

TECHNOLOGY ACCEPTANCE IN TOURISM SECTOR: A SYSTEMATIC REVIEW

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ABSTRACT

The emergence of innovative technologies has a significant impact on promoting tourism. Determining how to use these technologies for tourism marketing is very vital for tourism promotion. Technology acceptance by tourists is the initial step towards technology adoption. Taking this into account, this research provides a systematic review of the technology acceptance studies specific to the tourism sector. The objective of this research is to review the trend and acceptance of various information and communication technologies (ICT) in the tourism sector. This research conducted a systematic review of tourism-specific technology acceptance articles published between 2010 and 2021 in online databases. From an analysis of 35 primary manuscripts published in the last 10 years, the study has concluded that the technology acceptance model (TAM) has been mostly applied to measure the online experiences of technology adoption rather than the onsite experience. Despite the positives of the identified TAM-based research models, the study also reports research gaps specific to the context of technology adoption for tourism. The study has theoretical and practical implications. From a theoretical perspective, this study summarizes the recent technological developments in the tourism sector and reports the gaps in technology acceptance studies. Practitioners can use the study results to identify the scope of emerging technologies to improve and market tourism services. The review has selected only three digital libraries which may exclude relevant articles in the context of TAM in tourism.

Keywords:

Tourism, Technology Acceptance, TAM, Technology Adoption, Behavioural Intention

INTRODUCTION

The tourism sector is recognized as one of the important sectors for the economic diversification plan of different nations (Tanfeedh, 2017). Tourism marketing can be looked at from the lenses of demand and supply (Middleton et al., 2009; Middleton & Clarke, 2012). The product supply at destinations includes the activities, attractions, events, and facilities. Normally, the tour operator promotes tourism destinations by putting site attractions in the website, brochures, messages etc. The lack of unique tourism activities and insufficient marketing is a major challenge faced by the tourism sector in many countries. To strengthen tourism marketing and attract more visitors, information technologies are widely used. UN world tourism organization has identified three main functions of tourism marketing: (i) establishment of customer contacts, (ii) development includes the innovations for new sales opportunities, and (iii) control includes the activities to analyse the results of promotion (Lomova et al., 2016). The role of technologies in destination marketing has been a research interest for the last two decades (Li, Robinson, & Oriade, 2017). Digital marketing technologies are reconfiguring the tourism industry (Andreea, 2014; Huang et al., 2016; Levitskaya & Yanioglu, 2019) by offering instant access to all kinds of information to customers. However, recent research has shown that there is a wide gap between the overly made 'claims' and the actual 'realities' about the potential of emerging technologies for marketing (Moorhouse et al., 2018). This is mainly because of the challenges faced by destination marketing organizations in creating a virtual world, handling the bigger data volume over social media, and lack of control over individual user-generated content (Li et al., 2017).

The fourth industrial revolution and convergence of innovative technologies, such as the internet of things, virtual reality (VR), augmented reality (AR), geo-spatial data and broadband, artificial intelligence, and big data are promoting a dramatic shift towards more data and machine-driven marketing initiatives in tourism sector (Sarkady & Egger, 2021; Yoo et al., 2017). The new technology developments in the travel and tourism sectors also promise better customer experiences and satisfaction. The technologies like VR and AR also open a new dimension for tourism, i.e. virtual tourism; a travel substitution during the COVID pandemic to experience different tourism sites (Sarkady & Egger, 2021). Considering the wide adoption of various emerging technologies to promote tourism, a primary question that arises is how the acceptance of these technologies are evaluated.

Most technology adoption studies in the tourism sector use TAM as the basic theory to evaluate technology acceptance among users. TAM was initially proposed in 1986 (Davis et al., 1989) for predicting user acceptance of ICT based on the theory of reasoned action (Lai, 2017). The TAM considers two aspects of technology usage: perceived usefulness and perceived ease of use. A large number of research papers have been published on the usage of TAM to evaluate the tourists' motivation and perception (Li & Chen, 2019). Tourism sector is adopting different types of technologies at the sites to provide better tourism experience and heightening the level of tourist satisfaction and enjoyment (Buhalis, 2019). TAM has been explored to understand the factors of human behaviour that determine the technology acceptance or rejection. Nevertheless, there is a gap that exists in current knowledge on the applicability of TAM to evaluate the acceptance of technologies that create empowered tourism experiences. It is useful to understand the applications of the TAM in this aspect; however, a systematic analysis of TAM in the tourism sector is still lacking in academic literature. A systematic literature review is selected as a research method to understand and analyse the applications of the TAM in the tourism sector. The main objective of this review is to understand how TAM-based research models are applied in the context of technology adoption in the tourism sector.

