Using Twitter for Trip Planning in a Saudi Arabian Context

Mona H.T. Saleh[a], Manal M. El mekebbaty[b], [a]Assistant Professor, Marketing Department, College of Applied Studies and Community Service, Imam Abdulrahman Bin Faisal University, Al-Dammam, Saudi Arabia, [b]Assistant Professor, Business Administration Department, College of Applied Studies and Community Service, Imam Abdulrahman Bin Faisal University, Al-Dammam, Saudi Arabia, Email: [a]mhsaleh@iau.edu.sa, [b]mmaelmekabba@iau.edu.sa

The study aims to examine the influence of perceived ease of use, usefulness, and trustworthiness on the attitude and usage intention of Twitter as a social media tool for trip planning among travellers in Saudi Arabia. The study tested the proposed model with a sample of 241 Twitter users, using Warp-PLS 7 to analyse the data using structural equation modeling. The study revealed that perceived usefulness is the most effective determinant followed by trustworthiness on attitude and intentions to use in context. Alternatively, ease-of-use had no significant effect on the travellers' attitudes and intentions to use Twitter for trip planning. The results contribute to previous research on the technology acceptance model (TAM) in the tourism and travel industry. Also, this research provides meaningful insights for managers to better understand the factors affecting travellers' decisions when depending on social media, considering the increasing importance of social media platforms and the tourism sector in Saudi Arabia.

Key words: *Technology acceptance model; TAM; trustworthiness; behaviour intentions; social media; Twitter; Saudi Arabia*

1. INTRODUCTION

Nowadays, technology dominates many people's lives, where the internet has a main role in sharing information without restriction, and at any time (Almanie et al., 2018). It empowers travellers by providing them cheap and easy to access information, where social media is vital to ease communication and interaction. The role of social media in the tourism sector cannot be neglected as it is the prime source of information especially in the planning and research phase (Xiang et al., 2015; Xiang & Fesenmaier, 2006). The diversity of social media tools allow knowledge sharing through wikis and sharing opinions through blogs and microblogs (Parra-López et al., 2011), and some of the most popular tools are TripAdvisor, Facebook, Twitter, and Wikipedia (Zarella & Zarella, 2010). These various tools allow travellers to form online societies, retrieve information, and lead them to make choices concerning their trips

(Ayeh et al., 2013). Not to be ignored is trust in online information which in turn affects search behavior (Menon et al., 2002). The more the online travel-related material is trusted, the more travellers are confident in using these resources to find information concerning their travel plans (Narangajavana et al., 2017). This in turn improves their choices in consideration of time, expectations, and value for money (Yoo et al., 2009).

At present, the social media application Twitter is one of the most important microblogging platforms with 166 million daily users, as of the first quarter of 2020 (Clement, 2020a). Twitter was launched in 2006, allowing users to send short messages (tweets) to a network of followers. Tweets are public and permit people to follow others without needing mutual permission (Jansen et al., 2009). In Saudi Arabia, the internet and web-based social networking is highly utilised, especially Twitter, as a tool to express emotions and opinions (Almanie et al., 2018). Saudi Arabia comes in fifth place following the United States, Japan, Russia, and the United-Kingdom when considering the number of Twitter users reaching 15 million (Clement, 2020b). Also, in line with Saudi Arabia's vision for 2030 to diversify its economy, the country is implementing several key changes in which the tourism sector plays a main role, making the study of consumer behaviour in this context vital (Vision2030, n.d).

Interest is increasing concerning the developing patterns of travellers' behaviour regarding trip-related decisions when using social media (Mariani et al., 2014). In this context, previous studies mainly regarded travel-specific media, while literature concerning the adoption of non-travel specific social media is limited (Ayeh et al., 2013). Dedeoğlu et al. (2020) stated that the content shared across social media platforms is of vital importance for the tourism sector as consumers judge the value of content that others create depending on how, where, and why it is shared. This entails that there likely is to be a difference between using general social media platforms like Twitter and travel-specific platforms. To address this lack in research, the authors aim to investigate the factors affecting the intention to adopt Twitter for trip planning basing it on the technology acceptance model (TAM), and including the trustworthiness construct as an extension to the original model. The analysis is applied in the Saudi-Arabian context, and spans previous research concerned with social media and different cultural background in the Gulf countries. Also, this research occurs in a country which is highly involved in internet usage.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Currently, customers are empowered, presenting a challenge for marketers as their search and purchasing behaviour is changing where the internet is an essential source of information for travellers in the research phase of the trip planning process (Xiang & Fesenmaier, 2006) to gather information (Jun et al., 2007). In this phase consumers increasingly depend on user-generated content in making decisions (Constantinides & Fountain, 2008) that has proved to influence consumer behavior (Miguens et al., 2008). There are three different phases of the use of social media by travellers, and these are before trips, during, and after. Social media is mostly

