining fit indicators, Model 2 exhibited superior performance compared to Model 1, while Model

3 surpassed Model 2. Consequently, both concepts were deemed to be second-order factors.

Another potential source of bias was common method variance. The aforementioned concern arose due to the nature of data collection, which involved survey responses (i.e., a single method). Two alternative approaches were employed to explore the potential existence of Common Method Bias (CMB). First, in accordance with Tehseen et al. (2017) suggestion, Harman's single-factor test was conducted to evaluate whether a single factor could account for the data's variance. Principal Component Analysis (PCA) was executed, encompassing all items, with consideration given to the unrotated solution. The analysis did not reveal any indications of CMB, as the variance explained by this single factor amounted to 40.22%, falling significantly below the accepted threshold of 50% (Podsakoff et al., 2003). Second, using the method suggested by Bagozzi et al. (1991), common method variance was assessed. Models 2 and 4 fitted the data substantially better than Models 1 and 3, as shown in Table 3. As a result, the component structure (trait) significantly contributes to the variance explained. Nevertheless, considering that Models 3 and 4 demonstrate significantly better fit with the data compared to Models 1 and 2, respectively, it suggests that the specific method (survey) may explain a smaller proportion of this variance.

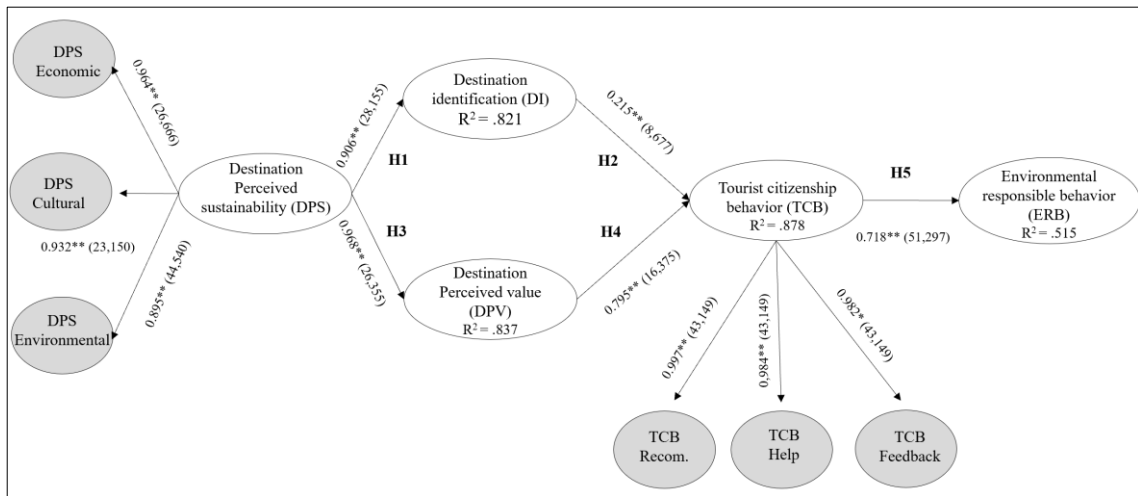
Table 3. *Overview of nested CFA for assessing the effect of trait and method*

	$\chi^2$	d.f.	p	Model comparison	$\chi^2$ difference	d.f.	p
Null (1)	79,955.73	630	< .001	(1)-(2)	78,417.184	72	< .001
Trait-only (2)	1,538.55	558	< .001	(3)-(4)	9,427.25	39	< .001
Method-only (3)	10,882.09	594	< .001	(1)-(3)	69,073.72	36	< .001
Trait-method (4)	1,454.76	555	< .001	(2)-(4)	83.78	3	< .001

### **Proposed Model Estimation: Hypothesis Testing**

The measurement model's psychometric qualities, the dimensionality of the higher-order constructs, and the lack of common method bias were evaluated. The application of maximum likelihood estimation within the framework of CB-SEM was employed to accomplish this. As noted in the previous section, both perceived sustainability and TCB were assumed to be second-order constructs. As shown in Figure 1, the goodness-of-fit statistics are acceptable. In terms of explanatory power, the three antecedents of TCB explain 87.8% of the variance, and the four antecedents

of environmentally responsible behavior explain 51.58% of the variance of the dependent variable (see Fig. 2).



S-B  $\chi^2$  [585 df] = 579.35 ( $p < .01$ ); BBNFI = .981; BBNFI = .994; CFI = .995; IFI = .995; RMSEA = .025 [.021 -.030]. \*\* $p < 0.01$ ; \* $p < 0.05$

Figure 1. Structural model estimation

The analysis confirms that perceived sustainability is a second-order reflective construct. The factor loadings of all three dimensions are large and significant. The analysis of the relationship between DPS, DI and DPV yielded the expected results. Particularly, tourist destination identification appears to be positively correlated with how sustainably the destination is evaluated ( $\beta = 0.906$ ,  $p < .01$ ). This finding confirms H1. Also, there is a positive association between the destination value perception by tourists and its perceived sustainability ( $\beta = 0.968$ ,  $p < .01$ ), which supports H3.

All factor loadings between the overall TCB construct and the three first-order constructs are greater than 0.80 and significant. The analysis therefore implies that TCB can be classified as a reflective second-order construct. The relationships between TCB, its antecedents (DI and DPV), and one of its consequences (ERB) are of particular interest. Overall, TCB appears to be a key significant mediator in the model. The findings provide support for Hypothesis 2, indicating that as tourists' identification with a particular destination increases, their TCB towards that destination also increases ( $\beta = 0.215$ ,  $p < .01$ ). Likewise, TCB is positively correlated with their perceived value for a particular destination ( $\beta = 0.795$ ,  $p < .01$ ), which also supports H4. Ultimately, greater levels of TCB are associated to greater levels of environmentally responsible behavior ( $\beta = 0.718$ ,  $p < .01$ ) supporting H5. Previous research has also observed a mediating role of TCB

when analyzing value co-creation and satisfaction regarding a touristic destination (Arica & Çorbacı, 2020).

### *Mediation Analysis*

To check the consistency of the previous estimation, formal tests of mediation were conducted. This procedure assessed whether several direct effects on environmentally responsible behavior were significant (Bagozzi & Dholakia, 2006). The findings are summarized in Table 4.

Table 4. *Summary of findings for formal test of mediation*

Model	Goodness-of-fit	$\chi^2$ Difference	Additional path
Model 1 Baseline (proposed) model	$\chi^2 (585) = 803.95; p < .001$	-	-
Model 2* M1 + DPS --> ERB	$\chi^2 (584) = 803.80; p < .001$	M1-M2: $\chi^2 (1) = 0.15; p > .1$	-0.110 ( $p > .1$ )
Model 3* M1 + DPS --> TCB	$\chi^2 (584) = 803.03; p < .001$	M1-M3: $\chi^2 (1) = 0.92; p > .1$	.183 ( $p > .1$ )
Model 4* M1 + DI --> ERB	$\chi^2 (584) = 796.76; p < .001$	M1-M4: $\chi^2 (1) = 7.19; p < .001$	.339 ( $p < .01$ )
Model 5* M1 + DPV --> ERB	$\chi^2 (584) = 798.77; p < .001$	M1-M5: $\chi^2 (1) = 5.18; p < .001$	.600 ( $p < .01$ )

\* The significance and sign of the remaining coefficients in each model are identical to those depicted in Figure 2.

The proposed model's (Model 1) goodness of fit is displayed in the first row of Table 4, which served as the reference point for the  $\chi^2$  difference tests. In the second row, the direct relationship between perceived sustainability and environmentally responsible behavior was added to the baseline model. The existence of this additional direct effect was then tested using a  $\chi^2$  difference test (with 1 df) since that Model 2 was contained within Model 1. The  $\chi^2$  difference ( $\chi^2 (1) = 0.15; p > 0.1$ ) and the additional effect in Model 2 ( $\beta = -0.110; p > .1$ ) were both non-significant. This leads to the conclusion that the relationship between perceived sustainability and the environmentally responsible behavior of tourists is fully mediated by the relationships in the proposed research model. Using the same approach, the baseline model was extended to include the direct link between perceived sustainability and TCB (see Model 3 in third row). Both the additional coefficient in Model 3 ( $\beta = .183; p > .1$ ) and the  $\chi^2$  difference test ( $\chi^2 (1) = 0.92; p > 0.1$ ) were also not statistically significant. Thus, the analysis suggests that the relationship between perceived sustainability and TCB is fully mediated by the relationships in the proposed research model. In the fourth row, the direct relationship between destination identification and environmentally responsible behavior was included in the baseline model. In contrast to the prior studies, both the additional effect ( $\beta = .339; p < 0.01$ ) and the  $\chi^2$  difference test ( $\chi^2 (1) = 7.19; p < 0.01$ ) were statistically significant. This finding reveals that the relationships stated in the suggested model partially mediate the relationship between destination identification and tourists' environmentally responsible behavior. The same applies for Model

5, which added to the baseline model the relationship between perceived value and environmentally responsible behavior. Both the additional coefficient ( $\beta = .600$ ;  $p < 0.01$ ) and the  $\chi^2$  difference test ( $\chi^2 (1) = 5.18$ ;  $p < 0.01$ ) were significant. This means that, the relationships suggested by the model partially mediate the relationship between the perceived value of a destination and travelers' environmentally responsible behavior.

## DISCUSSION AND CONCLUSIONS

This study provides a solid framework that can advance existing knowledge by showing the relevance of TCB in the context of not only tourism organizations but also tourist destinations. TCB is shown to be a key behavior that supports destination sustainability, influencing the environmentally responsible behavior of tourists.

Based on the particular findings of the study, perceived sustainability is connected to destination identification and perceived value, both of which have an impact on TCB. These findings can be viewed through the lens of social exchange and social identity theories (Homans, 1958; Tajfel & Turner, 1979). Regarding the former, our results show that when tourists perceive the destination's sustainability efforts, they might view it as a reciprocal relationship. That is, the destination invests in sustainability (providing a reward to tourists who value this), and in return, tourists exhibit extra-role behaviors like TCB that support destination sustainability. This is a mutual exchange of value, where both the destination and the tourist benefit. Regarding social identity theory, our results indicate that when tourists identify with a destination's sustainability efforts (seeing it as an extension of their pro-environmental identity), they are more likely to perform TCB. This identification with the destination's values aligns are influenced by their perceived membership in a group or alignment with a destination's identity. These findings are consistent with those of Lii and Lee's (2012). They found that when costumers identify with a company's CSR initiatives, they tend to develop stronger alignment with the company, leading to extra-role behaviors such as recommending it and engaging in positive word-of-mouth. Similarly, these findings are in line with Tuan's (2018) study that suggests that CSR initiatives can serve as a sustainably pro-social/pro-environmental force to foster pro-environmental values in employees and in turn their citizenship behavior for the environment (CCB).

Regarding the result that the stronger a tourist perceives the sustainability strategies and actions of a destination, the more they identify with it, it becomes particularly significant when their self-definition aligns with the destination's identity (Hu et al., 2021). If a tourist's self-definition is aligned with the perception that sustainability actions (focused on environmental, economic, and cultural issues) are part of the identity of a given destination, then the tourist will identify with that place to a greater degree. Furthermore, this finding somewhat echoes the findings reported by Su et al. (2016) in the context of the residents of a tourist destination. They found that social responsibility initiatives directly affect resident identification. Similarly, it is also directly related to the study by Tran et al. (2023). These authors observed that perceived destination social responsibility directly influences destination identification, in this case, aiming to achieve destination brand loyalty among domestic tourists in a city in Vietnam. The findings of this research further imply that tourists' identification with the locations they visit increases TCB. Thus, the more strongly tourists identify with a tourist destination, the greater their commitment to that place will be (Kumar & Kaushik, 2018). These findings bear a direct connection to the study conducted by Rather et al. (2020), which demonstrated that a stronger sense of identification with a destination is linked to more pronounced positive word-of-mouth (WOM) recommendations in support of the destination. Furthermore, it aligns with the study by Zhang and Xu (2019), whose research showed that residents' identification with the place they live directly affects their civic behavior in that same place. Finally, this result is also closely related to the study by Wu et al. (2022), who reported that place identification directly influences a specific type of civic behavior, such as community citizenship behavior (CCB).

Another of this study's findings is that perceived destination sustainability has a positive association with perceived destination value. When tourists observe that the place they visit is involved in sustainable initiatives, they form a positive image of that place, which could translate into positive perceived value (Hu et al., 2021; Pulido-Fernandez & Lopez-Sanchez, 2014). These findings are consistent with Iniesta-Bonillo et al. (2016), who revealed a positive influence of tourists' perceptions regarding the sustainability of a specific destination on the perceived value derived from their visit to that particular location. This is further supported by Guizzardi et al. (2022) who, in their study across various rural areas in Italy and Croatia, observed that the higher the sustainability perception of these destinations, the greater the value tourists attributed to their visits. The

present study further demonstrates a direct association between TCB and tourists' perception of value. When tourists perceive a destination to provide superior value for money compared to other places visited (Prebensen et al., 2013), it increases their inclination to engage in extra-role behavior (Tsai et al., 2017). This behavior encompasses assisting fellow tourists, recommending the destination, and providing feedback to enhance the destination experience. Tsaur et al. (2021) reported similar findings, observing that perceived value in tour leader likeability has a direct influence on TCB toward the tour leader.

Finally, the results suggest that TCB is positively associated with the environmentally responsible behavior of tourists. By recommending a destination, providing feedback to DMOs, and helping other visitors, tourists develop deep ties with that destination (Liu et al., 2021). Tourists' social identification with the place they visit may be the key to this relationship. In fact, the social identification generated by responsible actions at the tourist destination could motivate tourists to take actions to care for the environment beyond what is expected of them and perform environmentally responsible citizenship behavior (Tuan, 2018). To the best of our knowledge, there are no prior studies that have specifically examined the relationship between these two variables. However, this result addresses the call by some scholars (e.g., Torres-Moraga et al., 2021) for the need to incorporate new variables, such as pro-environmental behaviors, into future models of TCB to strengthen its framework.

This research presents significant contributions to tourist destination management and particularly within the sustainable tourism field of research. Firstly, it expands the application of TCB from just the tourism organization scope (e.g., Tsaur et al., 2021; Yen et al., 2022) to the tourist destination context. Secondly, by exploring the social exchange and social identity theories in destination management, we underscore that tourists who perceive a destination's commitment to sustainability and identify with it are more inclined to adopt extra-role behaviors (TCB). Thirdly, while earlier studies (e.g., Liu et al., 2021) suggested TCB's role in effective tourist destination management, our research emphasizes TCB's impact on enhancing environmental sustainability through promoting tourist ERB. As no previous studies have focused on the relationship between TCB and environmentally responsible behavior, the findings of the present study offer a different perspective within the context of destination tourism research. The findings support the idea that greater tourist engagement with a given destination, which takes the form of greater TCB, leads to more environmentally responsible behavior. Lastly, our study introduces a



theoretical framework that expands on prior research, detailing the connections between new antecedents of TCB and their outcomes. In this sense, TCB merits consideration as a dynamic process, since when tourists actively engage in the destination's value creation, their positive attitude not only fosters memorable experiences and heightened satisfaction (e.g., Busser & Shulga, 2018; Kamboj & Gupta, 2020; Torres-Moraga et al., 2021) but also brings tangible benefits to the destination.

### **Managerial Implications**

Numerous managerial implications for DMOs, particularly in terms of helping destinations become more sustainable, can be derived from this study. To be sustainable, a destination must ensure that tourists perceive it as such, not only in terms of caring for the environment but also in relation to cultural and economic aspects (Iniesta-Bonillo et al., 2016). From an environmental point of view, efforts should focus on reducing pollution throughout the tourist destination, especially in the places that are most frequented by tourists. In addition, unpleasant odors from sewers and food preparation on the streets and/or restaurants should be reduced. At the same time, it is advisable to control crowds at major tourist attractions, especially in places designed to connect tourists with nature. From a cultural perspective, tourist destinations must care for their historical and cultural heritage. They can do so by investing a percentage of tourism revenues in addressing this cause. Finally, from an economic perspective, efforts should focus on ensuring that tourists perceive that the destination invests in tourism growth, accompanied by the infrastructure to match this growth.

To the extent that these sustainable actions are perceived by tourists (Hu et al., 2021), are connected with their self-definition (Shafiee et al., 2020), and are aligned with their personality traits (Wen & Huang, 2021), tourists will identify more strongly with the destination. From this perspective, efforts should focus not only on sustainable actions but also on communicating these actions to tourists, especially in relation to environmental, economic, and cultural aspects, as explained earlier (Sánchez-Fernández et al., 2019). Social networks and tourist destination websites should be the primary tools for this purpose, not just traditional tourist offices (Kapoor et al., 2021).

This communication should also focus on ensuring that tourists perceive greater value when visiting the destination (Ganji et al., 2021). The costs in money, time, and effort invested in the visit should not exceed what

the tourist destination offers (Iniesta-Bonillo et al., 2016). Consequently, prices should be kept within a suitable range according to the target market. This amount corresponds not only to the price for enjoying tourist attractions and basic services such as bathrooms and public transport but also to the time and effort that tourists must invest to visit natural attractions. For the latter, tourism managers should concentrate on ensuring high availability and access to these places by offering buses or other means of transport to allow tourists to move around comfortably and efficiently.

Apart from achieving positive perceived value and greater tourist identification, tourism managers should ensure that tourists engage in TCB in the place they visit and encourage them to take actions that go beyond their role as tourists (Tsai et al., 2017). A higher degree of tourist involvement and commitment can thus be achieved (Tournois & Rollero, 2020; Xie et al., 2021). For example, tourism managers could motivate tourists to take part in online focus groups or meetings to gather their opinions and suggestions regarding actions that the destination should take to develop sustainably. To enhance this involvement, information about the sustainable initiatives taking place in the destination should be regularly communicated to tourists. This information should focus on initiatives based on the data collected in these meetings.

Finally, to promote the environmentally responsible behavior of tourists, facilities should be provided so that tourists can recycle and take care of natural resources during their visit (Sørensen & Bærenholdt, 2020). Local management agencies could provide reusable bags for tourists to recycle their waste in cases where they rent houses or apartments and could establish specific collection times. In addition, recycling bins could be placed throughout the destination, especially at the main tourist attractions. In parallel, the purchase of water-saving taps should be subsidized. Such schemes benefit not only residents but also hotels and rental homes advertised on platforms such as Airbnb. In addition, the authorities should promote the care of nature by placing signs throughout the tourist destination. For instance, to care for and learn about nature at the destination, each tree and plant could be identified using a QR code indicating its name and species. Finally, campaigns could be carried out to promote the planting of trees in parks. Tourists could sponsor one of these trees and plant it together with a trained guide.

### **Limitations and Future Research Lines**

Several limitations observed in this study present potential avenues for future research. First, it relied on cross-sectional data to test the relationships proposed in the model. The findings of such investigations need to be properly understood, as prior research in the field has shown (Japutra, 2020; Rodriguez-Sanchez et al., 2020). Causality cannot be inferred. Consequently, it may be only possible to establish causation between the variables that influence visitors' environmental responsibility by using longitudinal and/or experimental research. Second, data were gathered only from residents in Chile who traveled within that country. The underlying idea was to control for as many external factors as possible (e.g., cultural issues). Despite the benefits of this decision, choosing only one country or destination can limit the generalizability of findings (Ganji et al., 2021). It would be of interest to apply the proposed model to other tourist destinations or countries to enhance the external validity of the results. Third, this study was based on self-reported survey data. The limitations of this subjective information are well known and include social desirability bias and the fact that respondents may modify their answers to be perceived as more sustainable (Juvan & Dolnicar, 2016). Future research, especially experimental studies, should include objective measures of pro-environmental behaviors (Gabarda-Mallorquí et al., 2018). Fourth, as has been widely suggested in the literature, tourism-related and pro-environmental factors may be affected by moderator variables (Ganji et al., 2021; Japutra, 2020). Variables such as gender, educational level, and family composition can moderate the relationship in this type of model. Despite some recent studies that offer formal analysis of such moderating relationships (e.g., López-Bonilla et al., 2020), additional studies in this area would be of special interest. Lastly, the principles of sustainability, the dynamics of social exchange and identity, as well as the behaviors of tourists in relation to destination perceived sustainability and management, are foundational aspects not easily overshadowed by short-term global disruptions. Furthermore, it is noteworthy to mention that tourism in Chile has resumed its normal operations. It is operating in the same way as before the pandemic, without any additional restrictions (e.g., health, capacity). However, while the variables analyzed in this study are unlikely to be directly influenced by a health crisis like COVID-19, potential effects from such a situation could always be present, so the results should be interpreted with caution.

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## APPENDIX

**Appendix 1:** Main descriptive statistics of the sampleAppendix 1.1. *Sample profile (n = 629)*

Criteria	Levels	n	(%)
Gender	Female	319	50,7%
	Male	310	49,3%
Age	18–29	220	35,0%
	30–44	302	48,0%
	45–65	105	16,7%
	66 or more	2	0,3%
Education	Secondary education	79	12,6%
	Technical education	153	24,3%
	University, college degree	366	58,2%
	Master's degree	28	4,5%
Occupation	PhD degree	3	0,5%
	Unemployed	59	9,4%
	Student	94	14,9%
	Self-employed worker	88	14,0%
	Technical/operations job	283	45,0%
	Middle-management job	90	14,3%
	Top-management job	15	2,4%

Note: Age > 18; nationality = Chilean; destination = Chile

Appendix 1.2. Mean, standard deviation, skewness, kurtosis, and Pearson's correlation of the variables used in the study ( $n = 629$ )

Item	Range	Mean	Std. Dev.	Skewness (S)	Kurtosis (K)
DESTINATION Perceived Sustainability (DPS):					
DPS Economic (dimension 1)					
DPS_E1	1-7	5.61	1.54	-1.61	2.22
DPS_E2	1-7	5.48	1.42	-1.22	1.26
DPS_E3	1-7	5.42	1.37	-1.08	0.98
DPS_E4	1-7	5.43	1.39	-1.12	1.06
DPS Cultural (dimension 2)					
DPS_C1	1-7	5.57	1.45	-1.21	1.23
DPS_C2	1-7	5.57	1.48	-1.32	1.43
DPS_C3	1-7	5.51	1.43	-1.14	1.01
DPS Environmental (dimension 3)					
DPS_EN1	1-7	5.16	1.53	-0.95	0.37
DPS_EN2	1-7	5.06	1.66	-0.86	-0.01
DPS_EN3	1-7	5.29	1.50	-1.08	0.81
Destination Identification (DI):					
DI1	1-7	5.10	1.49	-0.85	0.27
DI2	1-7	4.96	1.58	-0.75	-0.04
DI3	1-7	5	1.56	-0.83	0.17
DI4	1-7	4.83	1.56	-0.70	-0.04
DESTINATION Perceived value (PV):					
DPV1	1-7	5.46	1.42	-1.22	1.36
DPV2	1-7	5.64	1.41	-1.27	1.38
DPV3	1-7	5.63	1.38	-1.27	1.55
DPV4	1-7	5.68	1.37	-1.43	2.10
Tourist Citizenship Behavior (TCB):					
TCB recommendation (dimension 1)					
TCBR1	1-7	5.77	1.39	-1.50	2.35
TCBR2	1-7	5.76	1.43	-1.45	1.85
TCBR3	1-7	5.43	1.44	-0.99	0.71
TCBR4	1-7	5.61	1.45	-1.34	1.61
TCBR5	1-7	5.43	1.43	-1.18	1.13
TCB helping (dimension 2)					
TCBH1	1-7	5.46	1.39	-1.12	1.15
TCBH2	1-7	5.32	1.40	-0.92	0.55
TCBH3	1-7	5.48	1.44	-1.15	1.14
TCB feedback (dimension 3)					
TCBF1	1-7	5.31	1.43	-1	0.79
TCBF2	1-7	5.29	1.44	-0.94	0.60
TCBF3	1-7	5.61	1.42	-1.20	1.15
TCBF4	1-7	5.51	1.343	-1.18	1.38
Environmentally Responsible Behavior (ERB):					
ERB1	1-7	5.56	1.41	-1.08	0.97
ERB2	1-7	5.41	1.34	-0.84	0.65
ERB3	1-7	5.53	1.39	-1.11	1.18
ERB4	1-7	5.35	1.39	-0.91	0.78
ERB5	1-7	5.50	1.36	-1.06	1.19
ERB6	1-7	5.69	1.34	-1.19	1.51

Appendix 1.3. *Pearson's correlation of the averaged variables used in the study*

	DPSeco	DPScult	DPSenv	DI	DPV	TCBrec	TCBhelp	TCBfeed	ERB
DPS economic (DPSeco)	-								
DPS cultural (DPScult)	0.78**	-							
DPS environmental D (PSenv)	0.61**	0.60**	-						
Destination identification (DI)	0.51**	0.46**	0.47**	-					
Destination Perceived value (DPV)	0.69**	0.71**	0.58**	0.60**	-				
TCB recommendation (TCB rec)	0.74**	0.77**	0.63**	0.59**	0.86**	-			
TCB helping (TCB help)	0.65**	0.65**	0.54**	0.63**	0.79**	0.85**	-		
TCB feedback (TCB feed)	0.63**	0.61**	0.53**	0.70**	0.79**	0.80**	0.82**	-	
Environmentally responsible behavior (ERB)	0.35**	0.43**	0.26**	0.28**	0.50**	0.48**	0.40**	0.47**	-

Note: n = 629 individuals. Aggregated variables are the arithmetic mean of the items of each factor.