The contributions of this research can be looked at from three different aspects: (i) provides an overview of technology trends adopted in the travel and tourism sector, (ii) summarizes the research models based on TAM for tourism, and (iii) summarizes the research gaps in evaluating technology acceptance in the tourism sector. The review helped to understand the recent technical developments in the tourism sector and the prevalent areas of TAM applications. The review observed that travel information systems and mobile software are widely used applications before or during the travel. The ease of use and usefulness of these applications are the major determinants of their acceptance. On the other hand, most of the studies applied TAM from an individual perspective for assessing tourist's behaviour intentions to use such technologies. Besides, the review presented a summary of the variables studied in the context of technology acceptance and helped to identify other theories combined with TAM to explore different dimensions of technology acceptance. Among the selected studies, 40% of them focused on the visit intention and the impact of online tourism marketing tools. Finally, the review concluded that the existing TAM-based research models need to explore parameters that could connect with the user emotions while utilising emerging technologies such as digital immersive technologies, robotics, or recommender systems.

The review results open further scope for improvements in assessing technology adoption in the tourism sector. In conclusion, this study presents a future research agenda to be worked on. The rest of the paper is organized as follows. Section 2 presents a review of TAM models. Section 3 details the research design. Section 4 discusses the results and presents answers to the research questions through a framework. Section 5 discusses our future research agenda and section 6 concludes the review.

LITERATURE REVIEW

TAM was initially proposed in 1986 (Davis et al., 1989) for predicting user acceptance of ICTs. The TAM is based on two aspects of technology usage: perceived usefulness (PU) and perceived ease of use (PEU). The perceived usefulness is the user's belief that the system will increase his job performance. Perceived ease of use is the degree to which the user believes that system usage is free of effort (Davis et al., 1989). The TAM model is very simple because it focusses only on two constructs for assessing the behavioural intention to use the technology. The external variables are the different factors that influence the PU and PEU. The PEU also influences the PU; hence PU can be a variable of type both dependent and independent. Both PU and PEU influence the attitudes to use technology. The user's attitude to use the technology determines the intention to use the technology and thereby the actual use of technology occurs. In 1996, the TAM model was modified by analysing the impact of perceived usefulness and ease of use on behaviour intention (Davis & Venkatesh, 1996) and excluded the attitude variable from the TAM model because of the direct impact of perceived usefulness and perceived ease of use on behavioural intention to use the technology.

In 2000, an extended version of TAM was published as TAM 2 (Venkatesh & Davis, 2000). The user acceptance of ICT is analysed by considering both social influence and cognitive instrumental processes. The subjective norm, image, and voluntariness indicate people's perception of system usage. The job relevance, output quality, and result demonstrability represent the magnitudes of job tasks performed by the system. In basic TAM model, the authors found that subjective norm has no impact on perceived ease of use, perceived usefulness, and intention to use the system; however, TAM 2 claims that the subjective norm, image, and voluntariness are also the determinants of using or rejecting a system. TAM 2 extends the basic TAM with additional variables. TAM 2 proved that subjective norm has a positive impact on the intention to use the system when it is mandatory; hence voluntariness act as a moderator between intention to use the system and subjective norm. Similarly, the TAM 2 proves that subjective norm has a positive influence on perceived usefulness and image. The positive effect of the image, job relevance, output quality, and result demonstrability on perceived usefulness is also confirmed. The study also confirms that the impact of these determinants will change as the experiences in system usage increase. It is worth noting that TAM 2 focused on perceived usefulness and further research on the perceived ease of use to refine TAM 2 has been done and as a result, TAM 3 (Venkatesh & Bala, 2008) is developed.