used in the first phase, in which travellers search for new ideas for where to go, to stay, and inform themselves about the location's details (Fotis et al., 2012), that in turn will reduce risk and give a better idea about the places chosen before travelling (Yoo & Gretzel, 2008). Most tourists look for other travellers' reviews in virtual communities (Gretzel & Yoo, 2008) to overcome the gap between decision making and consumption of the tourism product (Werthner & Klein, 1999), seek product recommendation (Bei et al., 2004), and to reduce risk to support their choices (Moorthy et al., 1997). Travellers agree that social media assists them (Osei et al., 2018) but, the motivation obtained from their use differs according to the platform (Alhabash & Ma, 2017). Previous research mostly covered social media in general (Sotiriadis, 2017; Amaro et al., 2016), followed by specific platforms such as TripAdvisor (Amaro & Duarte, 2017). Since the microblogging network (Twitter) has achieved remarkable growth recently and is used by increasingly more tourists, it could be considered an interesting field for further study (Muñoz-Leiva et al., 2012). Microblogging, such as Twitter is increasingly used as an information channel (Munar, 2011). Travellers have wide access to travel information as a sum of the experiences that other travellers share by social media, which makes user-generated content regarded as more trustworthy when compared to travel agents and official tourism internet sites (Fotis et al., 2012). As a result of the mass adoption of social media, research examining users' behaviour and their usage of social media is vital. Depending on the technology acceptance model (F. D. Davis, 1989), the study will expand the research within the tourism sector to extend the scope of previous studies, which confirmed that each perceived ease of using, trusting, and the usefulness of social media affect behavior intentions (Mariani et al., 2019; Akar & Mardikyan 2014; Lee et al., 2012). The study will provide further insights into the attitude and intention of using a general social media platform for trip planning in Saudi Arabia. The social network site Twitter is the main concern in the study.

Technology Acceptance Model

Various models exist attempting to predict and describe human behavior, the acceptance, and the use of applications related to technology. The TAM presents a framework to further understand consumers' adoption of activities associated with the internet (Kamarulzaman, 2007). The model has also been used in numerous research in the tourism and travel sector, such as (Casaló et al., 2010) who considered company hosted online travel communities, whereas travel and tourism websites were explored by (Noor et al., 2005) and (Muñoz-Leiva et al., 2012), and user-generated content by (Ayeh et al., 2013). Originally the TAM measured the influence of ease of use, along with usefulness has on user intention (Hong et al., 2006), which was previously declared by (Davis, 1989). As Akar and Mardikyan (2014) confirmed, trust in social media positively affected behaviour intentions, the authors added trustworthiness to present an extended TAM.

Perceived Ease of Use

According to Chinyamurindi and Louw (2010), perceived ease of use is the extent to which an individual thinks that the usage of a program seems uncomplicated. It is concerned with the effort exerted by the users of social media. Past studies noted that ease of use acts as an important antecedent of behavioral intentions (Lee et al., 2012; Davis, 1989). As stated by Agrifoglio et al. (2012), ease of use is a direct cause leading to the continuing usage of Twitter. The present study defines ease of use as the extent to which travellers consider the use of social media for trip planning as effortless. According to the TAM, ease of use positively impacts perceived usefulness (Lee et al., 2012; Venkatesh et al., 2012), which leads to propose the following hypotheses:

H1a. Perceived ease-of-use significantly effects the usefulness of Twitter in planning trips.
H1b. Perceived ease-of-use significantly effects the attitude toward using Twitter in planning trips.
H1c. Perceived ease-of-use significantly effects the intention of using Twitter in planning trips.