\*\*p < 0.01; \*p < 0.05

**Appendix 2. Questionnaire factors, items, and sources**

English version	Spanish version (administered in Chile)
<b>DESTINATION PERCEIVED SUSTAINABILITY (DPS)</b> (Adapted from Iniesta-Bonillo et al., 2016)	
<b>ECONOMIC</b> (dimension 1)	
DPSe1: I have seen that this destination (city) is investing to attract tourists.	DPSe1: He visto que este destino (ciudad) está invirtiendo para atraer turistas.
DPSe2: I have seen that this destination (city) has good basic infrastructure.	DPSe2: He visto que este destino (ciudad) tiene buena infraestructura básica.
DPSe3: I consider tourist services in this destination (city) to be good value for money.	DPSe3: Considero que los servicios turísticos en este destino (ciudad) tienen una buena relación calidad-precio.
DPSe4: I think that the benefits of tourism in this destination (city) outweigh the financial cost.	DPSe4: Creo que los beneficios del turismo en este destino (ciudad) superan el costo financiero.
<b>CULTURAL</b> (dimension 2)	
DPSc1: I think people in this destination (city) value their historical heritage (monuments, etc.).	DPSc1: Creo que la gente de este destino (ciudad) valora su patrimonio histórico (monumentos, etc.).
DPSc2: I think people in this destination (city) value their cultural heritage (festivals, traditions, etc.).	DPSc2: Creo que las personas en este destino (ciudad) valoran su patrimonio cultural (fiestas, tradiciones, etc.).
DPSc3: I believe the resources and the authenticity of the local cultural and historical heritage in this destination (city) are being preserved thanks to tourism.	DPSc3: Creo que los recursos y la autenticidad del patrimonio cultural e histórico local en este destino (ciudad) se están preservando gracias al turismo.
<b>ENVIRONMENTAL</b> (dimension 3)	
DPSen1: I think the level of pollution in this destination (city) is acceptable.	DPSen1: Creo que el nivel de contaminación en este destino (ciudad) es aceptable.
DPSen2: I think the smell in this destination (city) is acceptable.	DPSen2: Creo que el olor en este destino (ciudad) es aceptable.
DPSen3: I think the crowd levels there are acceptable, even in peak tourist season.	DPSen3: Creo que los niveles de afluencia allí son aceptables, incluso en temporada alta de turismo.
<b>DESTINATION IDENTIFICATION (DI)</b> (Adapted from Su and Swanson, 2017)	
DI1: I am very interested in what others think about this tourist destination.	DI1: Me interesa mucho lo que opinan los demás sobre este destino turístico.
DI2: The successes of this tourist destination are my successes.	DI2: Los éxitos de este destino turístico son mis éxitos.
DI3: When someone praises this place, I feel like it's a personal compliment.	DI3: Cuando alguien elogia este lugar, siento que es un cumplido personal.
DI4: When someone criticizes this place, it makes me uncomfortable.	DI4: Cuando alguien critica este lugar, me incomoda.
<b>DESTINATION PERCEIVED VALUE (DPV)</b> (Adapted from Iniesta-Bonillo et al., 2016)	
DPV1: Considering the money I spent, this tourist destination is worth visiting.	DPV1: Teniendo en cuenta el dinero que gasté, vale la pena visitar este destino turístico.
DPV2: Considering the time I spent, this tourist destination is worth visiting.	DPV2: Teniendo en cuenta el tiempo que le dediqué, vale la pena visitar este destino turístico.
DPV3: Considering the effort I made, this tourist destination is worth visiting	DPV3: Considerando el esfuerzo que hice, vale la pena visitar este destino turístico

DPV4: In general, this tourist destination is worth visiting.	DPV4: En general, vale la pena visitar este destino turístico.
<b>TOURIST CITIZENSHIP BEHAVIOR (TCB)</b> (Adapted from Groth, 2005)	
<b>TCB RECOMMENDATION</b> (dimension 1)	
TCBR1: I recommend this tourist destination to my relatives	TCBR1: Recomiendo este destino turístico a mis familiares
TCBR2: I recommend this tourist destination to my peers.	TCBR2: Recomiendo este destino turístico a mis compañeros.
TCBR3: I recommend this tourist destination to people interested in the attractions and services on offer there.	TCBR3: Recomiendo este destino turístico a personas interesadas en los atractivos y servicios que ofrece.
TCBR4: I give references about this tourist destination to my co-workers and other people.	TCBR4: Doy referencias sobre este destino turístico a mis compañeros de trabajo y otras personas.
TCBR5: I recommend this destination to people I don't know.	TCBR5: Recomiendo este destino a personas que no conozco.
<b>TCB HELPING</b> (dimension 2)	
TCBH1: I help others pay for a trip to this place.	TCBH1: Ayudo a otros a pagar un viaje a este lugar.
TCBH2: I teach people how to use the services in this tourist destination correctly.	TCBH2: Enseño a las personas a utilizar correctamente los servicios de este destino turístico.
TCBH3: I explain to other tourists how to use the services in this tourist destination.	TCBH3: Explico a otros turistas cómo utilizar los servicios en este destino turístico.
<b>TCB FEEDBACK</b> (dimension 3)	
TCBF1: I answer tourist satisfaction surveys regarding this place.	TCBF1: Respondo encuestas de satisfacción de turistas con respecto a este lugar.
TCBF2: I provide helpful comments to the tourist information office at this location.	TCBF2: Proporciono comentarios útiles a la oficina de información turística de este lugar.
TCBF3: I provide information when I am surveyed for this tourist destination.	TCBF3: Proporciono información cuando me encuestan para este destino turístico.
TCBF4: I inform this destination about excellent service from an employee.	TCBF4: Informo a este destino sobre el excelente servicio de un empleado.
<b>ENVIRONMENTALLY RESPONSIBLE BEHAVIOR (ERB)</b> (Su and Swanson, 2017)	
ERB1: I comply with the rules so as not to damage the environment of the destination.	ERB1: Cumplo con las normas para no dañar el medio ambiente del destino.
ERB2: I inform the destination administration if I see environmental pollution or any type of destruction in the destination.	ERB2: Informo a la administración del destino si veo contaminación ambiental o cualquier tipo de destrucción en el destino.
ERB3: When I see trash and debris in this destination, I throw it away.	ERB3: Cuando veo basura y escombros en este destino, los tiro.
ERB4: If there are activities to improve the environment in the destination, I am willing to attend.	ERB4: Si hay actividades para mejorar el medio ambiente en el destino, estoy dispuesto a asistir.
ERB5: I try to persuade others to protect the natural environment in this tourist destination.	ERB5: Trato de persuadir a otros para que protejan el entorno natural en este destino turístico.
ERB6: I try not to alter or disturb the fauna and/or flora when I visit this tourist destination.	ERB6: Procuero no alterar o perturbar la fauna y/o flora cuando visito este destino turístico.

## FOR ACCESSIBLE TOURISM EXPERIENCE: EXPLORING THE BLOG SPHERE OF PEOPLE WITH DISABILITIES

Lamiaa HEFNY<sup>1</sup>

*Faculty of Tourism & Hotel Management, Pharos University in Alexandria, Egypt*

ORCID: 0000-0001-6208-2441

### ABSTRACT

Despite the continuous development of the tourism industry, the participation of people with disabilities (PwDs) remains a major challenge. Tourism constraints, whose three categories include: intrapersonal, interpersonal, and structural, make delivering accessible tourism experiences more difficult. Regardless of the growing interest in travel blogs in recent years, blogging about travel experiences through the blog sphere still need more research in tourism literature. Travel bloggers are now seen as a trustworthy source of information to be considered during the process of traveler's decision-making. The authors of accessible travel blogs share their experiences, stories, and accessible travel tips and write reviews on accessible destinations from the perspective of tourists with disabilities. The primary objective of this study is to examine the different constraints that are experienced by disability travel bloggers using the approach developed by Daniels et al. (2005). The second objective is to explore the negotiation strategies proposed by these travel bloggers to overcome travel constraints and to proof disabled travelers that accessible travel is possible. The results of the narrative analysis of 17 travel blogs showed that among many constraints shared by disabled travel bloggers, structural constraints were the most difficult to challenge and placed as the major concern.

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people with disabilities (PwDs)  
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accessible tourism experience

### INTRODUCTION

Travel and tourism are regarded as basic human rights that can provide better living conditions (Reindrawati et al., 2022). Tourism has become a necessity in people's lives, and recently, the number of people with disabilities who actively participate in tourism has increased (UNWTO,

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<sup>1</sup> Address correspondence to Lamiaa HEFNY, Canal El Mahmoudia Street, beside Green Plaza Complex, Alexandria, Egypt. E-mail: Lamiaa71@gmail.com

2023). The emerging concept of accessible tourism encourages people with disabilities to travel and promotes responsible and sustainable tourism (UNWTO, 2021). Accessible tourism became a flourishing niche market around the world and many studies referred this market as significant, profitable, and it is gaining popularity day by day (Özcan et al., 2021). According to Kusufa et al. (2022), serving people with disabilities is not only for profit; it promotes equal rights to travel and helps to understand how to handle unique and special consumers. The World Health Organization (WHO) estimates that 1.3 billion individuals worldwide have a substantial impairment. This means that improving accessibility in tourism services should be a crucial part of every tourism policy. Currently, the accessible tourism market has a great impact on tourist attractions, hotels, and restaurants claiming to be accessible to travelers with disabilities without understanding their real requirements and needs (Zaluska et al., 2022). Nowadays, a number of studies in accessible tourism are concerned with the design of accessible facilities, the motivations of people with disabilities, and the attitudes of accessible tourism professionals (Adhikari, 2017; Asghar et al., 2020; Duignan et al., 2023). Furthermore, some studies pointed out the existence of different barriers and constraints for accessible tourism (McKercher & Darcy, 2018; Šintáková & Lasisi, 2021), and others were interested in understanding the travel experiences of people with disabilities (Reindrawati et al., 2022; Rubio-Escuderos et al., 2021).

Therefore, providing high-quality travel experiences to people with disabilities (PwDs) still poses significant difficulties (Rubio-Escuderos et al., 2021). Service providers and tourism agents must better understand travel constraints to offer more accessible tourism products and services and improve the tourism experience of PwDs (Devile et al., 2023; Zaluska et al., 2022). Despite the importance of the participation of PwDs in tourism activities, in-depth studies from their own perspectives are limited (Rubio-Escuderos et al., 2021). McKercher and Darcy (2018) identified that one of the main barriers to providing high-quality travel experiences for PwDs is the trustworthiness of information. Research on the tourism experience of people with disabilities could provide detailed and accurate information about tourism products for these special market segments (Kusufa et al., 2022). This information is the key to fulfilling the requirements of PwDs and achieving accessibility in the travel and tourism industries (Kusufa et al., 2022). Travel blogs have become critical tools for promoting travel experiences and changing how travelers get information. The influence of blogs is increasing on the audience through the sharing of narratives, videos, and photographs. There are many studies on travel blogging, but



these have mainly focused on quantitatively analyzing data from travel blogs or investigating the practice of travel blogging (Bosangit et al., 2015; Chandralal et al., 2015).

Since the role of travel blogs is increasing, the analysis of the travel stories written by bloggers about their travel experiences is now necessary. Writing about accessible information through the tourism experience of travelers with disabilities may inspire people with disabilities to travel and try something they have never done before. Few studies have investigated the role of travel bloggers in creating accessible tourism experiences. To overcome the mentioned research gap, this study aims to be the first to analyze the content of disability travel blogs to understand their travel experiences. In particular, the study focused on the travel constraints that PwDs face, the negotiation strategies that travel bloggers propose for overcoming these constraints, and their reviews of accessible destinations.

## LITERATURE REVIEW

### **Travel Constraints of PwDs**

Travel constraints have always been a part of tourism studies, but recently they have become a more concrete concept with potential applications for studying the requirements of PwDs (Kamyabi & Alipour, 2022). However, the travel constraints studies attained a significant level of theoretical sophistication. Travel constraints are widely used in tourism research to analyze factors that limit the travel behavior. The process of travel constraints needs to be more explored to be better explained how these constraints in different travel contexts (Hakseung et al., 2022). In general, travel constraints are used to describe the travel challenges faced by senior travelers and travelers with disabilities. Most current studies address the negative impacts of travel constraints, their effect on travel intention, and how they limit travel participation among PwDs (Hakseung et al., 2022). According to Hung & Petrick (2010), tourism constraints are defined as factors that limit a person's capacity to sustain or increase their frequency of travel, either initially or in the future, and/or negatively impact the way they travel. Several barriers and constraints are identified as reasons to limit the participation of PwDs in leisure activities (Carneiro et al., 2022). Previous studies proposed three main travel constraints that affect travelers travel behavior: intrapersonal, interpersonal, and structural constraints (Shin et al., 2021). Intrapersonal constraints can range from the lack of awareness of the physical or psychological condition of the disabled individual to the attitude towards their dependency (Darcy, 2004; Lee et al.,

2012). Interpersonal or interactive constraints are associated with communication and social interaction with people including service providers (Lee et al., 2012). Daniels et al. (2005) found that structural or environmental constraints are related to the lack of accessible tourist services such as accommodation, attractions, and transportation. In this context, Cassia et al. (2021) also classified travel barriers into seven types: informational, architectural, political, cultural, relational, technological, and entrepreneurial. Despite the studies that tried to expose barriers that prevent PwDs from travelling, there is a lack of research on how they could overcome the numerous obstacles they encounter. Blichfeldt and Nicolaisen (2011) implied that the most important factor is not eliminating barriers but offering a set of efficient circumstances that make participation in tourism activities possible. Daniels et al. (2005) referred to the role of information that can help PwDs travel as well as encourage them to face the different challenges while travelling and the negotiating strategies they can use to overcome travel constraints.

### **The Negotiating Strategies of Travel Constraints**

According to Lyu and Oh (2014), the concept of negotiation strategies means a series of cognitive actions that individuals apply to overcome constraints. Behavioral strategies include schedule arrangements and skill development, while cognitive strategies involve balancing rewards and costs, increasing engagement, and how to deal with stress (Chen et al., 2020). Devile et al. (2023) noted that the negotiation of travel constraints refers to the adoption of creative strategies that may overcome these constraints. Devile et al. (2023) added that the analysis of travel constraints and negotiation strategies should be conducted concurrently due to their inescapable reciprocity. However, most of the tourism literature focuses only on travel constraints and neglects the strategies that handle them. Daniels et al. (2005) pointed out the role of travel planning and extensive travel information research to confirm the accessibility requirements that suit the demands of PwDs. Devile and Moura (2021) suggested that prior travel experiences or the experience gained from the travels may enable the disabled person to approach challenges in a more optimistic and informed manner. Yau et al. (2004) proposed five different stages in the process of becoming an active traveler with a disability. The first three stages are pre-travel. These are the personal or acceptance stage; the re-connection or integration with the community; and the third is analysis or searching for information. The fourth stage is the physical journey, where they try to manage their travel experience, define their potential barriers, negotiate any

difficulties, and overcome them (Michopoulou et al., 2015). The last stage is experimentation and reflection, where their positive or negative experiences play a crucial role in travel decisions again. Disability academic scholarships justify a great deal of understanding based on the type of disability and the level of support needed. This understanding has led to a reconceptualization of the need to provide high-quality, accessible tourism experiences (Darcy et al., 2020).

### **Accessible Tourism Experiences**

Buhalis et al. (2012) defined the concept of accessible tourism as the process of removing the barriers that prevent PwDs from fully enjoying a tourist experience. Cerutti et al. (2020) implied that accessible tourism enables people with special requirements like mobility, vision, hearing, and cognitive impairments, to travel independently and participate in tourism with equity and dignity through universally designed tourism products and services. The term accessible tourism has recently been transformed to the term "inclusive tourism" which is defined by Scheyvens and Biddulph (2018) as "transformative tourism in which marginalized groups are engaged in ethical production or consumption of tourism and the sharing of its benefits". Destinations should enhance the concept of accessible tourism, remove all the barriers that face people with disabilities, and offer a high-quality tourist experience (Kamyabi & Alipour, 2022). Tourism experiences are considered happy memories that are made immediately after the trip (Kim, 2018). Mendes et al. (2016) added that the focus of the tourism industry is the tourist experience, which can demonstrate quality and strengthen the position of the tourism providers in the market. For PwDs, a tourist experience means getting away from their everyday routine, and if the experience is adequate, it fosters a sense of belonging and competence for them (Rubio-Escuderos et al., 2021). There are still substantial barriers and a knowledge gap regarding the requirements of PwDs and their tourism experiences (McKercher & Darcy, 2018). PwDs encounter different obstacles and challenges when travelling. Some of these barriers are physical, and some are architectural (McKercher & Darcy, 2018). For example, they experience different challenges in accommodation, tourist attractions, and transportation (Cloquet et al., 2018; Poria et al., 2011). Poria et al. (2010) referred to flights as the most difficult issue in the tourism experience of PwDs. Feeling humiliated by boarding and security procedures or using the restroom on the plane are some of the difficulties that a PwD individual frequently mentions. Other studies focus on blind and deaf experiences from PwD tourists' perspectives (Deville &

Kastenholtz, 2018; Loi & Kong, 2017; Werner et al., 2019). Their studies reported that tourism barriers are associated with this type of impairment, and PwDs must travel independently to develop sensory and spatial understanding. According to Lee et al. (2012), the lack of information regarding accessibility and accessible facilities is the major difficulty PwDs face. Therefore, the chance for disabled people to participate in tourist activities will increase with the elimination of the tourism constraints they confront during their decision-making process. McKercher and Darcy (2018) pointed out that facilitating the contribution of PwDs to the tourism experience requires creating online communities and social media pages to provide this segment with the needed information to travel.

### **Travel Blogs and Accessible Tourism Experience**

Nowadays, the usage of digital media platforms as a source of information and a means of communication over the internet including websites, emails, blogs, and social networking sites, has expanded (Sizan et al., 2022). Currently, travel blogging is one of the most popular types of blogs on the blogosphere, which refers to the active blogs on the internet (WIX Blog, 2023). Most travel blogs contain rich travel experiences that include invaluable information about tourism destinations and were created by ordinary people who decided to publish their travel stories (Mainolfi et al., 2022). Travel blogs also enable their users to share information, advice, and recommendations through comments about tourism destinations or tourism products and services they encountered during their travel experiences (Hefny, 2016).

Travel blogs are defined as "a digital form of journaling that gathers together an individual's experiences that are 'usually very personal and informal'" (Blair et al., 2020, p. 2). Tourism organizations have shown a great interest in collaborating with travel bloggers to promote their services on their trips (Maggiore et al., 2022). Moreover, travel blogs could provide a more genuine and unedited glimpse of an informant's travel experience than more conventional researcher-led interviews (Bosangit et al., 2015). Researchers are now paying attention to the role of travel blogs as a source of information and for describing tourist experiences (Maggiore et al., 2022). By examining backpackers' travel blogs, Bosangit et al. (2015) found that stories offer detailed insights about the perceptions of destinations' visitors. Rahman et al.'s (2019) study tried to comprehend the behavior and tactics used by travel bloggers throughout the pre-visit phase of the tourist experience. Their results demonstrated that travel bloggers are motivated by various factors and could interact in different ways with travel blogs.

Zhang et al. (2020) used 196 blog posts from Chinese travelers who visited the Geiranger fjord to explore their tourism experiences.

PwDs use social media to increase their knowledge about venues and locations that are accessible (Altinay et al., 2016). Social media platforms enable accessible knowledge and are helpful for promoting the importance of accessibility (Altinay et al., 2016). Altinay et al. (2016) added that using technology in the tourist experience makes life easier for everyone, but notably for those with disabilities. Özcan et al. (2021) pointed out that PwDs have the ability to read reviews of other people's travel experiences, which help them get information and make their travel decisions. Özcan et al.'s (2021) study proved that one of the determinants of the travel experiences of the wheelchair users traveling to Bodrum is that they have strong holiday aspirations. They also have an intention to travel; nonetheless, they take comparatively few days for holidays each year. According to Devile et al. (2021), PwDs evaluate tourism destinations and make their decisions in a different way from regular travelers where accessibility comes first. The accessible travel blog community is considered a wealth of knowledge regarding accessible travel as well as an inspiration for travelers with disabilities (Hansen, 2017). There are many accessible travel blogs today, and the disability travel bloggers write about their travel experiences or impending information on accessible tourism to help users obtain a sense of current levels of involvement. Chang et al. (2021) implied that the influential role of travel bloggers is not only encouraging people to engage but also motivating their emotional travel behavior. The accessible travel blogs share reviews and tips for disabled travelers and review tourism destinations from the perspective of a disabled person. These blogs are not only informative but also motivational and inspirational for disabled travelers. This study tries to model the travel experiences of disability travel bloggers and their advice for overcoming the accessibility challenges they face.