TAM 3 is different from its previous versions by analysing the parameters that influence the managerial decisions on implementing technologies. TAM 3 is an integrated model of TAM 2 and the determining factors of perceived ease of use. The identified determinants are computer self-efficacy, perception of external control, computer anxiety, computer playfulness, perceived enjoyment, and objective usability (Venkatesh & Bala, 2008). The model states that these determinants of perceived ease of use do not influence perceived usefulness. TAM 3 confirms the moderating effects of experience in three relations: (i) the impact of perceived ease of use on perceived usefulness, (ii) the impact of computer anxiety on perceived ease of use, and (iii) the effect of perceived ease of use on behavioural intention to use the system. All these models are developed to evaluate the intention to use a system or technology based on two primary constructs, i.e. perceived ease of use and perceived usefulness.

Most of the technology adoption studies use the traditional TAM as the basic theory (Davis et al., 1989) to evaluate its acceptance among users. Many studies have been published on the acceptance of TAM to study tourists' motivation or perception (Li & Chen, 2019). Considering the wide adoption of various emerging technologies to promote tourism, TAM is a theoretical foundation to establish the acceptance or rejection of a particular technology.

RESEARCH METHOD

A considerable amount of literature has been published about technology adoption in the tourism domain. A systematic review is conducted to classify existing literature that applied TAM in the tourism sector. The research method has three steps: planning, conducting, and mapping. In the planning phase, the research questions and the review protocol were defined. The review protocol includes the data sources, search strategies used, period coverage for primary study selection, and exclusion criteria for paper screening. In the conducting phase, the defined search strings were searched in the repositories based on the review protocol. The initial search results were analysed to identify the relevant studies based on inclusion, exclusion, and quality criteria. The data needed to answer the research questions were extracted from relevant studies and the results are synthesized. In the mapping phase, the selected studies are classified to extract knowledge.

This study will provide answers to two main research questions: (i) What are the contexts for using TAM in the tourism sector? What are the behavioural dimensions of technology adoption in the tourism domain and the factors that determine it? The search was performed in electronic databases such as Google Scholar (<https://scholar.google.com/>), Springer (<http://www.springerlink.com>), and ScienceDirect (<http://www.sciencedirect.com>). All the mentioned databases have an advanced search option to refine the search results. The study applied this option to limit the search to specific years and metadata such as title, abstract, and keywords. The advanced search option for sources is slightly different from each other. The keywords were used to identify all the primary studies under the scope of research. The identified keywords are ‘Tourism’, ‘technology acceptance model’, and ‘TAM’. The search strategy has considered the AND/OR combinations of keywords (‘TAM or ‘technology acceptance model’) AND (‘tourism’). The study considered only the publications between 2010 and 2020.

The study found 204 publications, whose title or abstract had the keywords defined in the search strategy. Using advanced search strategies, duplicates and non-English papers were excluded thus resulting in 117 papers. Study selection is a multistage process. In the first stage, duplicates from three electronic databases were removed, and articles were reviewed against exclusion and inclusion criteria. Studies published in other languages are excluded. A study with substantial information on technology adoption in tourism has been only selected for further review. As a result, 57 relevant articles are qualified for the second stage review. In the second stage, the abstracts and keywords are reviewed to exclude the documents with insufficient information. As a result, 35 studies were selected for further analysis as listed in Appendix. The selected papers are carefully read through to mitigate the misinterpretations of the title and abstract. The extracted results are reported through different graphs.

RESULTS

In this section, the results of the review are presented as answers to the two research questions. The technology adoption in the tourism domain (Hamdan & Yusof, 2014) is dynamically growing to support both tourists and tourism providers. First, the context of TAM application is discussed, followed by various behavioural intentions in the context of technology adoption for the tourism sector.

Applications of TAM

The first question of this study was meant to classify the TAM studies based on their technologies evaluated. TAM is used to validate the acceptance of information technology (Davis et al., 1989) in many sectors. It has been observed that TAM is widely applied in both the travel and tourism industry

to understand tourists' behaviour intention on adopting various technologies. Thus, the selected studies are first analysed to understand the context of TAM usage and the type of technologies implemented. The technological developments in tourism have a crucial role in deciding where to travel in terms of selecting destinations based on social networking feedback or conducting a virtual tour using software applications before travel. In the same direction, ICT is used to collect information about tourism sites as well as for travel guidance. The selected studies can be broadly classified into eight groups based on their technology services, as shown in Table 1.