Perceived usefulness

Perceived usefulness is defined as the extent to which social media users do not doubt that their usage of a specific social media network may help them fulfill their needs (Rauniar et al., 2014). It also implies the users' awareness of enhanced performance when they use technology, in this case, social media. Previous literature suggests that usefulness is a driver of attitude and intentions of usage (Persico et al., 2014; Ayeh et al., 2013). Also, perceived usefulness leads to increased consumer readiness in sharing information on social media (Sharma & Crossler, 2014). Morosan (2012) adapted the TAM in hotels and assured the influence exerted on guests' attitudes by each of perceived usefulness and ease of use. Perceived usefulness accordant to this research is defined as travellers' cognitive beliefs that the use of social media may improve trip planning. Therefore, the researcher's conceptualise that perceived usefulness is a precedent to attitudes and behavioural intentions. Hence the hypotheses:

H2a. Perceived usefulness significantly effects the attitude towards using Twitter in planning trips.
H2b. Perceived usefulness significantly effects the intention of using Twitter in planning trips.

Trustworthiness

Trust is a sense of confidence that the other will act with goodwill and in a favourable manner (Suh & Han, 2003). In short, trustworthiness is related to the perceptions of integrity, competence, and benevolence (Lin & Peña, 2011). Thus, trustworthiness in Twitter might be phrased as a belief or an assumption that the Twitter content generated by other users is reliable and reveals mutual trust. The trustworthiness among users is of critical importance when using social media (Zhang & Gupta, 2018), as it is not easy to identify people who are posting information on different social networking sites, and so making it difficult for the reader to

gauge the credibility of content (Cox et al., 2009). The limited face-to-face interaction and high levels of user-generated information increases the uncertainty (Featherman & Hajli, 2016). On the other hand, significant relations were found between the trust of advice given by the community, and when the advice is followed (Parra-López et al., 2011). Ayeh et al. (2013) concluded that the credibility of travellers' perception depends on the trust among people generating travel plan related content. Due to the relatively limited research that considered the trustworthiness held on twitter as a source of information, it will be explored in the following hypotheses.

H3a. Trustworthiness significantly effects the usefulness of Twitter in planning trips.
H3b. Trustworthiness significantly effects the attitude towards using Twitter in planning trips.
H3c. Trustworthiness significantly effects the intention of using Twitter in planning trips.

Attitude

In this study, the attitude construct will be defined as the extent to which the individual has positive or negative feelings towards using Twitter, in planning for trips. The relation between attitude and behavioural intention has been demonstrated in the technology acceptance model, meaning that the response to using a particular service can be predicted by attitude. In the TAM structure, "attitude toward using" is defined as the degree of effect that is evaluated by an individual and is associated with the use of a targeted system on the job (Davis, 1993). Prior research in travel and tourism (Amaro & Duarte, 2016; Morosan, 2012; Casaló et al., 2010) as well as in information systems (Venkatesh et al., 2003) suggest a strong relationship between attitude and behavioural intentions.

H4. Attitude significantly effects the intention of using Twitter in planning trips.

Hypothesised model
The conceptualised theoretical model (figure 1) represents the relationship among the extended TAM constructs in the case of social media's importance in trip planning.
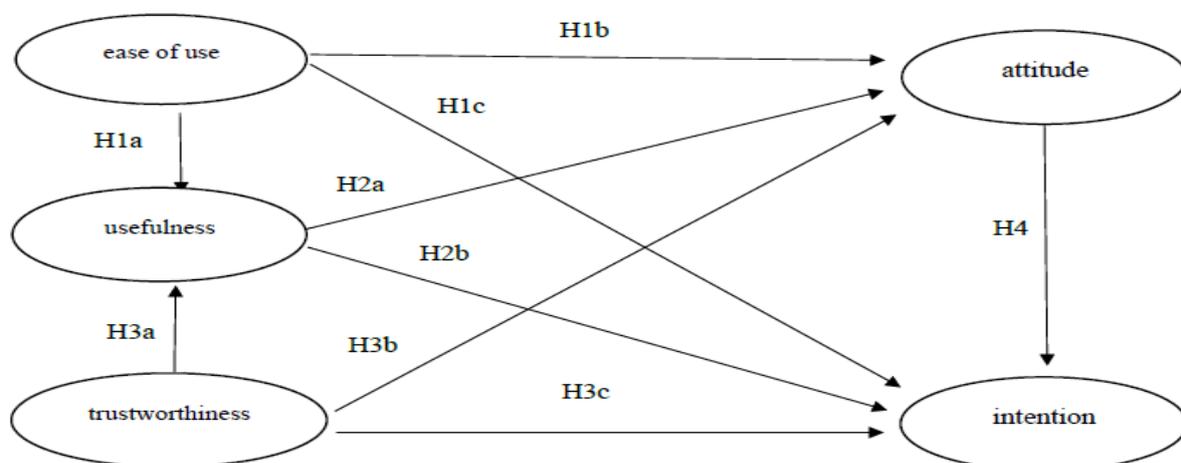