## METHODOLOGY

Due to the nature of the study, a qualitative approach was used. Different qualitative research techniques such as content analysis, narrative analysis, and close reading were conducted in tourism studies, and each has demonstrated its potential for use in studying travel blogs (Banyai & Glover, 2012). The study used narrative analysis, which is considered an in-depth analysis of a told story and can be used with both written and oral sources (Özyıldırım, 2009). As a qualitative approach, the narrative analysis

includes different types. One of the common types is narrative thematic analysis (Kim, 2016). This approach depends on making sense out of the data (Butina, 2015). The narrative analysis has proven useful to examine the travel experience and gain insights into its main characteristics as written in the travel blogs (Banyai & Glover, 2012). Bosangit et al. (2009) also used this technique to analyze travel blogs as textual objects to learn more about how travelers create order and meaning from their experiences. Shi (2015), using narrative analyzed the stories told by the travel bloggers to understand the interpreted meaning of their experiences. Chandralal et al. (2015) considered that using the narratives of travel blogs to examine tourism experiences is a significant technique due to exact authenticity of bloggers' tourism experiences. Such data that is provided by narratives cannot be acquired using different research techniques such as focus groups and interviews (Chandralal et al., 2015). Furthermore, Buzova et al. (2020) examined the Mediterranean cruise experiences of 248 posts on cruise blogs using thematic narrative analysis to evaluate the sensory impressions of tourists' Mediterranean experiences.

### **Instrument**

To analyze the shared tourism experiences of the disabled bloggers, the study benefited from the research of Daniels et al. (2005) which defined 10 themes of constraints to pleasure travel and 10 negotiation strategies could be utilized to overcome these constraints. Daniels et al. (2005) analyzed the tales that were written by travelers with disabilities and the travel accounts that were submitted on a forum for people with disabilities to discuss their special travel needs. Daniels et al. (2005) used narrative analysis and determined the themes for both the constraints faced and the negotiations by persons with disabilities in their travel experience. The study used their previous results on these themes, which were based on informal travel tales, as a starting point to analyze the stories of the disability travel blogs. Daniels et al.'s (2005) study was the first to expand the in-depth understanding of the travel constraints experienced by PwDs and the negotiation strategies used by them. Various prior studies also used Daniels et al.'s (2005) study, such as Devile and Moura, 2021, Melian et al., 2018, Zhang et al., 2019, and Zhang et al., 2020. The study of Daniels et al. (2005) was adapted before the reading of the disability blog posts, not after, to avoid bias in the analysis process. Daniels et al.'s (2005) study determined three main areas of constraints: intrapersonal, interpersonal, and structural. The intrapersonal includes physical/sensory constraint; physical/sensory negotiation; emotional constraint; emotional negotiation; knowledge

constraint; and knowledge negotiation. Interpersonal elements include travel companion constraint, travel companion negotiation, service provider constraint, service provider negotiation, stranger constraint, and stranger negotiation. The eight structural elements include: transportation constraint; transportation negotiation; facility constraint; facility negotiation; environment/geography constraint; environment/geography negotiation; financial constraint; and financial negotiation (Table 1).

Table 1. *The Explanations of the travel constrains and the negotiation strategies*

	<b>Travel Constrains</b>	<b>Explanations</b>	<b>Negotiation strategies</b>	<b>Explanations</b>
<b>Intrapersonal Constraints</b>	Physical/sensory constraint	Travel bloggers frequently begin their travel experiences by describing their type of impairment	Physical/sensory negotiation	When a disabled traveler had to physically overcome a barrier on their own, examples of these situations
	Emotional constraint	Addressing the uneasy emotions that people with impairments felt while travelling	Emotional negotiation	What expresses overcoming the intrapersonal emotional, the inner strength, and the mental state needed to enjoy travelling?
	Knowledge constraint	Unexpected situations due to inaccurate information	Knowledge negotiation	Focus on how PwDs have to gather information to make sure their travels go smoothly
<b>Interpersonal Constraints</b>	Travel companion constraint	In a few situations, travel companions cause delays or additional problems	Travel companion negotiation	Situations involve travel companions assistance to get over travel barriers
	Service provider constraint	A service provider's behavior causes discomfort for disabled travelers	Service provider negotiation	The frequent statements about the service providers that are willing to help disabled travelers
	Stranger constraint	When strange circumstances led to difficulties in their travel experience	Stranger negotiation	When travelers praised the kindness and helpfulness of the locals
<b>Structural Constraints</b>	Transportation constraint	Constraints on structural transportation were consistently present in the different modes of transportation	Transportation negotiation	Adaptations that were placed in the transportation means to meet the requirements of PwDs
	Facility constraint	Barriers that are inside hotels, restaurants, bathrooms, and tour sites that prevent PwDs from using	Facility negotiation	Referring to changes made to a specific facility to more comfortably accommodate travelers with disabilities
	Environment/geography constraint	Difficulties encountered on streets, sidewalks, and when accessing tourist attractions	Environment/geography negotiation	Locations that had been made deliberately usable or regions that could be used
	Financial constraint	When a disabled traveler had to pay more due to the lack of accessibility	Financial negotiation	A deal for a service that was tailored for a disabled traveler

Daniels et al., 2005

To address the aims of the study, two research questions were proposed:

Question 1: *What are the main constraints experienced by the disability travel bloggers in their travel narratives?*

Question 2: *What are the negotiation strategies that the disability travel bloggers recommend for overcoming travel narratives?*

### **Sampling and Data Collection**

The study used the case of purposive sampling to select the sample based on special characteristics or attributes for analysis. It means that the sample is chosen "on purpose," not randomly (Shaheen et al., 2019). Data were collected from the disability travel blog posts obtained from the Google search engine. The study used a systematic search for personal blogs on Google. Research started with the keywords travelling with disability to reach each phrase relating to disability. The study also used a special search criterion to systematically select the blogs on Google. The blog selection was crucial because one goal of this study was to look at how blogging may foster the disabled community's ability to overcome travel constraints. This criterion depends on the following: (1) blogs are written only in English; (2) they are written by people with different disabilities; and (3) bloggers should have visited several different national and international destinations, which were utilized as a stand-in for influential tourism experiences. Furthermore, (4) bloggers should be in different ages, ranging from 30 to 60 years; and (5) their disabilities may cause by accidents, childhood diseases, or other diseases. Five popular accessible travel blogs were used as a pilot study for the data extraction, which was then adjusted as necessary to decide which blogs would be kept for analysis. The study removed the blogs that weren't personal. For the purpose of this study, content from 17 accessible travel blogs was examined. The selected blogs were carefully read line by line to extract the data. Then, the data were interpreted by defining the bloggers storytelling that categorized under the selected travel constraints.

### **Measuring The Credibility of Disability Travel Blogs**

#### ***Validity and Reliability of Data***

Validation in qualitative studies occurs throughout defining the steps of the research process and the measures taken in the study to ensure validity and credibility (Creswell, 2014). While reliability indicates that the methodology



of the study is consistent across different studies (Creswell, 2014). To ensure the validity of the data, the study presented detailed steps of the data collection and analysis processes. Considering reliability, the study used a procedure during the coding process consists continually compare data with the codes and produce memos regarding the codes and their definitions for consistency. This procedure is to make sure that there is no drifting in the definition of the codes or shifting in the meaning of the codes (Creswell, 2014). Regarding credibility, most of the studies that measured the blogs credibility depended on assessing the source (the author of the blog), message (the content of the blog), and reception (the blog website) (Cosenza et al., 2014). Wagner et al. (2012) noted that credibility can be assessed by three major indicators: the level of bias, the reflection of transparency, and the field expertise. Rubin and Liddy (2006) suggested four factors for blog credibility assessment: (1) the blogger's expertise and offline identity disclosure; (2) the blogger's trustworthiness and value system; (3) information quality; and (4) appeals and triggers of a personal nature. Ulicny and Baclawski (2007) considered that it is important to measure credibility by author rather than by blog because a multi-author blog gives authors the opportunity to gain a reputation, they have not earned. Ulicny and Baclawski (2007) defined five features for blog credibility: full name, affiliation, unquoted content, links to news sources, and +1 comments. To measure the credibility of the collected data from the disability travel blogs, the study combined indicators used in previous studies, as shown in Table 2.

Table 2. *List of indicators used for credibility assessment*

Credibility indicators	Explanation
Blogger's full name	Whether the blogger of the blog gave his or her first and last name. It was thought more credible to provide names for blogs than those without.
Affiliation	Whether or not the blog stated that it was connected to a certain organization or for-profit business. It was thought more credible to have a nonprofit affiliation than to have neither or any affiliation at all.
Disclosure of Blogger's background & expertise	Whether or not the blogger claimed to have travel experience. Authors of blogs with relevant expertise were seen as more credible than authors of blogs without such competence.
Unquoted Content	Whether or not the blog content evidences insight, understanding, or reflective thought about the travel constraints and the negotiation strategies of these constraints for example, travel tips, top accessible destinations, things to do, reasons why the reader should visit specific places, and inspiring travel stories.
Online contact information provision	Whether or not the blogger provides an email address or social media profiles. Bloggers who provide their contact information are considered more credible than those who do not.

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Links to external sources	Average number of links that lead to other websites. Blogs with more external links are more credible.
Posting rate	Number of posts published during the study. The higher posting rate was regarded as more credible.
Comments allowed	Whether or not comments are permitted on the blog, Blogs that permit comments are considered more credible than blogs that do not.

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## Data Analysis

The narrative thematic analysis process consisted of five phases (Braun & Clarke, 2006; Butina, 2015). The study begins with the first phase by reading and organizing the data to search for patterns or meanings. The second phase is generating codes from the selected data and defining the codes that match the study objectives. Even though there are software programs for the coding process, this study completed the phase manually (Butina, 2015). Codes were formed into words or phrases describing to categories that represent the themes that were defined by the study (Braun & Clarke, 2006; Butina, 2015). In this study, the coding process depended more on the themes that were theory-driven than data-driven (Braun & Clarke, 2006). It means that the coding process depends on themes that are driven by the models or theories the study is influenced by, rather than themes that are driven by the collected data itself (Braun & Clarke, 2006). The third phase considered sorting the extracted codes that correspond with the defined themes that were developed by Daniels et al. (2005). In this phase, the study wrote down each code and evaluated their relationships with every theme (Braun & Clarke, 2006). A few of the extracted data points were discarded. In the fourth phase, the themes were revised in relation to the codes to fit each other and form a coherent pattern. The last phase was the interpretation of the data or making meaning from the shared stories of the disability travel blogs (Butina, 2015). Table 3 presents how blogs' narratives were coded and distributed under the themes of Daniels et al.'s (2005) study. Codes summarize the data extracted from the blogs and give an overview of the analysis.

Table 3. Data Analysis of Disability Travel Blog Narratives Themes

Themes	Constraints codes	Examples of Data Extracts	Negotiation codes	Examples of Data Extracts
Physical/sensory	Disability, history of disability, Spinal Muscular, Deaf and low-functioning vision.	<i>I am a regular guy who happens to have a <u>disability</u>, called <u>Spinal Muscular Atrophy</u> and I love adventure travels. (B4)</i>	Disability, Smooth, not giving up, adventure and challenge.	<i>Smooth travel with a disability? <u>Smooth</u>- is not the closest I've gotten, and that's only happened a couple of times. I've never considered <u>giving up</u> my <u>adventures</u> just because things have gone wrong at times. (B17)</i>
Emotional	Feeling, happy, sorry and nervous.	<i>I can't help <u>feeling nervous</u> about getting a new powered wheelchair. My powered wheelchair enables me to work, travel and socialize. (B9)</i>	Strong, strengthen, abilities and break our own fears	<i>Travel has taught me that we must also <u>break our own fears</u> and encourage ourselves to experience them. (B13)</i>
Knowledge	Information, inaccurate, problems, difficulties, situations and ill-informed	<i>My guide Fauna would never bite anyone, but having vaccination proof along with a card I can hand out to anyone who questions my rights for access has resolved many <u>situations</u> where restaurant staff were <u>ill-informed</u> about the laws surrounding legitimate service animals. (B11)</i>	Planning, detailed information, organized and prepared	<i>The key is <u>planning</u> well. You should figure out what you are comfortable with and how rugged you can go. That said, you should read up on the site you are <u>planning</u> to visit and see if it is wheelchair-friendly. Parks or camping facilities may not be able to give very <u>detailed information</u>. (B9)</i>
Travel companion	Travel companion, take care, independent and travel solo	<i>Deaf women are capable to <u>take care</u> of themselves, be <u>independent</u>, and are capable to <u>travel solo</u>. (B7)</i>	Without help, travel with my (companion), travel buddy, travel solo and travel companions	<i>Quite frankly, traveling wouldn't be possible for me <u>without help</u>. With this said, I always <u>travel with my husband</u>, who is not only my best <u>travel buddy</u> but also my full-time caregiver. (B16)</i>
Service provider	Attitude, disability, angry, embarrassed and inhospitable	<i>In addition to what I judged a fairly <u>inhospitable attitude</u> to hearing my needs made it tough. (B5)</i>	Staff, respectful and help	<i>On all four flights we only had positive things to say about the <u>staff</u>, both on the ground (from check in) and in the air. (B15)</i>
Stranger	Bad incidents, someone, challenge and other people	<i>Another <u>challenge</u> is that when locals or <u>other people</u> notice we're Deaf, they would try to take advantage of us. (B7)</i>	Help attitude, local people and helpful	<i>In my experience people in most places have a want to <u>help attitude</u> and will do everything in their power to <u>help</u>. (B5)</i>
Transportation	Bad experience, disabled passenger, accessibility, flight trip, accessible obstacles/problems, unacceptable, fly and airport	<i>I have eliminated a lot of <u>problems</u>, but there is still the toilet to consider. Aircraft have no <u>accessible</u> toilets. Have to simply not drink any water and dehydrate myself in order to <u>fly</u>. (B16)</i>	Mobility device, special requirements, airport, accessible, transportation, ramps and disability	<i>To my surprise Rome's public <u>transportation</u> was <u>accessible</u>, we ended up using buses every day. They're frequent, cheap, equipped with manual <u>ramps</u> at the second door, and easy to figure out. Can't say everything went smoothly. (B10)</i>

Facility	Restaurant, obstacles, disabled people, barriers and challenge	<i>People with disabilities traveling to Cairo will encounter <u>barriers</u> at every turn, even in a manual wheelchair, the curbs would be a great <u>challenge</u>. Curb heights range anywhere and you'll find yourself trapped and need help. (B6)</i>	Accessible room, enough, Flash alarms, Hearing aid amplifier, accessible bathroom, remodeled for ADA and accessibility	<i>Another important consideration in an <u>accessible room</u> is the bed height. If it's too low it's difficult for Carrieanna to get into and out of. Earlier this year we stayed in a hotel in Miami where this was a problem. Although the room had been <u>remodeled for ADA accessibility</u>, the beds were very low. (B13)</i>
Environment /geography	Not accessible, steps and challenge/problem	<i>There are approximately 20 <u>steps</u> that lead to the sacred Buddhist Temple in Thailand. Unless you can ascend <u>steps</u> or have people carry you or your wheelchair up the <u>steps</u>, the inside of the temple will not be <u>accessible</u>. (B6)</i>	Accessible hot air balloon, sign language, access ramps, access audio descriptions, accessible museums, accessible beaches, free beach wheelchairs and accessible restrooms	<i>Updated <u>accessible beach</u> guide is live on the blog! More than a dozen new <u>accessible beaches</u>, since I originally created the guide three years ago. There are over 20 <u>accessible beaches</u> in New Jersey alone – all with <u>accessible access</u>, <u>free beach wheelchairs</u>, <u>accessible restrooms</u>, and <u>convenient parking</u>. (B14)</i>
Financial	More costly, accessible, higher price and equal service	<i>It's important to note that the <u>accessible</u> rooms with ceiling track hoists, aka Liberty Suites, are sold at a <u>higher price</u> point than the standard <u>accessible</u> rooms. However, the hotel is committed to providing an <u>equal service</u> to all. (B3)</i>	For free, disability, Discount, Money back and compensation	<i>In Jerusalem, you can order accessible taxi, rent a special scooter or a motorized wheelchair. You can make a deposit in a company to rent the wheelchair but once it's returned you get your money back. (B6)</i>

## RESULTS

The examined blogs were selected from 28 active blogs under the category named disability travel blogs (Feedspot, 2023). A total of 17 bloggers met the mentioned criteria and the credibility assessment. Table 4 provides the demographic profiles of the 17 bloggers based on the information in their blogs and posts. The study kept the blog links and names anonymous for the privacy of those who published the blogs but did not give their individual permission for this study.

As presented in Table 4, male bloggers were (6) less than female bloggers (11); in terms of age, 13 bloggers were between 30 and 45 years old, and only 4 bloggers were between 45 and 60 years old. Regarding the type of impairment, the majority (13) of the bloggers have mobility impairments, two have visual impairments, and two have hearing impairments. Eight

bloggers were from the USA, six from the UK, two from Australia, and only one from Canada. 16 bloggers had at least five years' experience blogging, and only one had just four years' experience. Only five bloggers have published posts under 20.

Table 4. *The demographic profiles of bloggers*

Blogger Number & Code	Years of blogging experience	Gender	Nationality	Types of Impairments	Age	Total Blog travel Posts
<b>Blogger 1 (B1)</b>	Since 2006	Female	USA	Mobility	Between 30 and 45 years	30
<b>Blogger 2 (B2)</b>	Since 2013	Male	Australia	Mobility	Between 45 and 60 years	9
<b>Blogger 3 (B3)</b>	Since 2018	Female	UK	Mobility	Between 30 and 45 years	37
<b>Blogger 4 (B4)</b>	Since 2011	Male	UK	Mobility	Between 30 and 45 years	420
<b>Blogger 5 (B5)</b>	Since 2013	Male	USA	Mobility	Between 30 and 45 years	108
<b>Blogger 6 (B6)</b>	Since 2013	Male	USA	Mobility	Between 45 and 60 years	48
<b>Blogger 7 (B7)</b>	Since 2015	Female	USA	Hearing	Between 30 and 45 years	17
<b>Blogger 8 (B8)</b>	Since 2018	Male	UK	Hearing	from 30 and 45 years	19
<b>Blogger 9 (B9)</b>	Since 2014	Female	UK	Mobility	Between 30 and 45 years	27
<b>Blogger 10 (B10)</b>	Since 2014	Female	Canada	Mobility	from 30 and 45 years	24
<b>Blogger 11 (B11)</b>	Since 2016	Male	USA	Visual	from 45 and 60 years	122
<b>Blogger 12 (B12)</b>	Since 2018	Female	UK	Visual	32 years	96
<b>Blogger 13 (B13)</b>	Since 2012	Female	USA	Mobility	from 45 and 60 years	10
<b>Blogger 14 (B14)</b>	Since 2019	Female	USA	Mobility	from 30 and 45 year	34
<b>Blogger 15 (B15)</b>	Since 2013	Female	Australia	Mobility	from 30 and 45 years	40
<b>Blogger 16 (B16)</b>	Since 2016	Female	USA	Mobility	Between 30 and 45 years	24
<b>Blogger 17 (B17)</b>	Since 2014	Female	UK	Mobility	Between 30 and 45 years	17

### Blog Credibility Assessment Results

As shown in Table 5, the results of bloggers' credibility revealed that the majority of the blogs, 10 out of 17, match the eight credibility indicators 100%. Three blogs out of 17 match seven credibility indicators with 87.5%. B11 provided the blogger's full name, the affiliation, the blogger's

background and expertise, the unquoted content, the contact information, the external sources, and the total number of posts above 20. *B11* disabled comments on the blog. *B13* provided the blogger's full name, the affiliation, the blogger's background and expertise, the unquoted content, the contact information, the external sources, and the comments. The total posts in *B13* were under 20. *B16* provided the blogger's full name, the affiliation, the blogger's background and expertise, the unquoted content, the external sources, the comments were allowed, and the total number of posts on the blog was above 20. *B16* missed the online contact information. Four blogs out of 17 match six credibility indicators at 75%. *B2* provided the blogger's full name, affiliation, background, expertise, unquoted content, external sources, and comments. *B2* missed the contact information, and the total posts were under 20. *B7* and *B8* provided the blogger's full name, affiliation, background, and expertise, unquoted content, contact information, and comments. The external sources were missed in *B7* and *B8*, and their total posts were under 20. *B17* provided the blogger's full name, the affiliation, the blogger's background and expertise, the unquoted content, the contact information, and the external sources. *B17* disabled comments on the blog, and the total number of posts on the blog was under 20.

Table 5. *The results of bloggers' credibility*

Ranking blogs credibility according to the achieved indicators																	
Credibility indicators	(B1)	(B2)	(B3)	(B4)	(B5)	(B6)	(B7)	(B8)	(B9)	(B10)	(B11)	(B12)	(B13)	(B14)	(B15)	(B16)	(B17)
Blogger's full name																	
Affiliation																	
Blogger's background & expertise																	
Unquoted content																	
Online contact information																	
External Source																	
Posting rate																	
Comments allowed																	
Percentage	100%	75%	100%	100%	100%	100%	75%	75%	100%	100%	87.5%	100%	87.5%	100%	100%	87.5%	75%

Note: The highlighted cells show achieved indicators

## Results of The Main Constraints Experienced by The Disability Travel Bloggers

Referring to the first question, what are the main constraints described by the disability travel bloggers in their tourism experiences, the results of the narrative analysis of the tourism experience in the context of the tourism constraints adopted by Daniels et al. (2005) were as follows:

### ***Intrapersonal Constraints***

Regarding the ***physical/sensory constraints***, most bloggers begin their writings by describing their impairments. According to (B7): *“A Deaf Disabled Latina shares stories to challenge your perspectives on Deaf travel & Deaf communities”*. (B11) added: *“I am legally blind with 5% low-functioning vision in only one eye, and I love to travel”*. Regarding ***emotional constraints***, bloggers, through their disability blogging content, describe their feelings and the struggles that come with a physical disability during their travel. (B17) wrote: *“I could live a full, happy life as a person with a disability, and that I shouldn’t feel sorry for myself or wish I could walk, you don’t need to compare your travel to what able-bodied people do, or choose activities because they’re what you’re expected to do on vacation. It’s about quality, not quantity”*. (B3) added *“Accessible travel isn’t always easy; it does require a lot of extra planning and sometimes there are surprises along the way. To have overcome what feels like a million extra obstacles and be able to say ‘I got here’”*.

Regarding ***knowledge constraints***, the results proved that bloggers described different situations where the needed knowledge was uncertain, insufficient, or unavailable. In the narratives of (B5) wrote: *“Being a wheelchair user, is a mine field of inaccurate information. Another problem, that the most frustrating was the total rubbish that was often written in accessibility statements for lots of accommodation and tourist destinations”*. (B16) also indicated: *“Unfortunately, the information we all need to make a good hotel choice isn’t available at all”*.