Table 1: Technology Services

Technology service	Remark	Reference
Digitized information and services	Information about tourism sites and their services to guide tourists.	(Lin et al., 2014; Wang et al., 2015)
Online visual experience	Visuals of the tourism spot through websites and applications to explore the destination before travel	(Chiao et al., 2018; Huang et al., 2013; tom Dieck & Jung, 2018; Xia et al., 2018)
Onsite visual experience	Visual exhibits at the tourism sites to share more knowledge and entertain tourists	(Hammady & Strathearn, 2020; Sagnier et al., 2020)
Online travel planning services	Services for travel booking and other amenities in advance	(Herrero & San Martín, 2012; Liu et al., 2016; Sahli & Legohere, 2015; Wang & Jeong, 2018)
Online tourism marketing services	Tourism marketing through social media (e.g. YouTube) and social networking (e.g. Twitter)	(Di Pietro & Pantano, 2013; Gani, 2017; Lee et al., 2013)
Location-based personalized services	Map services and other personalized services based on geographical location	(Chung et al., 2017; Palos-Sanchez et al., 2017)
Games	Online and onsite games for entertainment	(Yoo et al., 2017)
Network connectivity	Internet and other network services like GPS	(Masri et al., 2017)

Most of the technologies are to support tourists either before travel (e.g., travel information systems) or during travel (e.g., navigator systems). The providers are also adopting specific technologies to market tourism (e.g., visual experience technologies). Travel information systems and various types of mobile software (Kaur et al., 2016) are used to get tourism site information and tourist feedback. The gamified applications at tourism sites are mainly to enhance tourists' loyalty and memorable experiences. The tourism sector has also adopted virtual reality and augmented reality applications to market destinations by creating virtual tour experiences. Major tourism sites are providing Wi-Fi and other network connectivity services; location-based services are provided by using the ability of mobile phones to detect geographical locations. Social networking sites are also used as destination marketing tools for tourism services and products.

The technology experience and the type of application differ. Mobile software can be used to know more about the tourism sites; hence it provides digitized information to the tourists. Similarly, another mobile software application can be used to access location-based services such as route maps. In this way, based on their application type they are classified into different groups as shown in Figure 1. Figure 1 presents the technologies evaluated using TAM in the tourism sector and their distribution.

Among the selected studies, mobile software is mostly used as a guidance tool during travel (Chen & Tsai, 2019; Im & Hancer, 2014; Lin et al., 2014) and also to get the visual experience of the tourist spot before travel (Huang et al., 2013; tom Dieck & Jung, 2018; Xia et al., 2018). Another wide scope of ICT adoption is in the area of travel service planning (Cheng & Cho, 2011; Herrero & San Martín, 2012). This includes travel booking (Wang & Jeong, 2018), tourist spot information, recommendations, and other services such as service coupons and offers (Mendes et al., 2016). The new trends of technology adoption revolve around immersive technologies such as VR, AR, and mixed realities (Jung et al., 2020). The VR/AR/mixed reality applications are widely used to provide online visual experience for travellers (Li & Chen, 2019; tom Dieck & Jung, 2018).

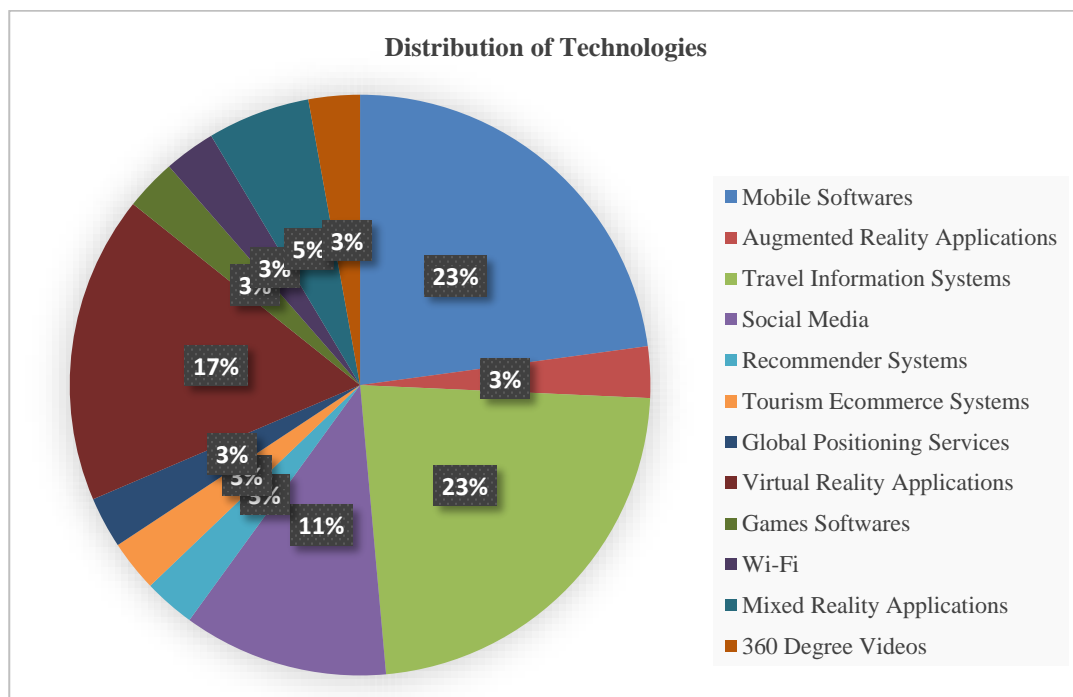


Figure 1: Distribution of Technologies in the Context of TAM

Behavioural Intention in TAM

The second question of this study aims to extract different behavioural intentions and the determinants of technology acceptance. TAM has been applied to understand the technology adoption in different contexts such as providing digitized information of the sites, leisure and utility-based mobile applications, map services, etc. The initial TAM has been modified by analysing the impact of perceived usefulness and ease of use on behaviour intention of users (Davis & Venkatesh, 1996). In 2000, an extended version of TAM is published as TAM 2 (Venkatesh & Davis, 2000). The user acceptance of ICT is analysed by considering both social influence (Mohammed et al., 2020) and cognitive instrumental processes. Similarly, in 2008 TAM 3 was published (Venkatesh & Bala, 2008); it is different from its previous versions by analysing the parameters that influence the managerial decisions on implementing technologies. However, most of the selected studies were focused only on two variables perceived usefulness and perceived ease of use in determining the behavioural intention of tourists.

Any theoretical research model or framework is supported by different kinds of variables. The variables can be external, independent variables (IVs), mediators, or dependent variables (DVs). Most of the selected studies have proposed new research models based on TAM. The variables and their relation differ in each study. Considering that, this research reviewed the IVs, mediators, and DVs of each study. The summary of the DV distribution among selected studies is given in Figure 2.