### ***Interpersonal Constraints***

Regarding ***travel companion constraints***, bloggers shared their experiences with their travel partners as (B2) described: *“Me and my travel companion have mobility issues. Because she has lost all practical use of her hands, she is unable to self-propel in her wheelchair. So far, I’ve been able to push her, but that is getting harder as my own health deteriorates”*.

Regarding ***service provider constraints***, from the blog content, some disability posts focus on the inhospitable attitude of staff. As (B12) wrote, *“We are seeing different attitude towards disability and impairments; it makes me equally angry and embarrassed when people treat me with impatience”*.

Regarding ***stranger constraints***, bloggers stated some situations with strangers during travel that were challenging, as (B5) wrote: *“Steep hills and steps are rough but the worst was a puncture whilst on my own, on 7th Avenue in NYC. People walked by me so quickly they didn’t want to listen after about 20*

*minutes I just wheeled myself into the middle of the Avenue in front of all the traffic and stopped there until someone called the NYPD”.*

### **Structural Constraints**

Regarding **transportation constraints**, the disability travel bloggers shared some of their bad experiences as (B9) explained *“I remember our awful experience with special assistance at London City Airport (LCY) when I had to use the stair climber to get on and off the plane.”*. (B10) expressed her emotions by: *“I had to be subjected to not only being carried onto the plane with all your limbs strapped to a metal chair but there was also an entire bus full of people at the bottom of the stairs watching the spectacle? This should not be the reality of air travel in 2023”*.

Regarding **facility constraints**, many posts from the accessible travel blogs explained facility constraints in hotels, bathrooms or restaurants. According to (B17) who described her travel experience: *“I will be happy if I get the chance to roll in and out of the restaurant without any obstacles or help from others”*. (B5) posted: *“The bathroom door of the accessible room at the Hotel wasn’t big enough for my chair to fit through without asking for help”*.

Regarding **environment/geography constraints**, the bloggers always write about the challenges of the landscape of accessible tourism concerning attractions that consider the needs and requirements of disabled travelers. (B16) in her visit to Mont Saint Michel (France): *“Firstly, you need to know that the abbey is not wheelchair-accessible, as 139 steps lead to it. There is no elevator. Unfortunately, most parts aren’t accessible either due to doorsteps and the generally narrow surroundings”*.

Regarding **Financial constraints**, some travel bloggers shared stories about having to spend extra money for basic access. As (B5) wrote: *“It really couldn’t have been any better and we loved having the freedom to enjoy Maui the island that I was most looking forward to exploring with our own vehicle, despite it being more costly (nearly \$700 for the two full days) than the accessible shore excursions offered by the cruise line”*.

### **Results of The Negotiation Strategies**

*In terms of the second question, exploring the negotiation strategies proposed by these travel bloggers to overcome travel constraints. The analysis of the accessible blogs revealed how these content creators try to suggest various negotiation strategies to their community to overcome travel constraints.*



### ***Negotiation Strategies of Intrapersonal Constraints***

Regarding ***physical/sensory negotiation***, the results indicated that the authors of accessible blogs like to begin their posts by describing and explaining how to overcome the challenges they face during their travel. (B9) posted: *“For disabled travelers, it can be a challenge. So much time is spent searching on websites looking for the best accessible hotel to meet my basic accessibility needs “*. (B11) wrote: *“I relied on my white cane and sighted guide with my friends or family when traveling. I always ready to go on a new adventure”*.

Regarding ***emotional negotiation***, Bloggers like to provide insights into disabling pain, its emotional impact on life, and how their personal strength can overcome their disabilities to travel. (B7) wrote: *“There are times where I’ve been feeling defeated. My wings weren’t strong enough, but partly it is because I have been living in fears. Traveling long-term helped strengthen my wings but let’s not forget that the wings don’t fly itself. I’ve been working on myself in the last couple of months, including my own anxiety”*. (B1) added *“If you’ve already gone wheelchair hiking on beginner’s trail, don’t be afraid to push yourself a little. Remain realistic while making it an adventure and enjoying the ride. Know your abilities and strengths if this is your first wheelchair hike while slowly working up to more difficult challenges”*.

Regarding ***knowledge negotiation***, bloggers always try to enlighten their readers and raise their awareness about the importance of planning to get the proper information to overcome travel constraints. (B6) wrote: *“When travelling with a disability it is so important to plan ahead. If possible, try book your trip a few months in advance so you have lots of time to research accessibility in and around the city. Travelling can be stressful for anyone whether you have a disability or not, but I believe the more organized and prepared you are for your trip, the less stressful it will be because you’ll know what to expect. The best information on wheelchair accessibility comes from the people who have done it before you”*.

### ***Negotiation Strategies of Interpersonal Constraints***

Regarding ***travel companion negotiation***, the results showed how, in some situations, travel companions handle the constraints they encounter. (B1) wrote: *“I enjoy travelling solo, but sometimes I want or need a travel companion, depending on where I am going and what I am doing. There is an indisputable need for travel companions and caregivers that can assist in various ways, especially in wheelchair community”*.

Regarding *service provider negotiation*, the results concerning travel service providers that tend to assist and help people with disabilities. (B11) shared her experience with one of the Service providers, *“The staff at the resort were all very respectful of a working Guide dog. My guide wears a sign asking people to ignore her, but it did not seem necessary as the staff were adept at knowing not to interact with her. I’d also like to note that all of the staff that I interacted with during our stay seemed to be genuinely willing to help me find my way to amenities or other locations on the property”*.

Regarding *stranger negotiation*, the content shared by travel bloggers described how locals were helpful and considerate during their trips. (B2) gave an example, *“In exploring Egypt, we were surprised at how the local people are kind, helpful offered a hand to make the trip more accessible”*.

### ***Negotiation Strategies of Structural Constraints***

Regarding *transportation negotiation*, the bloggers shared their experiences by focusing on suggestions to overcome transportation constrains through some tips and advices. As one of the tips from (B8): *“It is important to register your hearing loss with the airline early and let them know what special requirements is needed and what available for your disability”*. (B12) also wrote: *“Due to the lack of visual announcements on many transportation systems, ask someone to help navigate you to where you have to go or to repeat any audio announcements”*. (B15) shared reviews on airlines that tried to assist PwDs: *“What I found out on our second trip is that some airlines have an upper body torso harness available to people with a disability. It is basically an upper body seat belt which may be of some benefit to people with poor upper body control”*.

Regarding *facilities negotiation*, travel bloggers shared many practical tips to overcome situations with inaccessible accommodations. One of the travel tips recommended by (B4): *“What makes a room accessible? Some things I look for are a step free space, large enough room to maneuver my wheelchair without furniture being too tight together, lower plugs and switches and enough bathroom space”*. One of the advices from (B8) was: *“for staying at hotels, you have to look at what hotel options there were for people with hearing loss: Flash alarms; Hearing aid amplifier; Acoustic System available or Induction loop system”*.

Regarding *environment/geography negotiation*, all travel blogs shared reviews of the best accessible places. Bloggers always try to discover new places that consider the needs and requirements of disabled travelers. (B11) shared: *“Many museums offer audio tours which most of them are accessed*

*through an old school mobile phone, and in each room an artefact corresponds the numbers you need to key into the device. It's goes in chronological order by each room making it easy to follow". (B12) wrote: "Blind and visually impaired guests at Disneyland Paris will now have the ability to access audio descriptions content via the Audio-Spot mobile app to enhance their park-going experience".*

Regarding *financial negotiation*, the study found that raising awareness of the right of disabled people to have affordable accessible travel services is a big concern for accessible travel bloggers. As (B12) demonstrated: *"In England, people who are registered disabled are entitled to take a companion to places for free, such as; the Theatre, Concerts and theme parks. The disabled person pays the full price of one ticket and the companion/ carer goes free. I think this is an excellent service".* In Seattle (B5) elaborated that: *"the zoo is open seven days per week and costs about \$19 per adult, but if you are a person with a disability, you can get a \$2 discount"*

## DISCUSSION

With respect to other studies that examined travel constraints that influence the intention to travel of PwDs. The study tried to examine the accessible travel blogs and the different constraints that are perceived by the travel bloggers by applying leisure constraints framework adopted by Daniels et al. (2005). The study also aims to explore the role of disability travel blogs in inspiring disabled travelers to overcome the accessibility challenges they face by using negotiation strategies through sharing their stories and reviews.

A thematic narrative analysis of the posts of 17 disability travel blogs revealed insights into what they went through personally and the emotions that related to their experiences. Some of the narratives were observations, while others were detailed stories. The ten themes of the Daniels et al.'s (2005) study were identified in the disability travel blogs' narratives, namely physical/sensory, emotional, knowledge, travel companion, service provider, stranger, transportation, facility, environment/geography, and financial. The study found that no single disability blog presented all the ten themes of the Daniels et al.'s (2005) study completely. The narrative analysis used in this study led to a better understanding of the themes of the three constraints and negotiation strategies that construct the travel experience of the disability travel blogs.

Regarding the first aim, concerning the intrapersonal (physical and emotional) constraints, the study found that the disability bloggers, during

their travel process, face different constraints that need to be negotiated. They also motivate their communities to explore the world rather than focus on the travel challenges and highlight the barriers that disabled people face due to incorrect accessibility information. Moreover, the study found that bloggers illustrate that these constraints are possible to deal with by having accurate accessibility information and pre-planning for every single step of their trips. These findings are consistent with Melian et al.'s (2018) study, which confirmed that the intrapersonal constraints are related to the physical and psychological dependency of travelers with disabilities and the lack of knowledge. Their study suggests that information during the travel planning stage is a crucial factor that may help PwDs avoid these constraints.

Concerning the interpersonal (attitudes and willingness to help) constraints from service providers or local people, the study found that the stories have written a lot about the negative attitudes of the service providers towards disability. These findings are consistent with Özcan et al.'s (2021) findings, which implied that PwDs are unable to take advantage of holiday opportunities because of barriers brought on by hotel staff attitudes and personnel's lack of behavior. Melian et al.'s (2018) study identified that the attitude of the staff in the tourism industry is considered one of the leisure constraints for Spanish people with disabilities. The study findings illustrate how the shared experiences and stories of the bloggers focused on how staff in the tourism and hospitality industries should be aware of the ways for satisfying disabled traveler's needs. Swanepoel et al. (2020) explored to what extent the hospitality staff are well trained to assist PwDs. As noted by the disability travel bloggers, Swanepoel et al.'s (2020) findings indicate that hospitality staff need the training and the appropriate awareness to provide travelers with special needs with proper service. Concerning the structural (accessibility of facilities and surrounding environment) constraints, the study findings of the analysis of the tourism experience of the disability travel bloggers revealed that they considered the structural constraints to be the most difficult barrier that prevented their participation in tourism activities. This is consistent with Devile et al.'s (2023) study, which identified that structural constraints are the main barriers for PwDs to participate in tourism activities. Darcy et al.'s (2017) study found that structural constraints have the most significant impact on the participation of people with disabilities in leisure activities. Further study proved that the influence of the physical environment has a major impact on the participation of PwDs in tourism. (Rubio-Escuderos et al., 2021). Daniels et al.'s (2005) study confirmed that the social construction of

the tourism industry acts as the major barrier factor that prevents people with disabilities from participating in tourism.

Regarding the second aim, in terms of the negotiation strategies for intrapersonal constraints derived from the bloggers' tips and experiences, the study found that they suggested different negotiation strategies that tried to reduce barriers to travel. They also encourage their followers to pre-plan before undertaking travel and collect the needed information for tourism activities, transportation, and accommodations for unexpected situations. These findings are consistent with Devile et al.'s (2023) study, which referred to the importance of travel planning as one of the influential negotiation strategies that could deal with these constraints.

In terms of the negotiation strategies for interpersonal constraints, they study found that disabled bloggers inspired PwDs to be prepared if things go wrong. The disability travel bloggers recommended in their writings that travelers with disabilities get assistance and support from family and friends when they face constraints. These findings are consistent with Devile and Moura's (2021) and Devile et al.'s (2023) findings, which suggest that one of the negotiation strategies for travelers with disabilities is travelling with companions and getting staff support, which could overcome the interpersonal constraints.

In terms of the negotiation strategies for structural constraints, the study found that disability bloggers suggested different strategies that tried to reduce barriers to travel derived from their experiences. The blogs narratives advised their readers to negotiate these constraints by different means. In the context of accommodation, travel bloggers advised searching for a suitable accessible room and explaining their particular disability needs to the hotel staff before booking accommodation. Another strategy used for overcoming structural constraints is using apps that help disabled people find the best accessible hotels and adapted holiday rentals worldwide. Moreover, search for accommodations that have features such as signaling devices or flashing lights to alert deaf people to a ringing phone. In the context of transportation, travel bloggers suggest defining the assistance points and help desks in airports before flying. Some blogs shared a link to airport network operators to transform the travel experience for the disabled community and defined the airports that offered free access to their navigation apps, which provide personal wayfaring assistance to the visually impaired via their smartphone camera. In the context of tourist attractions, travel bloggers always encourage disabled travelers to plan a vacation to their favorite place by searching for accessible information on

websites, such as the general accessibility of the place and the availability of accessible toilets. Most bloggers suggested that would be helpful to hire someone to help, such as a guide or choose a travel agent that has enough experience with accessible tours. This is consistent with Devile and Kastenholz's (2018) study, which analyzed the tourism experience of people with visual disabilities. They concluded that searching for accessible information, travel companions, and a good selection of service providers and noting them in advance could be good negotiation strategies to deal with structural travel constraints and make disabled travelers more active. Devile et al. (2023) also identified negotiation strategies that PwDs could use to overcome structural constraints, such as information search, travelling with caregivers and asking for staff assistance.

Finally, the stories of the disability travel blogs prove that the travel constraints for PwDs are structural and interpersonal rather than intrapersonal. Their narratives also indicate that the lack of accessible information, facilities, and untrained staff had an impact on the quality of their travel experiences. Their recommendations confirmed the importance of improving the accessibility of tourism services, and there are still many challenges to the development of accessible tourism. The disability travel blogs focus on accessible travel and how to inspire PwDs to travel to explore and discover new places.

## CONCLUSION

The study examined the tourism experience of disability travel bloggers in line with the study of Daniels et al. (2005) using thematic narrative analysis, which has not been examined by previous studies. More specifically, the study tried to identify the role of disabled travel bloggers in minimizing the travel constraints of PwDs, suggesting negotiation strategies to deal with these constraints and facilitate their participation in the tourism experience. By exploring the tourism experience of disability travel bloggers, this study contributes to accessible tourism knowledge by adding the whole travel experience of PwDs from their viewpoints.

### *Theoretical Implications*

The study presents a contribution to the literature that combines the co-creation of accessible tourism experiences through negotiation strategies with the highlighting the role of disability travel blogs in developing free-barrier tourism. The study also focuses on the tourism experience of PwDs and clarifies their travel constraints.

### *Managerial Implications*

The study provides the accessible tourism market with crucial information that could help the service providers offer a better accessible tourism experience and, at the same time, meet PwDs' expectations and satisfy their needs. The information is largely regarding the search phase, where PwDs make their travel decisions. Further, identifying the challenges faced by PwDs helps service providers develop friendly websites that could assist people with disabilities to plan their trips and even get help during their travel. The tourism experience of disability travel bloggers may be important in designing training programs for those who work in the tourism industry. Regarding the negotiation strategies, the travel companies that provide accessible tourist products may benefit from these strategies in trip organization for PwDs.

### *Limitations and Future Research*

A certain limitation of the study is that the sample may not be representative of disabled travel bloggers since there were only 17 bloggers. Another limitation is that the study only examined blogs that were written in English. Future research should assess the role of technology in enhancing the collaboration between service providers and tourists with disabilities to co-create a better accessible tourism experience. It also should evaluate the best practices of tourism destinations that could develop different accessible tourism solutions and overcome the constraints that face tourists with disabilities in their travel. Moreover, evaluate the new tourism technological applications and how they may contribute to accessible tourism services. It might be beneficial to study the influence of using social media on the travel decisions of people with disabilities according to their disability type. Future studies could go beyond and classify the most influential social media tools, e.g., Facebook and/or YouTube, on the activity-travel behavior of people with disabilities.

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## SYMMETRICAL ADOPTION PATTERN OF THE DIGITAL SHARING ECONOMY

**Karan MEHTA**

*Symbiosis International (Deemed University), India*  
ORCID: 0000-0001-7178-3338

**Chetan PANSE <sup>1</sup>**

*Symbiosis International (Deemed University), India*  
ORCID: 0000-0003-1633-3400

### ABSTRACT

Listing spare homes as tourist accommodations on applications like Airbnb has boosted consumers' adoption of the digital sharing economy (DSE). This research paper aims to develop a variable selection methodology for factors influencing consumers' adoption intention of DSE applications like Airbnb and UBER. The symmetrical adoption pattern (SAP) will assist industry practitioners in designing an accurate investment pattern for the available resources. The research examines feedback from travellers regarding utilized services to develop SAP. The authors adopt NCapture as a data extraction tool and NVivo 12 as a data analysis tool to develop SAP as a variable selection methodology. Sentiment, thematic, and cluster analysis methods of qualitative analysis were employed to extract 19 distinct variables of SAP out of available data and adapt it into the six constructs of the unified theory of acceptance and use of technology (UTAUT2). By identifying the ideal variable for each construct with SAP, the performed study also aims to broaden the understanding of theories linked to the UTAUT2 model.

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## INTRODUCTION

Airbnb has become a leading player in the digital sharing economy (DSE), running a vast electronic marketplace worldwide that allows individuals to rent out their homes to tourists looking for accommodation in various locations (Zervas et al., 2017). In northeast India, Airbnb's growth has been

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<sup>1</sup> Address correspondence to Dr Chetan Panse (Assoc. Prof.), Symbiosis Institute of Business Management-Pune, Symbiosis International (Deemed University), India. E-mail: [chetanpanse@sibmpune.edu.in](mailto:chetanpanse@sibmpune.edu.in)

substantial, with the number of listings increasing to 1873 by August 2022 (Airbnb, 2022), generating several direct economic opportunities. Organizations like Airbnb have played a pivotal role in building trust between offeror and offeree in the sharing economy (Haridasan & Fernando, 2018). Also, safeguarding hosts from the impact of unforeseen circumstances has boosted their confidence in the platform and their intention to continue using Airbnb has also increased (Thi et al., 2023). In addition, accessibility to online reviews is facilitating a more nuanced understanding of the marketplace and provides unique perspectives on business operations and strategies (Cheng et al., 2022).

Ideally, consumers consider homeowners (offerors) with excellent reviews more reliable than those with lousy reviews. According to Ohlan (2018), about 93% of customers choose their stay depending on online reviews and ratings, though this can vary from destination to destination. By employing research methods like content analysis of online reviews, researchers can uncover emerging patterns and their effects on businesses in tourist destinations (Li et al., 2015). It indicates customer decision-making activity and the degree of experience with the goods and facilities on offer (Sainaghi, 2020). Thus, understanding emerging patterns in online reviews for tourism services innovation is a topic that piques the interest of both academics and practitioners (Sharma et al., 2022).

The rapid expansion of Airbnb has resulted in the emergence of numerous micro, small, and medium-sized enterprises (MSMEs) within the tourism industry, thereby contributing to its overall growth and development (Guttentag & Smith, 2017). MSMEs in the tourism sector often require substantial investments, particularly in areas such as technology adoption and customer retention and relationship management (Piramanayagam & Kumar, 2020). In such cases, accurate resource allocation becomes crucial for achieving business growth objectives (Zervas et al., 2017). According to Bommer et al. (2022), in any business model each variable plays a distinct role in explaining the variance in the criteria that is specifically associated with business objectives. Therefore, it is vital to identify the ideal variables for individual factors in the model prior to resource allocation, as this enables decision-makers to prioritize investments and allocate resources effectively. Ideal variable selection facilitates efficient resource allocation, particularly when resources are limited, and enables decision-makers to focus their efforts on areas that are likely to have the greatest impact on the desired outcome (Qaddoori & Breesam, 2023).

Very few studies have explored the models' variable selection argument, to assist industry practitioners in enhancing the consumers' technology adoption. Zhang et al.'s (2017) study focuses on the variable selection aspect by investigating the key factors that influence Airbnb listing prices. The analysis utilized two models, namely the general linear model (GLM) and the geographically weighted regression (GWR) model, to examine a dataset consisting of 794 samples of Airbnb listings in business units located in Metro Nashville, Tennessee. The findings reveal that the GWR model outperforms the GLM in terms of accuracy and variable selection and the significance of the factors varies across different regions (Zhang et al., 2017). Fu et al.'s (2017) study focuses on the variable selection aspect within unsupervised recommender systems, aiming to optimize the utility of recommendations by considering accommodation benefits, community risks, and personalization constraints. Polson and Sokolov's (2017) study focuses on the variable selection aspect within deep learning, which is a type of machine learning used for nonlinear high dimensional pattern matching and prediction. By adopting a Bayesian probabilistic perspective, their research aims to offer insights into more efficient algorithms for optimization and hyper-parameter tuning (Polson & Sokolov, 2017). According to Noncheva et al. (2009), variable selection plays a crucial role in data analysis. The choice of variables significantly impacts the measurement of efficiency for two reasons. First, the number of efficient Decision Making Units (DMUs) is directly related to the number of variables considered. Second, the selection of variables has a substantial effect on the efficiency measure, especially when the number of DMUs is small or when there is a large number of explanatory variables required for computing efficiency (Noncheva et al., 2009).

Past researches in the field of variable selection has made significant contributions in various contexts, including Airbnb listing prices, unsupervised recommender systems, and deep learning. However, there exists a research gap regarding the need for a comprehensive variable selection methodology that integrates qualitative approaches such as sentiment analysis, thematic analysis, and cluster analysis. The current literature primarily focuses on quantitative approaches and statistical models for variable selection, neglecting the valuable insights that can be derived from qualitative methods. By incorporating sentiment analysis, thematic analysis, and cluster analysis within Nvivo software, the proposed methodology aims to bridge this research gap to provide a more holistic understanding of consumer preferences, motivations, and perceptions.

The utilization of qualitative methods in variable selection offers a unique perspective by allowing researchers to delve into the qualitative aspects of data, uncovering deeper insights beyond numerical relationships (Berkwits & Inui, 1998). Through sentiment analysis, the methodology enables the exploration of emotional aspects and sentiment associated with different variables. Integration of sentiment analysis enables the identification and evaluation of subjective factors that influence consumers' technology adoption. It provides insights into the emotional and attitudinal aspects that may not be captured solely through quantitative measures (Septia Irawan et al., 2022). Thematic analysis facilitates the identification and categorization of underlying themes and patterns, providing a significant understanding of the variables under consideration (Sari & Nazli, 2021). Additionally, cluster analysis allows for the factorization of variables based on similarity, which can uncover meaningful relationships and aid in variable selection. The inclusion of cluster analysis aids in identifying distinct consumer segments with unique characteristics and preferences. This allows for a more targeted and personalized approach in variable selection, recognizing that different segments may have varying drivers and barriers in their adoption of technology (Karobliene & Pilinkiene, 2021).

By integrating qualitative approaches within a comprehensive methodology, researchers can gain a more nuanced understanding of the variables' significance, enabling them to make more informed decisions during the variable selection process (Gunter et al., 2011). The current research fills a critical research gap and contributes to the advancement of variable selection methodologies by incorporating qualitative methods and expanding the scope of UTAUT2 model analysis beyond traditional quantitative approaches.

It provides a more comprehensive and holistic understanding of the factors influencing consumers' technology adoption, enabling industry practitioners to make informed decisions in enhancing adoption rates. Overall, the variable selection methodology utilizing sentiment analysis, thematic analysis, and cluster analysis within Nvivo software extends the understanding of past studies by incorporating qualitative approaches and providing a more nuanced exploration of consumer preferences. It enhances the applicability and effectiveness of variable selection techniques, leading to improved decision-making processes for industry practitioners.

Past studies have concluded that the UTAUT2 factors affect tourists through various adoption theories and models (Venkatesh et al., 2012). However, variable selection for each construct for the adoption of sharing economy applications is a novel contribution to the literature. Although past studies have expanded our knowledge and understanding of Airbnb penetration and adoption beyond western and European countries, there is still a substantial knowledge gap regarding developing countries in Asia, Africa and Latin America (Quattrone et al., 2022). Most of the studies on Airbnb, which began in 2015 and have just recently been published, were undertaken by scientists in the US, Canada, and Europe (Andreu et al., 2020; Freire de Mello & de Paula, 2020). According to Guttentag et al. (2018), most research (40.2%) obtained evidence in the US and Canada, followed by 29.5% in Europe and just 1.8% in the Caribbean and Latin America. This creates a gap in the observational data upon which industry implications are based. Conducted research aims to develop a data extraction and qualitative analysis method that can be generalised for further studies in the expansion of DSE.

In light of the global rise of DSE and the transformations in the accommodation business, this research seeks to determine the ideal variables of factors affecting consumers' adoption of DSE applications like Airbnb in India. To accomplish this goal, the authors gather online consumer reviews from Airbnb's website related to tourists' stays in northeast India. They then utilize a blend of sentiment analysis, thematic analysis, and cluster analysis techniques to construct the symmetrical adoption pattern (SAP). The data extraction pattern was completed using NCapture web scraping instrument from January, 2022 to March, 2022. Authors extracted data from all the listed properties in Sikkim, Arunachal Pradesh, Mizoram, Manipur, Tripura, and Nagaland. The pattern and proportions found in this investigation can assist in fine-tuning the evaluation and innovation criteria for particular homestay properties.

Understanding the factors affecting user experience with DSE offerings aims at the following objectives; (1) Understanding the travellers' adoption pattern of DSE offerings at popular tourist destinations, (2) Relevance of UTAUT2 factors towards symmetrical adoption pattern, (3) Identifying ideal variables for each UTAUT2 constructs measuring consumers' adoption intention.

Thus, this research addresses the following problem: What is the variable selection methodology of users' adoption intention theories towards homestay accommodation services in northeast India?



## SYMMETRICAL ADOPTION PATTERN DEVELOPMENT

This study will utilise the UTAUT2 framework, an expanded version of the unified theory of acceptance and use of technology (UTAUT). Theory of reasoned action (TRA), theory of planned behaviour (TPB), innovation diffusion theory (IDT), social cognitive theory (SCT), model of personal computer utilisation (MPCU), motivation model (MM), and technology acceptance model (TAM) are the concepts that form the UTAUT2 model (Venkatesh et al., 2012). It strongly predicts consumers' adoption patterns in various scenarios. Venkatesh et al. (2003) designed the UTAUT framework to test the adoption of novel technologies in the consumer market. The four primary factors that impact an adoption intention are 'performance expectancy,' 'effort expectancy,' 'social influence,' and 'facilitating conditions.' Adding two fundamental factors, 'price value' and 'habit,' to the UTAUT2 considerably improved the model's ability to describe customer adoption patterns (Venkatesh et al., 2012). Conducted research develops variable selection methodology for each UTAUT2 framework construct in analysing consumers' adoption intention. The finding that the UTAUT2 constructs in symmetrical adoption patterns reflect travellers' adoption of DSE offerings like homestays also aligns with previous research.

### **Performance Expectancy**

Performance expectancy (PE) describes the degree to which a new system would benefit individuals when performing a specific type of work (Venkatesh et al., 2012), which is equivalent to the perceived usefulness of the TAM. Before the UTAUT, Koufaris (2002) applied the TAM to study online shopping behaviour and discovered that 'perceived usefulness' is the most significant factor in predicting consumer behaviour (Koufaris, 2002). Another research on online travel shopping in the UK by Satama (2014) also proved a positive correlation between 'perceived usefulness' and consumer adoption intention (Satama, 2014). In the background of Airbnb, performance expectancy represents the degree to which consumers believe they would benefit from the app when searching for accommodation. In addition to intentions, the UTAUT framework identified technical attributes like PE as a critical determinant of consumer sentiments in adopting the technological platform. Scholars in the tourism and hospitality industries have noted a considerable effect of PE on individuals' views about adopting DSE offerings (Tamilmani et al., 2022).

Table 1. *Performance expectancy*

Construct	Variable	Literature Support
Performance Expectancy	City	"The use of smartphone applications helps redefine and enhance the satisfaction of a tourist during his/her stay at their preferred tourism city" (Kamboj & Joshi, 2021).
	View	"Among five factors of fun and pleasure derived from using the apps, the highest item is room view." (Ismail et al., 2020).
	Location	"Accommodation location influences consumers' willingness to pay for contactless hospitality services." (Hao et al., 2022).
	Place	"Online textual reviews significantly influence consumers' intention to choose among varied Airbnb place options: entire place, private room and shared room." (Li & Fang, 2022).
	Experience	"Emotions in online reviews are the most predominant determinants of travellers' experience." (Ribeiro et al., 2022).
	Host	"Information provided by the trust mechanisms can deliver the charming points of hosts' services in Airbnb and change the perceived risk of Airbnb into the attractive point." (Yi et al., 2020).
	Time	"Generally, benefits are positive outcomes that result from an action and thus serve as motivators for human behaviour (e.g., quality, revenue), whereas costs are resources that are a must for an action (e.g., money, effort, time, knowledge) and therefore act as deterrents for human behaviour." (Adam et al., 2022).

As seen in Table 1, past literature justifies that selected performance expectancy variables influence consumers' adoption of new technology-based offerings. However, existing studies do not explain the methodology of choosing particular variable as a performance expectancy variable in adoption intention. Hence, the authors propose the following question for conducted research;

**RQ1:** *What is the variable selection methodology for identifying variables that contribute to the performance expectancy construct in UTAUT2 technology adoption model?*

### **Effort Expectancy**

Perceived ease of use in Davis et al.'s (1989) TAM framework is considered a vital factor in a person's perception of utilising a technology-based platform (Davis et al., 1989). Parallel to this, the UTAUT discovered that attitude partly mediates the impact of effort expectancy on adoption intention (Venkatesh et al., 2003). The UTAUT2 refers to effort expectancy as an effort individual thinks it should take to use a new system (Venkatesh et al., 2012). Empirical research shows that the easier a system is for one to use, the more people will adopt it. In this study, 'effort expectancy' represents the degree of ease to avail of the service through an application, including simplicity and convenience. Amaro and Duarte (2013) indicated that the perception of the convenience of using a system could positively

affect consumer adoption intention. Scholars in the tourism and hospitality industries reported conflicting findings about the connection between sentiment change and effort expectancy. For example, studies on hotel information desk technologies and vacation website groups discovered that ease of use is a critical factor in a person’s opinion (Dwivedi et al., 2019).

On the contrary, simplicity of utilisation is a non-significant predictor of user sentiment in Wang and Jeong’s (2018) study on the Airbnb website and Chang and Caneday’s (2011) work on travellers’ usage of digital platforms. Past literature findings are conflicting but still state that effort expectancy significantly influences consumers’ adoption of new technology-based offerings.

Table 2. *Effort expectancy*

Construct	Variable	Literature Support
Effort Expectancy	Road	“There appears to be a positive relationship between destination location and transportation on the rural homestay choice. Therefore, the government, destination marketers, homestay operators and owners need to work together to ensure accessibility of the destination, proper signage to provide directions to homestays, good road connectivity and availability of alternative modes of transportation.” (Dey et al., 2020)
	Walking	“Availability of authentic tourism experiences within walking distance from the homestay influences guests’ adoption intention” (Sánchez-franco & Alonso-dos-santos, 2021)

As summarized in Table 2, past literature justifies that effort expectancy variables influence consumers’ adoption of new technology-based offerings. However, there is a need to explain the variable selection methodology of each effort expectancy variables in the adoption intention. Hence, the authors propose the following question for the current study;

**RQ2:** *What is the variable selection methodology for identifying variables that contribute to the effort expectancy construct in UTAUT2 technology adoption model?*

### **Facilitating Condition**

In their deconstructed TPB, Taylor and Todd (1995) highlighted the similarities between enabling circumstances and interpreted behavioural control. According to Venkatesh et al. (2003), enabling circumstances complement the impact of PE and EE as determinants of behavioural intention in the UTAUT framework. According to Venkatesh et al. (2003), to use a given technology, customers must feel they have access to the

necessary organisational resources and technical architecture, known as the 'facilitating conditions (FC)' (Venkatesh et al., 2003). Past research on customer technology uptake confirms the strong impact of facilitating circumstances on behavioural intention (Rana et al., 2016). However, the hotel and tourist industries revealed mixed results for this association. Kam et al. (2018) discovered that perceived behavioural control (a root construct for facilitating conditions) is a substantial indicator of buyer intentions among users of Airbnb in the US. In contrast, Mao and Lyu (2017) discovered that the impact was non-significant for users aiming to make a repeat purchasing decision (Kam et al., 2018; Mao & Lu, 2017). Past literature findings are conflicting but still state that FC significantly influences consumers' adoption of new technology-based offerings. Conducted research seeks to conclude the uncertainties related to facilitating conditions with SAP adoption.

Table 3. *Facilitating conditions*

Construct	Variable	Literature Support
Facilitating Conditions	Water	"If hot water is unavailable, hosts can ensure that guests are aware of this issue before accepting the booking." (Lee et al., 2023)
	Kitchen	"Kitchen is identified as an attribute consumers emphasise in describing their Airbnb experience." (Xi et al., 2022)
	Room	"The study revealed that Airbnb users valued the local interactions and experiences in neighbourhoods while hotel guests appreciated room amenities and food and beverage more." (Cheng & Jin, 2019)

Based on the relevant literature, Table 3 shows that facilitating condition variables influence consumers' adoption of new technology-based offerings. However, earlier studies do not suggest the accurate methodology for selection of ideal facilitating condition variables in adoption intention. Hence, the following question is proposed;

**RQ3:** *What is the variable selection methodology for identifying variables that contribute to the facilitating condition construct in UTAUT2 technology adoption model?*

### **Social Influence**

Social influence (SI) means the degree to which an individual feels influenced by surrounding groups (Venkatesh et al., 2012). Many empirical data have validated SI as a core variable in TAM. One example from the literature is Teng et al.'s (2015) study on travellers' plans to stay in sustainable accommodations in Taiwan and their future purchases on the

DSE website Airbnb. However, for different groups of consumers, 'voluntary' and 'non-voluntary' social influence can sometimes bring contradictory results. Venkatesh et al. (2003) discovered that for voluntary consumers, social influence does not have a significant effect on their adoption intention; however, for the non-voluntary group, social influence becomes a significant predictor. The UTAUT model confirmed the importance of the link between social influence and intention; also, adding this connection increased the conceptual model's capacity for explanation (Mao & Lyu, 2017). Under the background of Airbnb, which is still relatively new to Indian consumers, the number of customers is not significant, but the kind of SI. Past literature on tourism and hospitality research states that social influence significantly influences consumers' adoption intention.

Table 4. *Social influence*

Construct	Variable	Literature Support
Social Influence	Local	"The findings suggest that participants were prevented from choosing Airbnb accommodations over hotels, when they presented a lack of local experience, in consumers' review about their past experiences at the destination." (Del Chiappa et al., 2021)
	Taxi	"Consumers hesitate to choose Airbnb accommodations over hotels when they identify a lack of public transport (taxi stand) near the homestay in consumers' review about their past experiences at the destination." (Teh et al., 2020)

As seen in Table 4, past literature justifies that social influence variables influence consumers' adoption of new technology-based offerings but does not clearly explain the variable selection methodology for each social influence variables in adoption intention. Hence, the authors propose the following question;

**RQ4:** *What is the variable selection methodology for identifying variables that contribute to the social influence construct in UTAUT2 technology adoption model?*

### **Price Value**

The UTAUT2 framework notably includes a pricing component since the exchange between a technology's expense and usefulness is a crucial indicator of consumers' behavioural intentions (Venkatesh et al., 2012). So et al. (2018) showed that value for money was notably significant when examining price characteristics influencing expedition tourists' experience and buying intentions. Additionally, past research on online learning has also discovered cost as a significant factor influencing consumers' behavioural intention to adopt new technologies (Tarhini et al., 2017).

Under the background of Airbnb, price value is a vital stimulus factor because homestay prices are often lower than those of hotel rooms of the same grade, which can be a significant competitive advantage for homestay accommodation platforms (Hasan & Stannard, 2023). According to numerous past studies, deciding whether to use Airbnb significantly depends on factors like price (Guttentag, 2016; Mao & Lu, 2017; Satama, 2014; Tussyadiah & Pesonen, 2018; Yang & Ahn, 2016).

Table 5. *Price value*

Construct	Variable	Literature Support
Price Value	Area	"Geographical areas have a moderating effect on the relationship between various hotel-related influencing factors and Airbnb." (Yi et al., 2021)
	Comfortable	"Marketers and Airbnb hosts should focus on creating comfortable, clean and attractive lodging attributes, along with providing personalised services and access to unique local cultures." (Li et al., 2019)
	Stay	"It has been commonly recognised that the growing popularity of peer-to-peer accommodation can be partly attributed to its providing guests with unique stay experiences." (Zhang & Fu, 2020)

Past literature justifies that price value variables influence consumers' adoption of new technology-based offerings (Table 5). However, a variable selection methodology for each price value variables in adoption intention should be developed. Hence, the authors propose the following question;

**RQ5:** *What is the variable selection methodology for identifying variables that contribute to the price value construct in UTAUT2 technology adoption model?*

## Habit

The development of habits and prospective usage of technologies depend on having a sufficient understanding of their features (Limayem et al., 2007). The level of contact, comfort and exposure developed with advanced technology over time might establish certain habits (Venkatesh et al., 2012). As a user does certain behaviours repeatedly, these habits are frequently unintentional and unplanned. Past studies conclude that consumers' routine behaviour influences how likely they are to utilise digital platforms. Hence, the applications that travellers are familiar with should have a favourable impact on their intent to use/ promote DSE products/services (Nikou & Bouwman, 2014). Habit has been the primary factor influencing users' behavioural intentions to adopt DSE-based platforms across the globe (El-Masri & Tarhini, 2017; Herrero et al., 2017). According to

Megadewandanu et al. (2017), habit is a primary motivator for Indonesians to utilise digital payment apps. Another investigation using 1096 respondents' data indicated that consumer habits have a significant role in determining travellers' behavioural intention to use of homestay accommodation services online (Rabiei-Dastjerdi et al., 2022). Another study concluded that cheaper costs via accommodation platforms are a significant motivator behind the consumer shift from hotels to homestays (Li et al., 2016). Identical findings indicate that habit influences both the offeror's and the offeree's behavioural intentions to engage in a technology-based transaction (Jakkaew & Hemrungrote, 2017). Past studies conclude the significance of consumers' habit shifts in adoption intention.

Table 6. *Habit*

Construct	Variable	Literature Support
Habit	Food	"Availability of consumers' preferred food cuisine attracts them to adopt specific accommodation." (Han et al., 2021)
	Home	"A key operant or value co-creation resource is Airbnb home, described as a "home away from home" that includes features of a home such as a bedroom and a kitchen. Such home benefits reflect the main physical product that guests obtain through Airbnb." (So et al., 2018)

Past literature explains that habit variables influence consumers' adoption of new technology-based offerings (Table 6). However, there is a need to develop a variable selection methodology for each habit variables in adoption intention. Hence, the authors propose the following question for this research;

**RQ6:** *What is the variable selection methodology for identifying variables that contribute to the habit construct in UTAUT2 technology adoption model?*

## RESEARCH METHODOLOGY

### Research Design

This research adopts sentiment, cluster and thematic analysis approaches to qualitatively analyse the collected data (Refer to Figure 1). In the initial phase, the study focused on available resources like scholarly publications, textbooks, and web pages, as well as an empirical investigation into the notions of Airbnb and UTAUT2. In addition, consumer reviews data on, locations or accommodations, and regional variations of available rentals on the Airbnb site was used. The data was gathered in August 2022 and covered the reviews posted from August 2018 to August 2022.

The study began with a qualitative analysis phase, which included sentiment analysis, thematic analysis, and cluster analysis to identify relevant variables related to the experience of staying in an Airbnb accommodation. After the variables were identified, the variables were adopted into the UTAUT2 constructs.

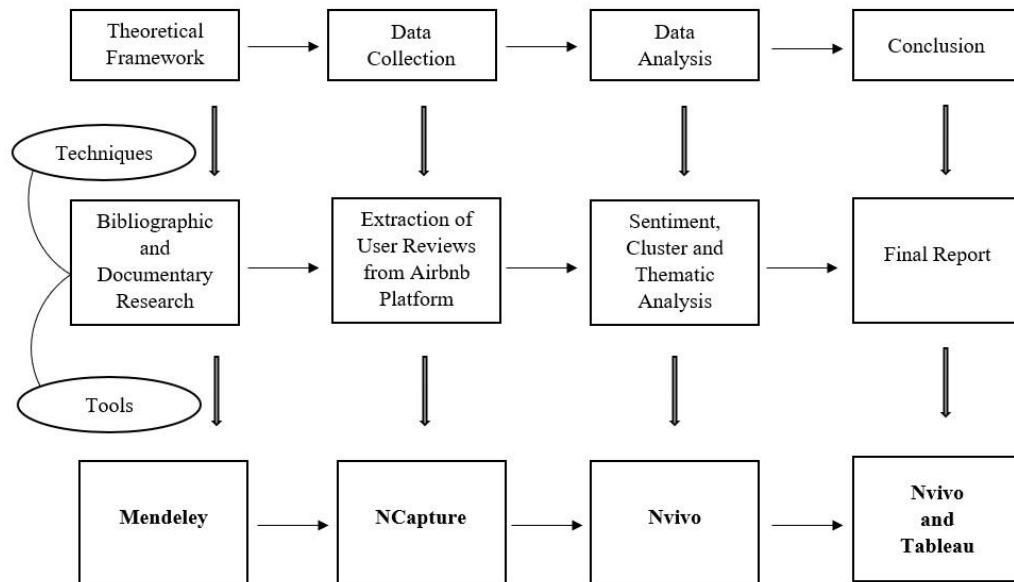


Figure 1. *Research Design*

As seen in Figure 1, first, the study adopts Mendeley to conduct bibliographic and documentary research to identify a standard gap in the accuracy of past studies in providing industrial assistance. Second, to collect data on tackling the identified gap, the study extracts consumer reviews on the Airbnb website using NCapture as an instrument of web scraping. Third, the study utilises Nvivo to extract consumer sentiment about availed service, themes of behaviours that influenced their decision to adopt a homestay accommodation and clusters that can represent a set of behavioural patterns. At last, the authors extract dashboards representing performed analysis using Tableau as a visualization tool.

### Data Collection

To extract the data from the Airbnb web page, the study utilised Web Scraping technology, which automatically collects various unorganised content from web pages and organises it into logical frameworks like worksheets (Saurkar et al., 2018). NCapture was employed in this study to retrieve the data regarding consumers' experience with a particular homestay from each listing. Further, the reviews were gathered into one



XLSX file, handled by removing duplicate listings, and then manually integrated into 106 different DOC files representing reviews associated with individual homestay accommodation.

Northeast India is a group of 8 states: Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, and Assam. In the study, the authors have considered seven states except for Assam for collecting data regarding consumers' experience with the Airbnb application. Airbnb lacks accuracy in presenting the correct response to consumers' desired location queries. The local areas of each state in northeast India more or less overlap in response to searched locations for booking. Assam, the centre of the northeast region, presents significant overlapping with neighbouring states' sites in response to consumer queries. Location accuracy is an essential predictor of symmetrical adoption patterns, and Assam's extreme overlapping of location affects the validity of extracted dataset. Hence, the authors eliminate Assam in the data collection process.

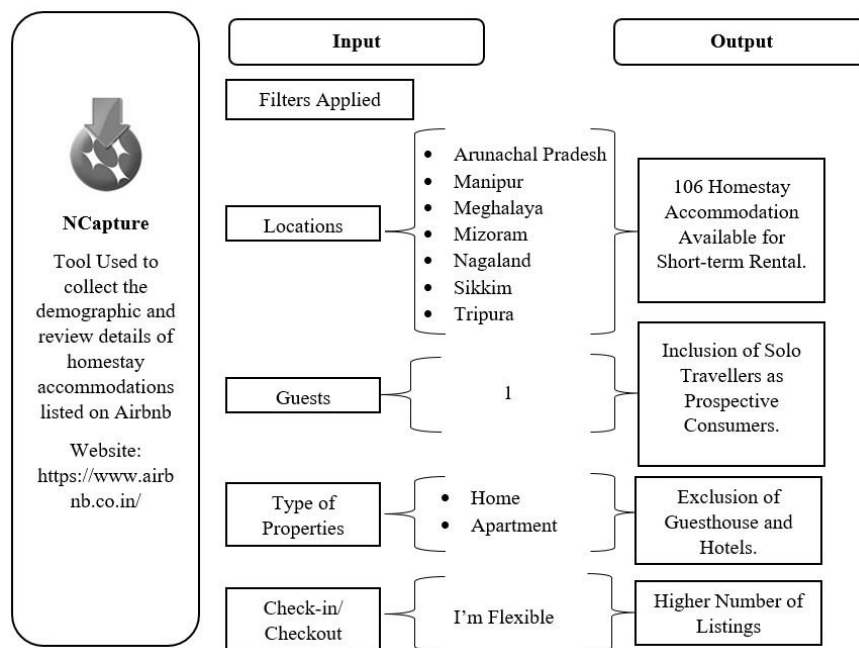


Figure 2. Data collection Process

Further, Figure 2 displays the filters utilised in the 'data collection project'. The selection of filtering criteria and parameters is employed to derive the exact number of homestay listings in the region. The share of all four types of accommodation: Hotel, Guesthouse, Apartment and Homestay vary in every state. Regarding the 1873 listings on Airbnb in northeast India, hotels continue to be the most popular kind of lodging,

totalling 614 (32.78%) of the places, whereas 187 (9.98%) are guest houses, 273 (14.57%) are apartments, and 568 (30.32%) are homestays.