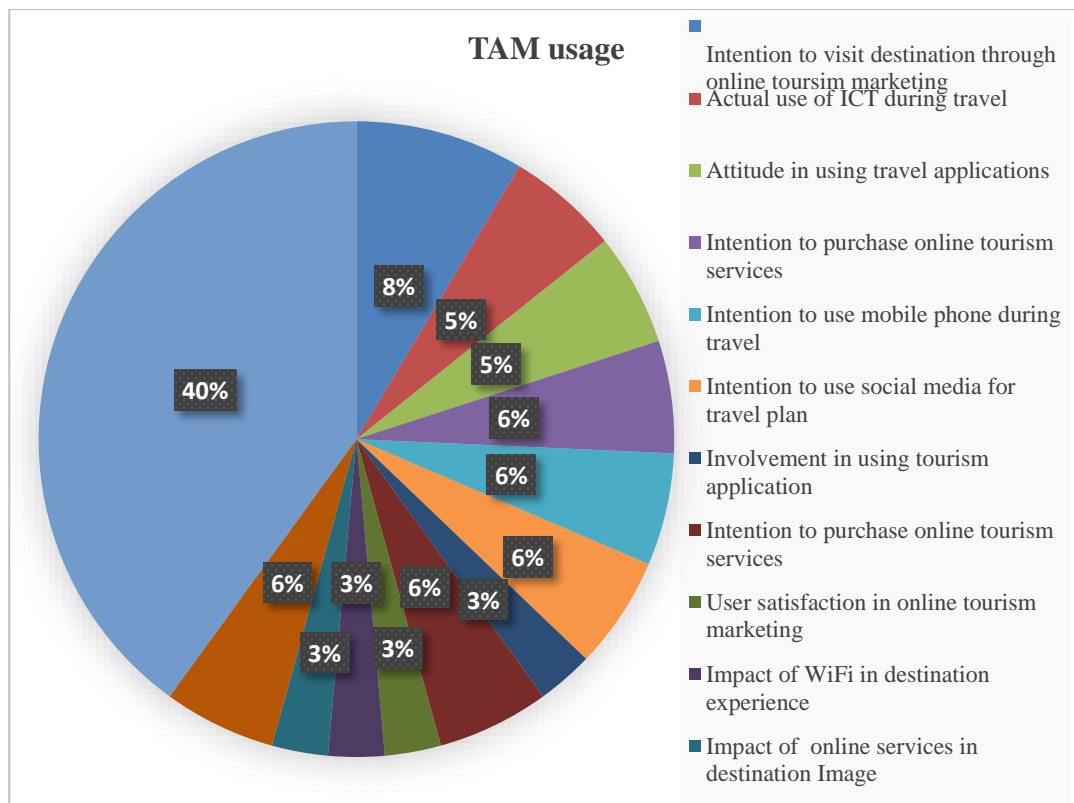


Figure 2: Distribution of Dependent Variables in the Context of TAM

Almost all the studies have considered ‘perceived usefulness’ and ‘perceived ease of use’. A few studies (Cheng & Cho, 2011; Di Pietro & Pantano, 2013; Im & Hancer, 2014; Masri et al., 2017; O’ Regan & Chang, 2015; Wang & Jeong, 2018; Wang et al., 2015) included additional IVs with TAM. Another interesting variable is ‘perceived enjoyment’ (PE), which is considered as an IV in five models and as the mediator in another five models. Similar to the basic TAM, nine models have adopted ‘attitude’ as a mediator. The remaining variables are unique and depend on the context. Most of the models have ‘behaviour intention’ as the DV. However, based on the technology context it differs e.g. ‘Behaviour intention to use mobile technologies’. Most of the models used basic TAM theory and defined additional variables. However, a few studies have integrated TAM and other theories. It is important to note that four TAM-based theoretical models merged flow theory (Liu et al., 2016; Sahli & Legohere, 2015; Wang et al., 2015; Yoo et al., 2017) with TAM and two studies focused on the theory of planned behaviour (Cheng & Cho, 2011; Sahli & Legohere, 2015) and innovation diffusion theory (Cheng & Cho, 2011; Wang & Jeong, 2018).

DISCUSSION

The research questions aimed at providing a comprehensive overview of the TAM and its applications in the tourism sector. The analysis of the studied models mainly helped to explore what kind of technologies are implemented in the tourism domain and the factors that determine various behavioural intentions of visitors through the lenses of TAM. With regards to technology adoption, the research models have already been explored for technology acceptance, behavioural intention to use the technologies and its impact on tourism marketing by promoting the destination image. There is also a necessity to understand different parameters that could connect to user emotions with the influence of emerging technologies, especially digital immersive technologies.