The authors applied the 'I am flexible' date and pricing filter criteria to work on the higher number of listings. Among the available type of accommodations, home and residence are the ones that accurately represents sharing economy (Mody et al., 2017). Hence 'Home' and 'Apartment' filters are applied to the kind of stay category to avoid the hotels and guesthouse listings on Airbnb. The data collection project lasted from August 1<sup>st</sup> to 15<sup>th</sup>, 2022. After employing the data collection process shown in Figure 2, the authors collected 2,181 consumer reviews linked to 165 postings.

Further, the authors removed listings with zero comments and ratings and overlapping listings in multiple regions from the data. There were 2,001 reviews of 106 homestay accommodations left when the procedure was complete. In the collected data of 106 homestay accommodations, Arunachal Pradesh (8.70%), Manipur (7.90%), Meghalaya (25.73%), Mizoram (1.82%), Nagaland (15.64%), Sikkim (38.34%), and Tripura (1.87%) was the geographical location of the Airbnb properties. Hence, they are considered targeted tourism areas for conducted research.

## QUALITATIVE ANALYSIS AND FINDINGS

### Sentiment Analysis

Sentiment analysis defines attitudes and emotions in texts using natural language processing to quantify personal information effectively. It identifies users' opinions and extracts four types of mind sets: positive, negative, neutral, and not sure from the inserted data sets (Farhadloo & Rolland, 2016). Sentiment analysis is a profound electronic method to retrieve emotion from the textual content, Twitter posts, and web 2.0 applications, enabling users to share their opinions about services they have been using. We can evaluate a significant quantity of information and generate views that potentially assist consumers and businesses in accomplishing their objectives. Due to such characteristics, sentiment analysis implies fields such as business, sociology, and information technology (Septia Irawan et al., 2022).

In sentiment analysis' initial stages, categorical segmentation only classified thoughts or reviews as either favourable or unfavourable. However, NVivo 12 now supports the extraction of up to 4 feelings, as seen

in Figure 3 (Ali, 2020; Kharde & Sonawane, 2016). The authors conducted a sentiment analysis using NVivo 12 Plus to determine consumers' attitude patterns toward homestay accommodation (Refer to Figure 3). NVivo sentiment analysis works on expressions of sentiments in the content inserted with data sets.

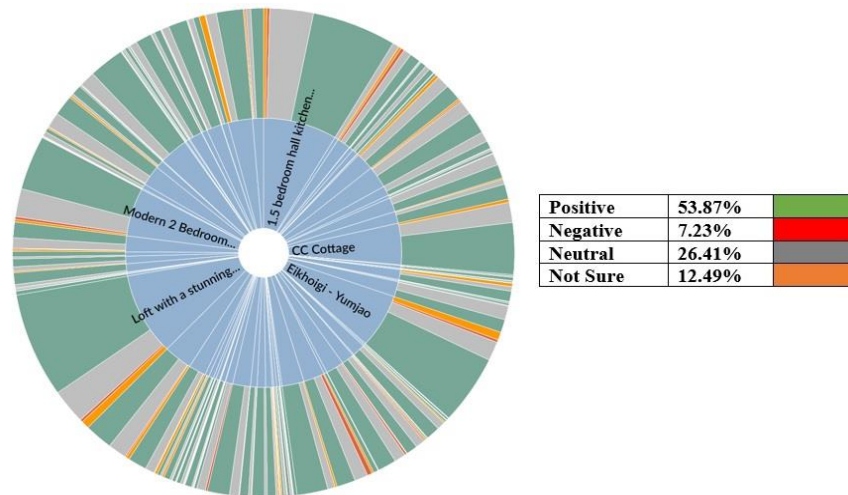


Figure 3. *Sentiment Analysis*

In this study, authors have taken out individual sentiments and collectively presented them in four types of attitude nodes: Positive, Negative, Neutral, and Not sure. As per Figure 3, 53.87% of consumers show a positive attitude, and 7.23% show a negative attitude towards sharing economy offerings. In comparison, 26.41% are neutral, and 12.49% are unsure how they feel about DSE offerings through applications like Airbnb. Here, the higher proportion of positive attitudes calls for identifying whether there lies any adoption pattern towards DSE offerings through online platforms (Applications).

### Thematic Analysis

After conducting sentiment analysis, the authors conducted a thematic analysis to identify the themes of similar traits that formed consumers' positive attitudes towards a DSE offering. Laurence (2016) states that thematic analysis is a collection of methods used to derive a set of guidelines and explanatory goals from the information or by evaluating conversations and subsequently enables a thorough comprehension. Any piece of data can be categorised using thematic analysis by converting its features into essential themes that allow it to compare with several relevant criteria. Thanks to thematic analysis, investigators can now go above just counting clear-cut phrases or sentences (Ritchie & Jiang, 2019).

Table 7. Coded Themes

Theme	Associated Files	Associated References	Review Example
City	22	30	'Mr X is a good host. Location is around 7-8 kms from the main Gangtok city, the best part being close to the various sightseeing points. Thank you for your kind hospitality.'
View	31	42	'Its a pleasant and clean home stay with a beautiful view. Ideal for laidback holiday, away from city congestion and pollution. The host is very warm and food tastes good'
Location	37	49	'A very good and peaceful location with the best value for money!'
Place	64	138	'The place is really clean, spacious, and homely, and in a quiet neighbourhood. The hosts are really kind. I'd definitely recommend without hesitation.'
Experience	40	66	'It was an amazing experience staying at your place. The rooms were comfortable and cosy. Thank you for all your help and assistance. Hope to come back soon!!!'
Host	51	86	'Beautiful decorated and spacious house. A whole list of amenities. Top end interior and finishing. Quaintly located. Great hosts. And amazing people. All in all, Baraang House assures you of a brilliant stay in Gangtok.'
Time	29	38	'Lovely place and great, thoughtful hosts! They were in touch from the time of booking and we're very forthcoming with any relevant details. Would love to book once again!'
Road	19	28	'awesome stay, host is very nice.it is just in 15 min walk from MG road. pubs are also nearby. recommended to those who are looking for nice home stay'
Walking	25	38	'Great place to stay. local taxi stand is just few steps away which can take you to MG market in 2 minutes or if you prefer walking then it's 15 mins walk. Hosts are cool and they provide can services also if you need it.'
Room	38	57	'Had a pleasant stay. The room was spacious, very clean, with all amenities. Would like to visit once again.'
Water	24	30	'Good place but we had to face water supply issues'
Kitchen	20	28	'Very nice and clean place. Not far away from MG road. Very good hospitality. Very good kitchenette with microwave, hot plate, electric kettle, refrigerator. Definitely value for money.'
Area	26	36	'The place is really good. It is in development area about 10mins walking from MG Marg. The host is very courteous and responsive. Had an amazing stay at his place.'
Comfortable	25	32	'Really luxurious, peaceful and comfortable stay with great amenities. must go for it.'
Stay	62	112	'Amazing stay experience. Much Recommended!!!'
Local	35	55	'Awesome hospitality and continuous support for local activities. Definitely a place to stay.'
Taxi	28	41	'Very comfortable stay. Close to taxi-stand.'
Food	39	62	'good place ... value for money and tasty food'
Home	24	34	'It was home away from home. Located at a prime spot. Only issue was parking. But above all the host were amazing. Local food from the owner's kitchen was excellent. Overall a big recommendation.'

In thematic analysis, the analytical components are coupled with information findings to produce a theme, and the created theme explains most of the information. Here, general industry knowledge is required to show the connections among the many data sets collected from various categories of individuals (Alhojailan & Ibrahim, 2012). The thematic analysis provides display subjects and graphical frameworks similar to the virtual environment and connections (Walters, 2016). The creation of themes in thematic analysis depends less on constantly originating from quantitative methods and more on whether it generates something pertinent to the broader story (Vaismoradi et al., 2013).

A theme collects several data points that make up the study's findings. The first step in the thematic analysis is creating a unique data set for each sample. Secondly, comments are coded using NVivo 12 Plus by creating nodes (Variable) for each reference (Review Comment) in the collected information. Every node/ theme symbolises a subject, thought, notion, viewpoint, or emotion. Thirdly, the resulting encoded nodes are presented in a table format (Refer to Table 7).

In Table 7, associated files and associated references represent the number of homestays and the number of reviews that form an individual theme. The themes' names are assigned using the 'Auto Code' function of NVivo 12 Plus. While conducting thematic analysis, diverse themes might call for adopting codes that might be inappropriate to represent the themes accurately. The thematic analysis ends with a summary of the thematic network. The thematic network is critical to developing constructs from generating initial codes, searching for an initial theme, and reviewing the initial theme to form a revised theme. These constructs unveil the adoption patterns underlying visitors' preferred attributes while choosing a sharing economy-based offering (Braun & Clarke, 2006). Hence, in the fourth stage of the thematic analysis, the authors evaluate the number of associated references and files to understand the impact frequency associated with each theme. The initial themes are either identified as constructs of the adopted theories and models or considered as discrete variables.

### **Cluster Analysis**

The phrase 'cluster analyses relate to an experimental and explanatory analytical method that divides variables extracted in thematic analysis into data clusters with a higher degree of similarity than occurrences beyond the cluster (Uprichard, 2009). Cluster analysis is a technique that can give scholars cross-validation to find a trustworthy information pattern

(Uprichard, 2009). By combining nodes (themes) with identical phrases, comparable property data, or identical scripting, the software tool NVivo 12 can perform cluster analysis to identify trends (Bazeley, 2002). According to Bazeley (2002), evaluating findings is a crucial benefit of performing a cluster analysis based on nodes' correlation. The resulting network diagram in NVivo is the average correlation among nodes. It is determined using the Pearson correlation coefficient (-1 = least similar, 1 = most similar) upon commonalities in the recurrence distribution (Bazeley, 2002). Cluster analysis was used in the current research to arrange themes into comparable clusters. Individual clusters represent the frequency and characteristics of an event in a particular node.

Cluster analysis focuses on information compression to perform data mining in the conducted research. After identifying themes as supporting variables to the UTAUT2 framework, the authors perform cluster analysis to categorise variables into unique clusters (Constructs). First, the authors eliminate the nodes that produce redundant data for the investigation to strengthen the accuracy of data. For example, the authors eliminated the 'Great Place' node due to its small number of references and associated files and repetitive inclusion as a child node in the 'Place' theme. Further, the study utilises cluster analyses to tribe themes into uniform groupings (Refer to Figure 4).

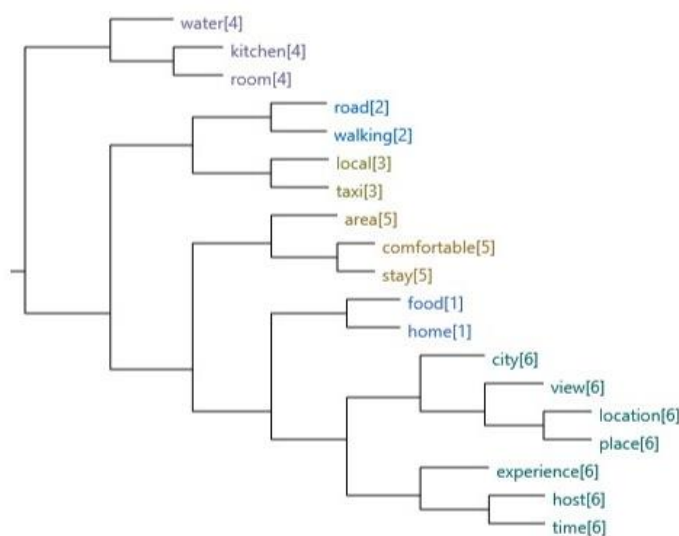


Figure 4. *Cluster Analysis – Theme Grouping*

As seen in Figure 4, to derive the number of factors that can adopt the available themes, the authors did a cluster analysis of the remaining 19 themes and used the 'Number of Clusters' feature of NVivo to divide 19 available themes into 6 clusters. Further, with the assistance of past

literature, authors adopted each cluster into the ideal factor of the UTAUT2. The study categorised 19 themes into six constructs, 'Performance Expectancy', 'Effort Expectancy', 'Facilitating Condition', 'Social Influence', 'Price Value' and 'Habit'.

## DISCUSSION

Conducted research aims to provide industry insights regarding variable selection for each customer's needs and desires towards DSE offerings like homestay accommodation. The website reviews that customers gave after utilising the services are the starting point for this study. By measuring consumer experience, the study attempts to design a symmetrical adoption pattern. Working backwards from the highest classification (the widest) to the first class of variables, the authors develop SAP by answering six research questions. Initially, sentiment analysis of NVivo 12 Plus was employed to verify the collective positive polarisation of gathered reviews among four attitude nodes: positive, negative, neutral, and unsure. Then, the thematic analysis generated 19 themes that the study adopted as distinct variables of the UTAUT2 framework. Lastly, the study utilised the cluster analysis method of NVivo 12 Plus to arrange themes in a logical structure (Refer to Figure 5).

As appeared in Table 7, the analysis revealed that the theme "place" emerged as the most frequently mentioned and influential variable influencing consumer adoption intention. Terms like "market," "spacious," "organized," "food," and "nearby" were associated with this variable. Positive sentiments such as "amazing," "decent," "ideal," "brilliant," and "recommend" were prevalent, while terms like "beautiful" and "perfect" referred to perceptual qualities and perceptions associated with the variable. The themes "home," "stay," "location," "room," "local," and "place" were connected to adjectives like "unique," "comfortable," and "pleasant." Additionally, terms like "host" and "hostess" were frequently mentioned, indicating the importance of homeowners in the discussions.

The findings of this study align with previous research, which highlighted the significance of factors like cleanliness, location, home environment, hosts, neighbourhood, and recommendations in digital consumer evaluations (Cheng & Jin, 2019; Ding et al., 2020; Guttentag & Smith, 2017; Ju et al., 2019; Li et al., 2019; Luo & Tang, 2019; Sainaghi, 2020; Tussyadiah & Pesonen, 2016; von Hoffen et al., 2018). Additionally, the findings of this study also align with the UTAUT2 (Unified Theory of Acceptance and Use of Technology 2) framework, as the identified themes

can be utilized as variables for the UTAUT2 factors. The UTAUT2 model includes constructs such as performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, and price value, which collectively influence users' adoption intention.

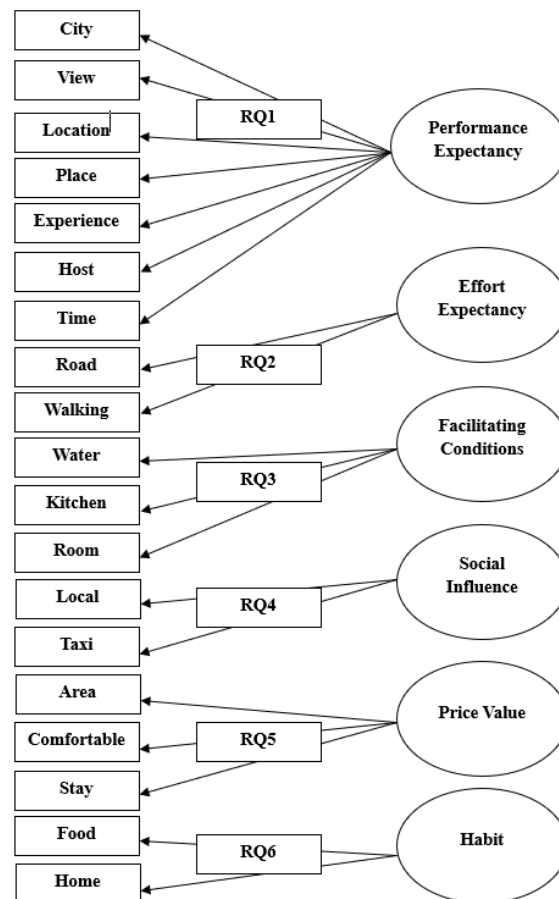


Figure 5. *Research Model*

The identified themes, such as "place," "home," "stay," "location," "room," "local," and "host," correspond to these UTAUT2 factors. For example, the theme "place" relates to performance expectancy, indicating that consumers' adoption intention is influenced by the perceived performance or quality of the accommodation. Similarly, the themes "home" and "stay" align with hedonic motivation, as they reflect the desire for a unique and pleasant experience during the stay. Furthermore, the themes related to the host, such as "host" and "hostess," align with the social influence factor, indicating that consumers' adoption intention can be influenced by the interactions and recommendations from the host. Additionally, the themes related to location, cleanliness, and neighbourhood align with facilitating conditions, as they represent factors



that make the adoption of homestay accommodations easier and more convenient.

Overall, the identified themes can be seen as variables that capture the essence of the UTAUT2 factors and contribute to understanding consumers' adoption intention in the context of homestay accommodations. By incorporating these themes as variables in the UTAUT2 model, researchers and industry practitioners can gain a comprehensive understanding of the factors that influence users' adoption intention and make informed decisions based on these findings.

Moreover, the symmetrical adoption pattern enhances the resource allocation process for MSMEs in Asia by providing a systematic approach to variable selection. It assists industry practitioners in making well-informed decisions by considering the specific objectives of their businesses. By incorporating this methodology, MSMEs can allocate their resources more effectively, ensuring that investments are focused on variables that are most relevant to their desired outcomes and target market.

### **THEORETICAL AND PRACTICAL IMPLICATIONS**

From a theoretical perspective, we list themes adopted into the UTAUT2 construct that can be assessed, matched, and further evolved in potential experiments. This research adds to the industrial and academic discussions on the novel types of tourist consumption by investigating a validation for the subjective variables of homestay accommodation through SAP. The study looks into one necessary step of the procedure associated with the visitors' encounters. It will broaden the understanding of which variables are appropriate in consumer feedback and which elements homeowners can ask consumers to rate throughout and after the visit. The findings can be a valuable source of information for subsequent investigations of UTAUT2-associated theories.

The study draws practical ramifications for homeowners to fully comprehend and enhance their rankings. The study concludes that it is helpful for homeowners to acknowledge and strengthen their pages and broaden their awareness by concentrating on the most pertinent theme for the consumers. Such implications can assist entrepreneurs and marketers in gaining a competitive advantage over their rivals. The predicted enhancement in the standard of the offering, which emerges from benchmarking amongst competitors, is a practical application of the

research's findings. This study also concludes that Airbnb's homeowners may utilise the highest-valued themes as a rating criterion; it provides a chance for homestay to be rated by explicit user opinions.

Additionally, this research simplifies the individual part of hosts, mobile applications, communities, and consumers in this equilibrium. It is due to the interaction between owners and guests throughout a vacation trip, which enhances travellers' leisure activity. The study concludes that industry practitioners must regularly analyse consumer reviews through SAP to improve the service in DSE. Along with industry practices, the outcomes can assist in designing and guiding regional government initiatives related to tourist development and urban city planning. This discovery points to a hole in the ease of availing particular experiences and accommodations northeast India offers. The study concludes that a large portion (7.23% Negative, 26.41% Neutral, 12.49% Unsure) of tourists that travelled to northeast India were not at ease with the service they opted for, which can subsequently impact sharing their experiences with the rest of the world. It significantly affects the techniques that let users engage with the regional way of life and have authentic experiences. The authors conclude that enjoying native life is vital to Airbnb customers in northeast India. It is essential to mention that view from the room, nearby tourism experiences, and transportation availability at a homestay significantly impact consumer adoption.

In addition, the objectives of this research paper were successfully achieved through a comprehensive study of the adoption patterns of sharing economy applications, specifically focusing on Airbnb services in northeast India. Firstly, Objective 1 was accomplished by gaining an understanding of the travellers' adoption patterns of digital sharing economy offerings at popular tourist destinations in the region. Objective 2 was fulfilled by assessing the relevance of the UTAUT2 factors in influencing the symmetrical adoption pattern observed. Lastly, Objective 3 was met by identifying ideal variables for each UTAUT2 construct, which measured consumers' adoption intentions. The study concluded that the adoption of a symmetrical pattern of UTAUT2 constructs can provide valuable insights for the tourism industry, aiding in the development of targeted interventions to improve the adoption of sharing economy mobile apps. The research paper's contribution lies in expanding the understanding of DSE application adoption, presenting a symmetrical pattern in the UTAUT2 model, and providing variable selection methods for each construct. The integration of qualitative approaches, such as sentiment analysis, thematic analysis, and cluster analysis within Nvivo

software, offered a more comprehensive and nuanced understanding of consumer preferences, motivations, and perceptions. These findings empower industry practitioners to make informed decisions and enhance technology adoption rates in the tourism industry.

Further, to look at tourist management from an established hotel unit's perspective, an important aspect is to help top administrators get used to the fact that short-term home rentals are a conventional type of lodging service. The hosts must be regarded as 'tourist entrepreneurs' to establish the homestay segment as significant competition. This approach can assist in creating novel regulations like enhancing the service in terms of something material (type of residence perks) or immaterial (type of cultural connection).

### **LIMITATIONS AND SCOPE FOR FUTURE RESEARCH**

This study acknowledges certain limitations and suggests potential areas for future research. The study did not focus on Assam as the research area due to overlapping properties with other north-eastern Indian states. Additionally, the number of listings obtained may be a topic of interest for scholars to investigate the significance of chosen search parameters. Another limitation is the inability to gather visitor demographic data, which restricts the generalizability of the chosen sample beyond the sampled group in the Asian continent.

To further advance the field, future researchers are encouraged to explore SAP by conducting a comparative study between Airbnb and hotels, analysing commonalities and variations in rankings across different types of accommodations. They can also investigate the variations in the Airbnb service globally and in other parts of Asia, considering different societies and geographical areas. Furthermore, a qualitative analysis examining how homeowners rely on customer evaluations to identify future changes in their offerings could be conducted using interviews or focus groups. Additionally, a field study collecting relevant data on homestay listings in Assam could enable a comparative analysis of regional SAP. These avenues for future research would contribute to a deeper understanding of the subject matter and provide valuable insights for the industry.

## CONCLUSION

This research paper has contributed to the understanding of the adoption of digital sharing economy (DSE) applications, specifically focusing on the unique occurrences in the national and regional tourist activities of India's northeast region. By examining the characteristics of consumers' expectations of Airbnb services in northeast India, the authors have presented a symmetrical pattern of UTAUT2 constructs in adoption intention, expanding the current knowledge in this field.

The findings of this study have significant implications for the resource allocation decisions made by homestay accommodation organizations in their efforts to increase market share. The variable selection methodology developed for each construct within the UTAUT2 model provides valuable insights for enhancing adoption rates. While the relative contribution of each construct may vary depending on the context, identifying the ideal variable for each construct can offer valuable insights for specific settings or scenarios.

Knowing the precise variables that influence technology adoption can help identify the relative importance of these factors in driving adoption intention. This information can be utilized to develop targeted interventions aimed at improving specific variables and constructs, thereby increasing adoption rates. Furthermore, obtaining precise variables allows for comparisons with other studies conducted in different contexts or populations, enabling a better understanding of the generalizability of the findings.

In the tourism industry, the variable selection methodology for individual constructs within the UTAUT2 model can aid in identifying potential areas for improvement in the design and development of travel planning apps. This information can guide tourism organizations and app developers in enhancing features that improve user experience and incorporating social recommendations to drive adoption rates.

Moreover, the integration of qualitative approaches such as sentiment analysis, thematic analysis, and cluster analysis within the variable selection methodology represents a significant advancement in the field. By combining qualitative and quantitative methods, the proposed methodology offers a more comprehensive and nuanced understanding of consumer preferences, motivations, and perceptions related to technology adoption. This holistic approach overcomes the limitations of relying solely

on quantitative techniques, enabling industry practitioners to make more informed decisions and improve technology adoption rates.

The symmetrical adoption pattern (SAP) is not limited to the UTAUT2 model but can also be applied to extract insights on various aspects of consumer behaviour, such as preferences and sentiment towards specific amenities or locations. This information can be utilized by MSMEs, such as Airbnb hosts, to optimize their listings and increase sales. At the organizational level, platforms like Airbnb can develop machine learning algorithms based on SAP to create host assistance portals.

In conclusion, SAP provides a comprehensive approach to studying the tourism industry, particularly within the context of the sharing economy and platforms like Airbnb. The insights derived from SAP empower organizations to make informed decisions, improve their offerings, and better cater to the needs and preferences of their customers. Future research can further refine and explore this methodology to enhance its effectiveness and applicability across various domains.

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## ROBOTIC SOLUTIONS FOR THE CHALLENGES OF HUMAN LABOR: MANAGER PERSPECTIVE

Abdullah AKGÜN<sup>1</sup>

*Tourism Faculty, Akdeniz University, Antalya, Turkey*

ORCID: 0000-0001-9949-1417

### ABSTRACT

Managers have to endure some costs in order to develop human resources, which is one of the most significant providers of organizational performance. These costs are expenditures for human resources activities and customer dissatisfaction caused by work accidents and negative personnel behaviors. This study primarily aims to determine the expenditures made by the managers and the behavior of the employees that disturb the guests. Text mining methods is used to identify cost of human labor and employee behaviors referred to by managers' reviews, and association rules is used to find out common cost and behaviors in managers' reviews. The secondary aim of the study is to investigate the managers' intentions to employ robots to solve human-induced challenges. Contrary to the literature, managers believe that robots cannot contribute to the solution of these problems and they don't think to work with service robots.

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### INTRODUCTION

The quality of human labor is essential for the service quality and the customer satisfaction (Prentice et al., 2020), hence human resource issues continue to be forefront of global tourism's challenges. Customer satisfaction and perceptions of service quality are heavily dependent on frontline employee service delivery behaviors such as responsiveness, courtesy, keeping promises, and personal attentiveness (Bettencourt & Brown, 2003). Organizations have to pay for all the human resources activities (HRA) from the recruitment to retention of the personnel and for food, lodging, transportation and infirmity services offered to personnel (Meriç & Babur, 2020). Furthermore, the cost of the attitudes and behaviors

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<sup>1</sup>Address correspondence to Abdullah AKGÜN (PhD), Department of Tourism Management, Tourism Faculty, Akdeniz University, Antalya, Turkey. E-mail: [akgun@akdeniz.edu.tr](mailto:akgun@akdeniz.edu.tr)

by the personnel and the work accidents are lowering organizational performance.

Hotel management's struggles to promote service quality should be based on managing staff behavior (Awasthi et al., 2020) which is the basis of customer evaluation of service quality (Tsaur & Lin, 2004; Kattara et al., 2008; Choi et al., 2020). Hotel managers should empower the employees and take the necessary precautions to get rid of job stress, causing problems, for the quality of work in accommodation facilities. Even a qualified human labor cannot always keep up with the guest's queries and frivolous requests. Intense workload and the stress it generates can cause employees to exhibit some behaviors (Awasthi et al., 2020) that will cause service failures and reduce service quality (Kavurmacı & Demirdelen, 2015). These behaviors affect the guest satisfactions negatively (Kattara et al., 2008; Beatson et al., 2008). It is for this reason that managers require the employees to always comply with the courtesy rules, smile, and wants to fulfill with tolerance even requests or orders not pertain to their duties, in order to keep customer satisfaction at the highest level. Hospitality industry has solutions enabled artificial intelligence and machine learning (Bhushan, 2021) such as robots, chatbots, mobile apps and kiosks to prevent this adverse situation and increase services quality (Gursoy et al., 2019) and customer satisfaction (Mariani & Borghi, 2021).

Unlike human workers, artificial intelligence devices such as robots, chatbots, kiosks and mobile apps can provide the consistent standard of service in all conditions (Wirtz et al., 2018), with the precision, endless energy, and high skill levels (Li et al., 2019), free from human-specific behaviors (Wirtz et al., 2018). These devices can operate 24/7 hours (Kılıçhan & Yılmaz, 2020) without the concept of overtime, human problems, leaving the word of the management, getting tired and any objection (Ivanov & Webster, 2017). As a result of these features, hospitality companies have integrated these devices into hotel operations worldwide through strategies to simultaneously reduce cost (Li et al., 2019; Mariani & Borghi, 2021) and workload (Drexler & Beckman Lapré, 2019), and improve service quality (Belanche et al., 2021; Mariani & Borghi, 2021). Likewise, there has been a drastically increase in tourism research on artificial intelligence and robotics. However, previous empirical studies have focused on guests' perceptions (Yu, 2020; Prentice et al., 2020; Belanche et al., 2021) and their reactions to interactions (Gursoy et al., 2019; Mariani & Borghi, 2021; Ayyildiz et al., 2022), and studies remain lacking on manager's opinion about robotic recruitment (Ivkov et al., 2020).

Guests complain often about staff with their unacceptable attitude, insufficient foreign language proficiency and a lack of hotel knowledge (Choi et al., 2020). Frontline managers have to solve human-related problems and guest complaints. In addition, they are responsible to carry out various human resources activities in order to have a quality human resources. Therefore, the opinions of decision makers staff about robot employment are important. Successful implementation of robotic technologies is not possible without considering the benefits and needs from both employees (Vatan & Dogan, 2021) and managers (Ivanov et al., 2020; Chi et al., 2020). However, apart from a few (Dogan & Vatan, 2019; Ivanov et al., 2020; Pizam, et al., 2022), studies haven't focused on what supervisors and decision makers think. This study emphasizes the importance of the manager's opinion for robot employment, is valuable with this feature and fills the gap in the literature. So that, it was carried out to get the opinions of hotel managers who are personally responsible for the usage of robots and offer them to the customers.

The main question of the study is "Do cost and fault of human labor lead to hotel managers to hire robotic technologies?". The study first determines what investments hotel managers make in their employees to increase service quality and reveals unintentional employee behaviors that negatively affect customer satisfaction. Then to reveal the answer to the question and to determine how far the managers are from robotic solutions in order to reduce personnel expenditure and customer dissatisfaction as a result of personnel behavior, in-depth interviews were preferred instead of quantitative research. Thus, every manager was given the opportunity to convey every expenditure s/he made and any employee-related problem.

## LITERATURE REVIEW

### **Challenges Caused by Human Labor**

The services which are the main output of hospitality organizations are produced and consumed simultaneously, usually at the location of service providers (Kusluvan et al., 2010). Employees provide the services in person at the same place where they have direct and intangible relationships with consumers (Madera et al., 2017; Prentice et al., 2020). The customer evaluates the service on dimensions such as civility, concern, understanding, and listening demonstrated by the staff (Tsaour & Lin, 2004). The person providing the service essentially ensures that the guest is satisfied, revisits (Meriç & Babur, 2020) and recommends the facilities to others and determines whether tourists will have a total experience

(Beatson et al., 2008; Darsana & Sudjana, 2022). The quality of tourists' experiences and perceptions in a hotel is highly depending on staff professionalism (Aynalem et al., 2016; Awasthi et al., 2020).

Human assets, which are vital for the organizations and viewed as valuable and strategic assets (Baum, 2015; Wirtz et al., 2018), are invested in and developed rather than costs to be controlled (Kusluvan et al., 2010; Awasthi et al., 2020). Because, human assets, including employee personality, knowledge, experience, skills, ability, attitudes, and customer-oriented behaviors in hospitality organizations are critical for service quality (Tsaur & Lin, 2004), customer satisfaction and loyalty, organizational performance, and competitive advantage (Wirtz & Jerger, 2016; Darsana & Sudjana, 2022). The existence the pool of unemployed, easily replaceable and low-skilled employees, the competitive pressure on organizations, deficient methodology of studies, lack of unionization, small profit margins and high costs, unprofessional managers and owners, unstable and insufficient demand, seasonality, workforce turnover rate, low cost–low price business strategies and tourism graduates choosing a job in another field cause difficulties for organizations to have quality employees (Kusluvan et al., 2010). Organizations apply some HRA to ensure the effective and efficient use of human labor to accomplish organizational goals (Tiwari et al., 2019). Recruitment and selection, training and development, orientation, empowerment, reducing job stress, motivation, compensation and benefits, performance appraisals, and terminations are some of these activities (Armstrong, 2010; Wirtz & Jerger, 2016; Madera et al., 2017).

The crucial issue is not to having better HRM procedures, it is how they are implemented and ownership of implementation by frontline managers. The role of frontline managers is vital in the way they enact and implement policies, show leadership in dealing with staff and in exercising control come through (Armstrong, 2010; Madera et al., 2017). Manager, demonstrating authoritarian, hierarchical and autocratic and command and control-based styles of management effect negatively the employee (Meriç & Babur, 2020). Being exposed to behaviors that do not comply with business ethics and morals, such as mobbing, psychological, and physical violence, sexual harassment, slander, distract the employee from the organizational goals (Poulston, 2009). No matter how qualified the employees are, it is not possible for them to be successful and positively affect the performance of the organization under mismanagement (Awasthi et al., 2020). However, tourism is suffering from the leadership, innovating, inspiring, motivating, and leading others to perform, and following the

rapidly changing technologies and new disciplines (Baum, 2015). Human labor managed poorly is a threat to be considered for service delivery systems, profitability, and income generally (Poulston, 2009).

In order to have qualified employees, the one of the first HRA is recruitment and selection systems the right staff which enhance the firm performance (Wirtz & Jerger, 2016; Madera et al., 2017). The lack of qualified staff, which is the biggest need of the tourism industry, is increasing day by day in parallel with the increasing bed capacity. Organizations need employees who speak at least one foreign language, well-trained and skilled in the field of tourism (Aynalem et al., 2016), have adequate service capability (Tsaur & Lin, 2004), and whose personality is suitable for working in the sector (Wirtz & Jerger, 2016). To be sustainable, tourism must have personnel with high qualifications and tendency or predisposition to meet customer needs (Darsana & Sudjana, 2022). However, especially during the peak seasons, most of tourism and hospitality organizations employ unskilled and untrained labor such as intern students and seasonal workers to meet the high demand for their services and also for a cost-reduction strategy (Kusluvan et al., 2010). This causes businesses to have less qualified workforce and not to provide the same quality and trouble-free service which leads a lack of qualifications in the hospitality sectors.

Hotel managers conduct HRA to ensure for excellent and prompt service delivery system based on human assets which is arguably the most prominent assets of the organization (Wirtz et al., 2018). However, the working conditions of the tourism sector such as unstable employment, long antisocial working hours, low job status and low pay practices make established service delivery system difficult to be sustainable. Sector working conditions consequence the difficulty of recruiting suitable staff and high staff turnover (Aynalem et al., 2016) which destroy the service delivery system. Managers have to make more effort to empower the staff to keep the system running (Awasthi et al., 2020). Proper orientation and periodic training, acquainting employees with work roles and job-related tasks can provide such benefits as service quality, superior employee productivity, employee performance, job satisfaction and intention to remain in the organization (Kusluvan et al., 2010). Additionally, reward systems (Awasthi et al., 2020), training, and development strategies enhance firm performance (Madera et al., 2017).

In addition to the salaries and overtime wages they pay for their employees and their insurance premiums, organizations spend on food,

service for transportation, infirmary for health services and lodging for accommodation (Meriç & Babur, 2020). If the accommodation, transportation, food, and medical services supplied are in demotivating conditions (poor quality, irregular, sloppy), it may convey the message that employees are not cared for or valued (Kusluvan et al., 2010). Employees should be satisfied and motivated with the organization's HRA and their employment conditions to deliver more qualified service and satisfy customers (Tsaur & Lin, 2004; Kusluvan et al., 2010; Díaz-Carrión et al., 2020). Satisfied and motivated employee behave more positively (Meriç & Babur, 2020; Awasthi et al., 2020), provide higher service, and promote more satisfying customer relationships (Wirtz & Jerger, 2016).

As tourism is people intensive industry, managers are likely to deal with concerns such as absenteeism, some disciplinary issues, poor timekeeping, underperformance, and negative behavior (Armstrong, 2010). Employees may claim that they are unwell the day before and cannot attend, so finding the replacement can be pretty hard (Poulston, 2009). They can cause some disciplinary issues and unethical behaviors while they are doing their jobs, also in their social life. They may not manage time well and perform well below their abilities, causing service failures. With job stressors such as job characteristics, interpersonal relationships, heavy workload, job insecurity, and lack of career development (Kusluvan et al., 2010) and the tremendous outrageous demands of visitors (Poulston, 2009), unnecessary dissatisfaction and constant expectations of special attention strain the limits of tolerance of the employees (Awasthi et al., 2020). These cause even the highest quality, calmest, most educated employee to behave in a way that negatively affect service quality and guest satisfaction (Armstrong, 2010). In fact, especially in the hotel organizations, where many people start to work with enjoy, the lack of proper arrangement of the working area, unstimulating work, lack of leave, staff shortage cause boredom and fatigue over time (Meriç & Babur, 2020). If employees feel tricked, they will exhibit conscious actions such as stealing and loafing, as well as sudden and uncontrollable responses such as anger and impatience (Poulston, 2009).

One of the difficulties that the hotel management has to deal with is work accidents causing service failures which must be recovered by the management. While the employee is affected by workplace accidents in another sector, both the employee and the guest can be affected in the tourism sector. Poor physical environment, fatigue as a result of long and tiring working hours (Meriç & Babur, 2020), insufficient training of the employee, and inattention and carelessness based on different reasons can



cause accidents (Akkus et al., 2022) involving the guests during the service. Sometimes, accidents that only affect employees such as slips, falls, electric shocks, breakdowns of devices, poisoning, incision, and even death (Kavurmacı & Demirdelen, 2015), do not cause any physical harm to the guest, but reduce the quality of the service. Even if the guest does not get involved in the accident, the service s/he receives may decline its quality, the employee may be disabled, the preparation of a new service or product will take time, causing the service' quality to deteriorate. Therefore, the guest involved in the accident (for example, something spilled on her or him) will be physically bothered, and even if s/he is not involved in the accident, s/he will be unhappy because the service will be late (Akkus et al., 2022), which is a great loss for the organizations. So that organizations must provide essential expenditures in occupational health and safety (Armstrong, 2010; Kavurmacı & Demirdelen, 2015).

A robot is an employee who does not need human-like family support, accommodation, rest, moral support, and food, and does not have the characteristics such as anger, fatigue, carelessness, forgetfulness, stress, and being affected by mobbing. Robots don't require any additional cost, such as salary, bonus, insurance, and overtime pay, apart from purchase and the repair cost in case it breaks down. Furthermore, the training, orientation, socialization, motivation of the personnel recruited every season cause time loss and sometimes money loss for the organizations. The robot, on the other hand, does not have features such as quitting the job, disliking the job, striking, objecting, gossiping, and it never needs motivation or socialization and training, other than the training given at purchase (or the downloaded program), unless there is a change in products and services. In this case, employing robot workers instead of humans or supporting humans in performing routine (Çilingir Ük et al., 2023), boring or dirty work that people do not prefer (Ivanov et al., 2020), can be a profitable choice for the organizations.

### **Robotic Solutions for humanitarian problems**

Humans provide services in the tourist sector, which can lead to conflicts between individuals in commercial relationships. The workload, irregular working hours, employee and guest behaviors, and long working hours cause these problems (Kavurmacı & Demirdelen, 2015). These problems should be eliminated or at least reduced to an acceptable level in order not to harm the service quality and thus customer loyalty and satisfaction. However, the solution of these problems becomes difficult due to tourism

business and employment conditions such as seasonality, excessive hours of work and low-paid labor.

Kusluvan et al. (2010) suggests for mitigating job stress, which influences employees' job satisfaction, work performance and turnover, some HRA such as reducing work overload, ensuring job security, forging long-term employment relationships, complementing the core staff, and interfering with employees' non-work responsibilities. However, by employment of the robotic technologies, organizations can finish the problems caused by job security and employees' non-work responsibilities, as well as minimize work overload and complement the core staff (Carvalho et al., 2022). One of the most effective and easiest ways to do these operations is to incorporate new technologies into business processes (Kala, 2022). The tourism organizations have already partially or completely run robotic technologies for operations (Çilingir Ük et al., 2023), marketing's and finances' functions and human resources (Manthiou et al., 2021). Usage of robotic technologies have increased because of strong competition, the need for greater productivity and efficiency, and a shortage of manpower as well as changing guest expectations (Manthiou et al., 2021; Gupta et al., 2022).

Some of robotic technologies are physically present and embodied in the user's space like robots and kiosks and some are not physically present and are only digitally embodied like chatbots, virtual agents and mobile apps (Tung & Law, 2017; Wirtz et al., 2018; McCartney & McCartney, 2020). Both software based (non-physically) and hardware based robots (physically) (Belanche et al., 2020) are adopted for hospitality companies to increase productivity (Yu, 2020; Ivanov & Webster, 2020) and profitability, decrease labor costs and the workload of employees, improve the quality of operations, and provide cheerful experiences (Gupta et al., 2022) and high-tech entertainment (Drexler & Beckman Lapré, 2019; Lukanova & Ilieva, 2019). However, employment of robotics devices is now being debated (Li et al., 2019; Ivanov & Webster, 2020; Manthiou et al., 2021; Carvalho et al., 2022) in terms of whether they are a threat to jobs substituting employees with (Ivanov & Webster, 2017; Li et al., 2019; Koo et al, 2021) or serve as a positive social-change agent contributing to the more comfortable and more efficient execution of daily operations (Kılıçhan & Yılmaz, 2020; McCartney & McCartney, 2020). This study advocates that robots will offer removing burden from staff and service improvements, instead of replacing human employees (Carvalho et al., 2022).

Robotic devices can work with humans, enhancing the employees (Ivanov & Webster, 2017) and customer experiences (McCartney & McCartney, 2020; Prentice et al., 2020; Knani et al., 2022; Gupta et al., 2022), and remove some of the dirty, dull, dangerous (Ivanov et al., 2020) and timeless tasks from the humans. Therefore, lowering labor costs is not to mean laying off workers completely, it is enabling human laborers to do more work with less human labor (Webster & Ivanov, 2020). The complement of human task by robots and artificial intelligence decreases the cost of training of employee, salary, food, insurance and other expenditure pertain to have qualified human assets. Furthermore, robots and software can be produced faster than humans can reproduce and support human to work faster (Webster & Ivanov, 2020) and with fewer errors in the workplace (Bhushan, 2021; Ayyildiz et al., 2022). One more feature of these devices is that they don't need human requirements such as sleeping, resting, being motivated, being rewarded. Additionally, these robotic technologies have some features that make manager' life much simpler, which are not going on strikes, discriminating employees or customers, spreading rumors, showing negative emotions, asking for pay increases, getting ill, shirking from work (Webster & Ivanov, 2020), quitting their job without notice (Ivanov, 2019), theft at sales points and causing revenue loss (Kılıçhan & Yılmaz, 2020) etc.

Those who work in low-skilled, low-paid jobs that do not require qualified personnel, especially in housekeeping and food and beverage departments, are less educated, receive little training, are not empowered, earn little, and have a lack of motivation and engagement (Wirtz & Jerger 2016; Manthiou et al., 2021), however, occupational accidents and undesirable behaviors have negatively impact on guest satisfaction. One of the biggest challenges of hospitality companies is the training of staff, coming from the labor pool, and moreover, they turn over the job due to seasonality or other personal reasons (Poulston, 2009). Robots, working in the same jobs, are sufficiently trained and skilled enough not to interrupt the service. The training of robots, either through updating coded knowledge or through machine learning, is not the same as humans (Wirtz et al., 2018). Robotic technologies' scope could be expanded with hardware and software upgrades. By installing new software, for example, a kiosk can be used for another purpose (Ivanov, 2019). A robot can share information and experiences with the other robots on the network (Tung & Law, 2017). Moreover, by hiring the robotics, tourism and hospitality companies don't need to train employees, which takes both money and time (Ivanov, 2019).

Tourists, who are accustomed to the speed of technology and the smooth operation of their transactions, wait for the same speed and transactions in check-in, payment, order, and check-out transactions for their holidays (Gupta et al., 2022). Robotic technologies help customers to receive information about the hotel activities (Dogan & Vatan, 2019; Pizam et al., 2022) and destination (Touni & Magdy, 2020; Belanche et al., 2020) faster than employees' promptness in response to their requests (Prentice et al., 2020; Gupta et al., 2022). So, they help to reduce waiting times (Yu, 2020; Belanche et al., 2021) especially for guests who want quick access to information (Belanche et al., 2020), and don't want to waste time by contacting an officer and waiting for him to do their transactions (Lukanova & Ilieva, 2019). For hotels, efficiency and effectiveness of services and operations performed by staff are measured by the time (Dogan & Vatan, 2019) needed to execute them (Tussyadiah & Park, 2018) and by the results of guest's experience (McCartney & McCartney, 2020). Robotic technologies develop efficiency and effectiveness (Carvalho et al., 2020; Çilingir Ük et al., 2023) by reducing service failures (Ivanov, 2019; Vatan & Dogan, 2021) and labor costs (Ivanov & Webster, 2017), removing linguistic barriers (Lukanova & Ilieva, 2019), bringing entertainment (Lin et al., 2019) and enjoyment for guests (Li et al., 2019; Wirtz et al., 2018), enhancing the productivity of humans (McCartney & McCartney, 2020; Knani et al., 2022), increasing customer choice and convenience (Lukanova & Ilieva, 2019), reducing waiting times and making the service delivery system funny (Lin et al., 2019) and entertaining (Ivanov, 2019) which may be likely to increase service quality (Bhushan, 2021) and indirectly ensure customer satisfaction and loyalty (Kılıçhan & Yılmaz, 2020; Gupta et al., 2022).

Employees in tourism industry suffer from workload, long and tiring working hours, stress, guest behavior and requests, seasonality, shifts, routine, and boring tasks. Robotic devices can operate 24/7 and serve numerous customers simultaneously (Ivanov & Webster, 2017) and as a multilingual application can serve customers from different nationalities (Ivanov, 2019; Lukanova & Ilieva, 2019). These help the organizations to serve when customers need help and information regardless of time and guest behaviors, which contributes to reducing the staff workload (Lukanova & Ilieva, 2019; Gursoy et al., 2019; Vatan & Dogan, 2021). Besides, deploying robotic technologies in night shifts, where many people are reluctant to work create a workforce, working 24/7 (Kılıçhan & Yılmaz, 2020), thus improve productivity as well (Ivanov, 2019). Robotic devices can be worked for the labor, entailing long hours and unsafe/unhygienic conditions, since they do not yet have human rights (Ivanov & Webster,

2017). While doing all this activities, they don't get ill, complain, strike, shirk from work (Ivanov, 2019), forget (Ivanov & Webster, 2017), exhibit mood swings, make mistakes (Murphy et al. 2017), have biases (e.g. by ethnic group, age, gender, and social status) (Wirtz et al., 2018), and thus they increase service capacity of hospitality companies (Ivanov, 2019; Ivanov & Webster, 2020).