According to the travel and tourism competitiveness report for 2019, the future of the current tourism industry is technology-driven (Calderwood & Soshkin, 2019). This report shows that the first 25 ranks of the travel and tourism competitiveness index are bagged by developed countries. However, there are few developing countries like Brazil, India, and Thailand that are in the first 50 only because of their rich cultural and natural resources. Hence, another interesting research area within the context of technology adoption is the type of technologies required to promote cultural and heritage tourism. As already discussed, most of the technology adoption studies are providing online services for tourists. This clearly shows the gap that exists in implementing technologies to promote tourism by providing technology services at the tourism sites. The onsite experience is expected to increase destination attachment and thereby promote revisits. This study shows that there are limited studies on onsite technology implementation and their acceptance to provide a better experience for tourists. The growing interest in digital immersive technologies (to provide more visual appeal) in the tourism domain has attracted much attention from researchers (Beck et al., 2019; Bogicevic et al., 2019; Jung et al., 2015; Moorhouse et al., 2018; Oliveira & Correa, 2017; Yung & Khoo-Lattimore, 2017). Their potential in various contexts is explored; however, limited studies have explored their role in promoting cultural and heritage tourism (Buonincontri & Marasco, 2017; Trunfio et al., 2018; Yung & Khoo-Lattimore, 2017).

The analysis also concluded that value and experience attributes are explored very minimally in the context of technology acceptance in tourism. Considering 'perceived value' as a multidimensional construct, it has different views such as emotional value, social value, utilitarian, and hedonic value aspects (Lee et al., 2011). However, the factors associated with value perspectives are not much explored by the existing models. Among the selected TAM studies, only one study considered perceived value as a mediator (Koo et al., 2017); however, they analysed perceived value from a cost and benefit perspective. They neither considered the social or emotional attributes of perceived value. Another two studies considered emotional attachment (O' Regan & Chang, 2015), and emotional involvement (Huang et al., 2013) in adopting emerging technologies for tourism. Hence, the review opens a research question on the parameters to be explored to understand the multi-dimensionality of value aspects within the context of technology adoption. This leads to the further question: "What are the value parameters to be considered while assessing the acceptance of emerging technologies in the context of tourism?". The influence of these value parameters in promoting tourism needs to be investigated. Despite the positives of the identified models, the following knowledge is still lacking and that has to be further looked into by researchers.

- *Onsite experience: More than 70% of the existing technology acceptance studies in the tourism domain are mainly for providing digitized information, online travel planning, and social media applications. The technologies to enhance the onsite experience of tourists are less explored.*
- *User experience aspects: Most of the models have not considered the emotional aspects of user experiences. It is important to note that a few studies have considered enjoyment aspects (Huang et al., 2013, 2016); however, the entertainment and education aspects are less explored in the context of technology adoption.*

- *A value-based acceptance model: To the best of our knowledge, none of these models except (Koo et al., 2017) have considered value factors. This is very critical in the context of technology adoption as most of the ICT adoption falls under the service category.*

The above conclusions show that future research is essential to address the identified gaps. At a fundamental level, further investigation is required on (i) adopting technologies at tourism sites to enhance site experience, (ii) best practices for digital technologies to promote cultural and heritage tourism, and (iii) a TAM-based research model with value-based parameters to evaluate the acceptance of technologies by tourists.

CONCLUSION

This paper presents the results of a review on the applicability of TAM to measure the acceptance of various technology adoptions in the tourism domain. The review has selected 35 primary studies that have applied TAM in the last decade for the tourism sector. This review establishes that TAM has been widely used to evaluate the behaviour intentions of tourists to use mobile-based software for travel guidance and visual experiences to understand tourism spots. Similarly, tour operators and tourism providers are adopting emerging technologies to market their tourism initiatives. It has been observed that most of the technology investments by tourism providers are service-based and mostly provide online experiences for tourists. The new technological developments bring many opportunities to enhance tourists' experience through different platforms such as the internet of things, mobility services, travel booking, and payment services, voice recognition and translation services, robotic devices, and virtual and augmented reality applications (Bu, 2018). The determinants of their acceptance vary according to context.

The research has both theoretical and practical impacts. The study reports further scope for improvements in assessing technology adoption in the tourism sector. Practitioners can use the results to identify gaps in emerging technology adoption to improve and market tourism services. The study reports possible improvements for TAM to evaluate tourists' onsite experiences of technologies. However, this study has considered a period of the last ten years and the search has been limited to only three electronic databases. The study results reveal that TAM has been applied from an individual perspective and organization require TAM-based research models to assess the technology acceptance, and this has to be looked into. Future research on technology acceptance in the tourism domain should consider value and experience-based constructs.