Employees of the guest relations department are in constant communication with the guests to conduct surveys, announce all activities to be carried out inside and outside the facility, provide information, and follow up on complaints. Employees have to be friendly to every visitor, answer their questions sincerely, not get tired and answer simultaneously with the questions. Here the robots perform these task thousands of times without complaints (Vatan & Dogan, 2021) and without forgetting to do it (Ivanov & Webster, 2017; Carvalho et al., 2022). Robotic devices communicate with customers in different languages (Ivanov & Webster, 2017; Çilingir Ük, 2023). It allows companies communicate with more customers in more languages (Ivanov, 2019). Tourists use these devices to obtain information pertain to hotel and destination (Dogan & Vatan, 2019), solve doubts, and find objects or locations (Melián-González et al., 2021) due to more consistent service delivery (Gursoy et al., 2019; Carvalho et al., 2022; Ayyildiz et al., 2022; Çilingir Ük et al., 2023) with more potential for leading or correct information (Manthiou et al., 2021). Concierge robots, significantly related to both customer satisfaction and loyalty (Prentice et al., 2020), help guests to check-in, provide information about hotel facilities and services, dining facilities, weather forecasts, destination's attractions and more (Tussyadiah & Park, 2018). The artificially intelligent concierge robots learn about guests and their requirements, and extend their knowledge with every interaction with guests, then they provide more complete and more accurate information (Lukanova & Ilieva, 2019).

To summarize, robotic technologies assist employees to complete tasks as quickly as possible, such as check-in and check-out operations, hotel housekeeping, room service and concierge (Ivanov et al., 2020). That allows employees have more time and opportunities to deliver genuine hospitable service (Drexler & Beckman Lapré, 2019; Touni & Magdy, 2020; Ivanov & Webster, 2020). Also, they could help the hotel managers to gather and analyze guest behavioral trends and thus to refine its services and offerings (Gupta et al., 2022). Using these systems could reduce cost of human labor, grow in sales, and develop facility management. Furthermore, these technologies allow guests to register themselves

automatically, removing the need for transactions at the reception, and connect with the hotel 7/24 by utilizing their native languages.

## METHODOLOGY

Reducing labor costs is the most common reason for using robotic technologies (Gursoy et al., 2019; Li et al., 2019; Ivanov et al., 2020; Choi et al., 2020; Ayyildiz et al., 2022). This study aims to examine what labor costs are and whether these costs encourage hotel managers to accept using robotic technologies as discussed at literature. For fulfilling the aims of the study, the qualitative approach based on in-depth interviews are adopted with the frontline managers working in Antalya. An interview provides a deep understanding of a concept or subject and extracting more detailed information (Touni & Magdy, 2020). With the semi-structured interview, hotel managers have been allowed to explain all their experiences about human resources activities and employee behaviors affecting guest satisfaction.

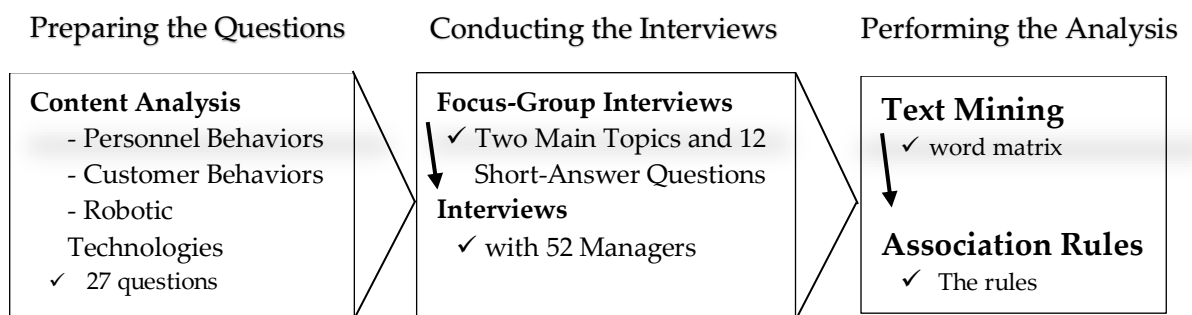


Figure 1. *The phases of the study*

The study comprises three phases (see Figure 1). First, content analysis was conducted to thoroughly review the literature on personnel behaviors that effect customer satisfaction, customer complaints and behaviors and robotic technologies on hospitality industry. The articles have been found by using following advanced queries at google scholar. First: (((("personnel" OR "staff" OR "employee" OR "human labor") AND ("hotel" OR "hospitality" OR "accommodation") AND ("problem" OR "behavior" OR "challenges" OR "complaint"))), Second: (("Robotic" OR "AI" OR "Artificial Intelligence" OR "Robot") AND ("hotel" OR "hospitality" OR "accommodation")). At this phase, an interview form consisting of 27 questions was prepared after relevant literature was reviewed.

During the second phase, focus-group interviews with managers from various departments were conducted to generate themes relating to actions done to empower staff and behaviors affecting customer

satisfaction. Following face to face interviews with 12 managers, the interview form was revised within the framework of the information obtained. It has been transformed into an interview form that has two main interview topics (human resource practices, staff, and guest behaviors) and seeks answers to 12 short-answer questions, consisting of demographic information related to hotel and employee, and robotic recruitment. Then, interviews were held with 52 managers and each interview was recorded simultaneously with the participants' permission. Frontline managers are interviewed, who are the link between most human resources management policies and practices and the frontline staff that they deliver the majority of the service experience consumed (Madera et al., 2017). Managers recruited for the interviews were from different departments (e.g., F&B, front office, and housekeeping) in different hotels (not using robotic technologies) to ensure data were representative and validity reflecting the trustworthiness of the results.

Last phase of the study is analyzing the text-based data to discover behaviors and human resources activities (see Figure 2). However, extracting, and aggregating information from text-based comments is not an easy task due to their unstructured format. In order to explore the relationships and patterns in the interviews with the managers, text analysis was done to transform unstructured text into structured data. The study model was run twice, for analyzing expenditure for human labor first and then for behaviors.

The pre-processing is performed to improve the quality of the reviews to achieve better results to remove special characters, and digits, unicode characters. First uppercase letters were converted to lowercase letters, thus, the capital and lower-case letter problem in word groups has been eliminated. Then the sentences and paragraphs were tokenized into smaller units, such as individual terms or words. Lastly stop words such as "a", "the", "with", "and", "or", etc. were removed. Also, the words whose frequency is less than 5 times were eliminated.

After pre-processing the reviews, pre-processed reviews were converted into a set of linear features by using Term Frequency-Inverse Document Frequency (TF-IDF) vectoriser. The TF-IDF vectoriser, weighting factor, captures a word's importance in a collection of reviews. The word frequencies obtained by the text analysis were converted to a feature, and a word matrix was created from the features. Fp-Growth algorithm was used to obtain association rules from the word matrix. The FP-Growth algorithm

is an efficient algorithm for calculating frequently co-occurring items in a transaction database (Rapidminer, 2023).

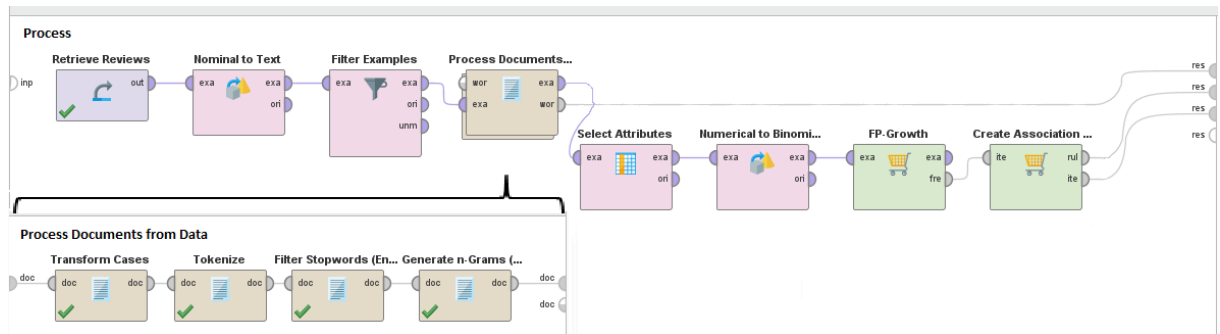


Figure 2. *The study's Rapidminer Model*

Association rule algorithm is commonly used to discover interesting relationships or associations that exist between the specific values of categorical variables in large data sets. It is used to uncover hidden patterns mostly in purchases to predict consumers' future suggestions and purchases. For instance, customers purchasing excursion/package A, often also order package B, and C or consumers complaining from A subject also frequently complain about issue B but are happy with issue C. Likewise the study used association rule algorithm to reveal the subject B, C, and others that managers addressed along with issue A. Association rules are created for frequent if/then patterns by analyzing data and using the criteria confidence and support to identify the most important relationships. Support is an indication of how frequently the items appear in the dataset. Confidence indicates the number of times the if/then statements have been found to be true (Rapidminer, 2023). The rules were filtered and sorted by confidence, and only rules that have a confidence over than 0.80 were retained.

The words that emerged with the word frequency analysis were subjected to the association analysis to reveal association rules of the words used together in the managers' comments. Thus, the expenditures made by the managers for the personnel and the frequency of the words in the comments regarding the employee behavior were determined by the trust parameters, and the expenses of the managers and the employee behaviors. By utilizing the model, 10 association rules were generated for the expenditures made by the managers for the personnel and 20 association rules for the employee behavior affecting the customer satisfaction.



## FINDINGS

Frontline managers (Human Resources (2), Guest Relations (5), Front Office (12), Food & Beverage (18), Sales (4), Reservation (5), Animation (6) working in 10 different hotels operating in the Antalya region participated in the study. The managers interviewed within the scope of the study work in large class hotels. Hotels have capacity of average of 536 rooms, 1720 pax and 486 staff. The ratio of those who received tourism training among the employees in the hotels was 32%. In addition, only 17% of the employees of these hotels, which host guests from almost every country, can speak one foreign language perfectly.

The activities carried out by the business in order to train and empower the personnel in order to provide better quality of services at the hotel were discussed and information was obtained from the managers. Two themes were revealed for human labor cost including the expenditures of the enterprises for the personnel and the activities done to strengthen and motivate the personnel (See Table 1). Managers expressed the consequences of guest and employee behavior in four different themes including complaint, gripe, trust, and problem (See Table 2).

Table 1. *Association Rules for HRA*

Rule	Antecedent c	consequent	Support	Confidence	Lift
1	Transportation	Expenditure	0,250	1	3,059
2	Overtime	Expenditure	0,231	1	3,059
4	Bonus	Expenditure	0,308	0,941	2,879
5	Lodging	Expenditure	0,231	0,923	2,824
7	Reward	Expenditure	0,288	0,882	2,294
9	Infirmary	Expenditure	0,231	0,857	1,783
3	Training	Activities	0,250	1	3,059
6	Personnel Nights	Activities	0,212	0,917	2,072
8	Celebrations	Activities	0,269	0,875	1,517
10	Events	Activities	0,250	0,812	2,224

### Expenditure

Managers provide transportation to come to work and go back home, and additionally lodging for the employee not having any accommodation facilities in Antalya. In addition, managers pay more to employees working overtime, share guest tips, give bonus, and provide infirmary service for some minor illness.

Table 2. *Association Rules for Behaviors*

Rule	Antecedent	Consequent	Support	Confidence	Lift
3	Responses	Complaint	0,288	0,957	1,733
9	Fudge	Complaint	0,269	0,875	1,896
10	Waiting	Complaint	0,269	0,875	1,517
11	Personnel	Complaint	0,231	0,857	1,486
1	Workload	Gripe	0,288	1	2,080
5	Dissatisfaction	Gripe	0,423	0,917	1,589
6	Question	Gripe	0,212	0,917	1,589
8	Requirement	Gripe	0,346	0,900	1,872
13	Fatigue	Gripe	0,212	0,846	1,760
17	Personnel	Trust	0,327	0,810	1,684
7	Work Quality	Trust	0,212	0,917	1,589
14	Neglecting	Trust	0,288	0,833	1,733
15	Reasons	Trust	0,250	0,812	2,224
20	Check	Trust	0,231	0,800	1,809
2	Service Failure	Problem	0,212	1	2,080
4	Language	Problem	0,308	0,941	2,879
12	Resignation	Problem	0,231	0,857	1,783
16	Absenteeism	Problem	0,250	0,812	2,224
18	Recruitment	Problem	0,327	0,810	1,684
19	Communication	Problem	0,231	0,800	1,809

### Activities

While all the managers emphasized that they provide training to their employees, few mentioned staff empowerment, motivation, and orientation activities. The personnel celebration is the common action taken by the hotels to relieve the physical and mental fatigue of the employees. Spending time outside of the hotel, meditating, departmental activities, sport events, dinner events, motivational rewards, birthday celebrations, creating a friendly atmosphere are other activities. Activities that managers do to increase human labor quality are almost the same, with a few exceptions for spirituality supports.

### Staff Gripe

Employee gripes expressed by managers vary according to departments while all employees gripe about workload. For example, while employees of the guest relations and concierge department do not complain about the questions of the guests, especially the employees of the food and beverage department gripe about the requests and questions of the guests. Managers expressed that employees complained about excessive workload, guests' expectation of information about all destination and attractions, and

unnecessary dissatisfaction of the guests. Interestingly, the managers reported that the employees complained about the guests and requirements than the guests do.

### **Trust**

One of the problems of managers is that they cannot trust their employees in the work they do and the reasons they put forward. Managers are unsure about employees in terms of doing the tasks on time and with high quality without neglecting. They think that they need to check the tasks done by employees.

### **Problem**

Another theme emerging from the comments is the behavior of the personnel, which turns into problems that need to be solved for the managers. According to the managers, it is most likely that the employees exhibit behaviors that will cause service failure. Managers stated that the main problems they experience with their employees are that they leave work untimely, lack the understanding of a foreign language to communicate well and they make mistakes.

### **Working with Robots**

All of the managers said "Yes" as an answer to the questions that is "Can an employee who you think is meticulous in her/his work mistakenly commit erroneous actions"? Seven of the managers answered "yes", 10 said "maybe" and 35 answered "no" to the question asking them if they believe to solve humanitarian problems (fatigue, exhaustion, illness, carelessness, foreign language, etc.) by using a robot.

Only five managers, three from front office and two from guest relation department, think to work with robots, seven of them (from Sales and F&B department) has no idea and 40 managers reject working with robots. Interestingly some of the managers who think to work robots don't think that robotic technologies cannot be solution for humanitarian problems.

## **CONCLUSION**

The aim of every hotel is to provide the highest quality service and to have satisfied and loyal customers. Hotels should have to qualified human

resources to get that objective. Hotel management should recruit reliable staff and train them in the best possible way (Kavurmacı & Demirdelen, 2015). However, finding reliable and quality staff who will provide quality service and training the employed ones is difficult specially for peak seasons due to seasonality, cheap mobile labor, and untrained workforce (Baum, 2015). Furthermore, activities carried out to develop human resources and services such as salary, insurance, lodging, food provided to personnel are important expenses for organizations. In order to reduce this cost, to provide a standard service quality and improve the guest experience, hotel managements have started to use robotic technologies by streamlining processes and speed up tasks traditionally run by frontline service employees (Li et al., 2019).

The study first derived the cost of human labor for the hotels and employee behaviors during the service encounters. Behaviors reveals the study such as absenteeism, recruitment problems, causing service failure (poor services) are nearly the same managers reported in Poulston (2009)'s study. The objective of the study is to discover whether the managers, who have to face the issue caused by their employees' being human and the problems they cause, want to use robots to solve these problems. In order to achieve this aim, structured interviews were conducted with 52 frontline managers working in hotels operating in Antalya about human resources practices, employee-guest behaviors and robotic employment. Common human resources activities and personnel behavior pattern were determined by making association rules analysis with the words obtained by text mining. Managers' human resources activities are to provide lodging and transportation, to pay more for greater effort, to train, to organize some activities to relieve the physical and mental fatigue of employees. Behaviors that employee exhibit are not to answer guest' questions and demands, not doing their job meticulously, causing service failures, resignation, to complaint about the workload.

It was determined from the interviews that the managers faced human problems and even felt obliged to control their work because they could not trust the employees, but they believed that these problems could not be solved by usage of robotic technologies. Contrary to the literature (Ivanov & Webster, 2017; Kılıçhan & Yılmaz, 2020), 35 of 52 managers stated that robots would not be the solution to these problems, although they accept that even the most qualified and reliable personnel can make mistakes and cause service failures. Interestingly, supporting this view, a recent study (Fu et al., 2022) reported that implementation of service robots increased respondents' both workloads and the level of time pressure.

The result obtained from the manager's interviews is consistent with the result obtained by Ivanov et al. (2020)'s study that managers they interviewed reported they did not intend to implement robotic technology in their hotels due to various reasons. Similarly, the word "robot" is cold for most interviewees of Dogan and Vatan (2019) and employment of robots is still early, because of the nature of the hospitality industry. Seyitoğlu et al (2021) revealed that Turkish restaurant managers have mostly negative attitudes towards robots, even they agree that robots improve service quality, and employees are not ready to work with robots. Çilingir Ük et al. (2023) found that the participants preferred using any kind of robot only for 11 of the 36 positions. Similarly, future's professionals also do not have a strong will to implement service robots (Ivkov et al., 2020), their perspective on robot usage is still reticent (Carvalho et al., 2022) and they have mixed feelings about their usage in organizations (Kala, 2022). Contrary to these studies, Pizam et al (2022) provides evidence that there is a general support among hotel managers to adopt robotic technologies in their hotels. Touni and Magdy (2020) found that IT managers had a more positive attitude towards robots.

The reason for the negative opinions of the participants may be that they do not have a clear knowledge and experience about the contribution of the related technologies to the business and its employees as reported in Gupta et al.'s (2022) study. Thus, Vishwanath et al (2019) reported that after around one month, the staff were optimistic about the potential roles accomplished by social robots. IT managers who have enough knowledge about robotics have positive attitude towards robots (Touni & Magdy, 2020). These studies show that if employees closely identify, they welcome social robots to help customers with simple tasks and do not feel the fear of being unemployed. Similarly, Pizam et al (2022) provided strong evidence that top management support was one of the significant predictors of hotel managers adoption intention. Hotel staffs keen to work with artificial intelligence as long as hotel management supports (Koo et al, 2021) and the consequence of turnover intentions caused by artificial intelligence was weakened when high organizational support was perceived (Li et al., 2019). The participants in Choi et al. (2020)'s study stated that they would consider service robots if they can communicate with guests and cope with exceptional circumstances. These findings show that managers do not have enough knowledge and experience in robot employment, so they do not dare to be afraid of failure, and they need support and experience in robotic technologies as stated by Fu et al. (2022).

## Theoretical Contributions

The study provides several theoretical contributions to the literature related to robotic technology adoption in the hospitality industry. First, while researchers have a general interest in hospitality service robots, studies have been mostly conducted from customer's perceptions and manager's opinion has remained relatively unknown (Ivanov et al., 2020). None of the few studies dealing with managers' views asked hotel frontline managers what they think about solving humanitarian problems lived in the hotel with robots. The study reveals opinion of the manager, the ultimate responsible and manager of daily activities in the hotels, to recruit robotic technologies in terms of reducing the cost of human labors and solving humanitarian problems. Researchers have so far not paid sufficient attention to the impact of robotic technologies on service managers and employees; however, attitudes and perceptions of frontline managers have the downstream impacts on service levels. If the frontline managers resist the use of robotic technologies or if it is imposed despite the frontline managers, these technologies could ultimately have a cumulated negative impact on guest satisfaction, therefore hotel performance.

Second, a manager's mindset is critical for a successful robotic investment, and the applications would be inconceivable without their assistance. According to the technology acceptance model, one of the reasons a person accepts new technologies is because they believe that technology is useful (Gursoy et al., 2019). In the literature, evidence is presented about the contribution of the use of robots to a standard and error-free service delivery and especially to frontline employees. However, the results showed that managers did not agree with the researchers, that's why they will have to provide more compelling evidence to convince. Although several studies have been conducted to explore user resistance, researchers have yet to explore staff resistance to service robot recruitment in the hotel context (Fu et al., 2022).

Additionally, this study adopted text-mining techniques to have more comprehensive opinion about HRA and employee behaviors, and association rules analysis to reveal common activities and problems, eventually reveal cost of human labor from the perspective of the manager that had not been conducted in previous studies. Similar studies such as Dogan and Vatan (2019), and Kala (2022) were employed thematic analysis to explore the perception and opinions of respondents and figure out the differences and similarities in insights provided by participants. This study preferred artificial intelligence methods. It is also unique in this aspect.

### **Practical Contributions**

The study has considerable practical implications for hotel managers and investors. Robotic technologies are expensive systems so that they must be accepted by not only the guests but also employees, managers, and hotel organizations at a cultural level, as a new form of interaction and service delivery (Carvalho et al., 2022). For business processes in a hotel to be carried out successfully by robotic technologies, new managerial mindsets are required (Ivanov, 2020). Hotel executives should be aware of attitude of employee towards robots because the employees' cooperation with the robots will also entail the success of the operation (Carvalho et al., 2022).

From a managerial perspective, the results may help policy makers in terms of employment robotic technologies in hotels' daily operations. Today's service delivery systems nearly are depending on new smart technologies such as artificial intelligence and robotics. In order for Turkish tourism to effectively implement new technologies, the manager's perspective on these technologies is critical. Therefore, executives should take the necessary precautions against the possible resistances of frontline managers. Studies have shown that managerial and organizational support (Li et al., 2019) are more moderate towards employee robot employment. While there is a consensus in the literature that robotic systems will reduce the workload of the employees and labor cost, provide 24/7, uninterrupted, consultancy services to the guests, the fact that managers believe just the opposite demonstrates that there are many more problems to be solved in robotic employment. In addition, despite the advantages of using robots and external pressure, although they will likely encounter related technologies in the future, do not want to work with robots. In terms of tourism policies and planning, frontline managers can be empowered for better future visions and healthier decisions to use robotic technologies (Kılıçhan & Yılmaz, 2020). Furthermore, hospitality management curriculum could be enhanced by adding AI-related subjects into education systems to assist and train pre-employees to become artificial intelligence leaders of the future hospitality industry (Koo et al., 2021). To avoid being left behind, future employees and managers should be provided opportunities to learn, experience and prepare for the future's work that will be shaped by adoption of the artificial intelligence.

### **Limitations of the Research**

The study's findings cannot be generalized due to limited interviewed 52 frontline managers do not deal with robotic technologies from different

five-star hotels in Antalya. However, the perspectives of managers working in one of the most preferred destinations of the world tourism are significant in terms of expressing the views of the Türkiye's hotel industry.

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