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APPENDIX

Table 2: Selected Studies

Reference	DV	IV
(Lin et al., 2014)	Acceptance of tourism promotion mobile app	Computer self-efficacy
(Xia et al., 2018)	Acceptance of destination marketing mobile app	PU, PEU
(tom Dieck & Jung, 2018)	Acceptance of augmented reality	PU, PEU
(Cheng & Cho, 2011)	Acceptance of ICT adoption by travel agency employees	PU, PEU, Trialability, Observability, Compatibility, Subjective Norm, Perceived Behavioural Control
(B. C. Lee et al., 2013)	Acceptance of destination marketing through social network	PU, PEU
(Koo et al., 2017)	Acceptance of recommender systems	Self-efficacy, Technical Support, Switching Cost, Relative Advantage
(Chen & Tsai, 2019)	Acceptance of personalized location-based mobile app	Information Quality, System Quality, Perceived convenience
(Herrero & San Martín, 2012)	Acceptance of websites to make reservations	Interactivity, Navigability, Information
(J. Wang et al., 2015)	Acceptance of e-commerce	PU, PEU, PE, Perceived trust
(Chung et al., 2017)	Acceptance of geotagging	Traveller's readiness
(Chiao et al., 2018)	Acceptance of 3D virtual technologies	PU, PEU, perception of autonomy, perception of competence, perception of relatedness
(Huang et al., 2013)	Acceptance 3D virtual technologies	PEU, PU
(Yoo et al., 2017)	Acceptance of gamified smart tourism applications	Flow, Distributive Justice, Network effect, Information quality, Privacy concerns
(Masri et al., 2017)	Acceptance of tourism experiences	Service quality, PU, PEU
(Liu et al., 2016)	Acceptance of Online purchase	Interactive speed, Skill Challenge, Perceived control, Telepresence, PU, PEU
(Mendes et al., 2016)	Acceptance of buying online tourism services coupons from group buying websites	PU, PEU

(Kucukusta et al., 2015)	Acceptance of online bookings	PU, PEU
(Im & Hancer, 2014)	Acceptance of travel applications	PEU, self-identity, PE, PU
(O' Regan & Chang, 2015)	Acceptance of using mobile phones during leisure tourism	PEU, PU, Social influence, Emotional attachment
(Gani, 2017)	Acceptance of the role of social networking in travel decision making	Trust
(Di Pietro & Pantano, 2013)	Behaviour intention to purchase online tourism services	PEU, PU, PE, EWOM communication
(Palos-Sanchez et al., 2017)	Behaviour intention to use location-based services	Privacy, Social and Environmental Benefits
(Ghanem et al., 2017)	Acceptance of actual use of e-commerce for tourism	Uncertainty, Avoidance, Long term orientation
(Chang, 2017)	User satisfaction	PEU, PU, PE
(Mang et al., 2016)	Actual use of mobile phones	UTAUT factors
(Tan et al., 2018)	Acceptance of social media advertising through the mobile app	Mobile self-efficacy, Interactivity, Technology self-efficacy,
(Sahli & Legoharel, 2015)	Intention to book online	PU, PEU, Compatibility, PE, Trust, Perceived benefits, Perceived behavioural control, Subjective norms
(C. Wang & Jeong, 2018)	Acceptance Airbnb websites	PEU, PU, Trust, Amenities, Host guest relationship
(T. Li & Chen, 2019)	Acceptance of virtual reality	PEU, PU
(Rahimizhian et al., 2020)	Acceptance of 360 degree videos	PEU, PU, PE, Immersion, Autonomy
(Shao et al., 2020)	Acceptance of Virtual reality	PEU, PU, Cost, PE, Immersion
(Vishwakarma et al., 2020)	Acceptance of Virtual reality	PEU, PU, PE, Immersion
(Hammady & Strathearn, 2020)	Acceptance of mixed reality	Personal innovativeness
(Sagnier et al., 2020)	Acceptance of virtual reality	Pragmatic quality, hedonic quality, personal innovativeness
(K. Jung et al., 2020)	Acceptance of virtual and augmented reality	Perceived visual design, perceived task-technology