Figure 1. Conceptual Framework and Hypotheses

3. RESEARCH METHODOLOGY

Measurement

The variables were measured using established scales from previous research in the related fields of information management and technology, travel, and marketing, as shown in table 1. This is originally based on (Davis, 1989)'s TAM research and extended TAM models. The phrasing of measurement items was adjusted to fit the research context. Perceived usefulness, ease of use, and behaviour intentions have been measured by applying the five-point Likert scale, varying from strongly disagree (1) to strongly agree (5). Attitude and trustworthiness have been measured depending on the five-point semantic-differential scale.

Sample and procedure

The population of the study is composed of Twitter users of different websites, where the survey list was made accessible to a large number of participants through the internet using an online questionnaire. The survey list was designed, based on Google Drive, and placed online for one month beginning the 1st of January 2020. The version of the questionnaire was in Arabic, including a screening question to assure the respondent had an active Twitter account. The questionnaire was first laid out in English, then translated into Arabic using the standard back translation process. The valid Twitter users' responses totalled 241.

Data Analysis and results

The data was analysed by employing the statistical program Warp-PLS 7. To examine the causal relationship of the hypotheses, the authors adopted the partial-least-square structural equation modeling, and thus the next procedures are the measurement model assessment and structural model assessment.

Measurement model assessment

As recommended by Ringle et al. (2012), the study depended on the most reported reflective measurement model statistics, which are indicator reliability, internal consistency, discriminant validity, and convergent validity. The aforementioned indicators are measured consecutively by indicator loadings, Cronbach's alpha and composite reliability, Fornell-Larcker criterion and cross-loadings, and average variance extracted. As presented in table 1, indicator loadings exceeded 0.05 as proposed by (Hair et al., 2011). Good internal consistent reliability was achieved as Cronbach's alpha values are higher than 0.8. (Cronbach, 1951). Nunnally, (1994) recommended that composite reliability values should be above 0.8. The proposed threshold values of AVE are above (0.5) and so attained convergent validity (Fornell & Larcker, 1981).

Table (1): Measurement Items, Source, Validity and Reliability Analyses

Constructs /(source)	Measurement items	Factor loadings	Cronbach alpha	Composite reliability	AVE
Ease of use (Davis, 1989); (Mariani et al., 2019)	Learning how to use Twitter is easy.	0.954	0.950	0.968	0.909
	Becoming skilled at using Twitter is simple.	0.937			
	Overall, I find using Twitter easy.	0.970			
Trustworthiness (Ohanian, 1990)	In general, I suppose that my friends' travel-related tweets are:				
	dishonest/honest	0.820	0.886	0.921	0.745
	unreliable/reliable	0.855			
	insincere/sincere	0.910			
	untrustworthy/trustworthy	0.865			
Usefulness (Davis, 1989); (Ayeh et al., 2013)	The use of Twitter will improve my trip planning.	0.942	0.957	0.967	0.853
	The use of Twitter will help me plan my trip more efficiently.	0.914			
	The use of Twitter will make my trip planning easier.	0.932			
	The use of Twitter will make decisions related to my trip easier.	0.912			
	In general, I think Twitter is useful in trip planning.	0.919			
Perceived Attitude (Moon & Kim, 2001)	Considering all the previous, using Twitter in trip planning is a(n) …. idea.				
	bad/good	0.927	0.957	0.967	0.854
	unpleasant/pleasant	0.904			
	negative/positive	0.939			
	foolish/wise	0.920			
	unfavourable/favourable	0.932			
Intention to use (Davis, 1989); (Mariani et al., 2019)	How likely will you do each of the following when planning for a trip?				
	Check out tourism companies' tweets for travel information.	0.857	0.919	0.943	0.806
	Seek advice from Twitter friends' travel-related tweets.	0.894			
	Use Twitter content to plan for the trip.	0.919			
	Use Twitter to form trip-related decisions.	0.920			

AVE = Average Variance Extracted

Table (2) confirms that discriminant validity is attained, as the AVE of each latent variable has a larger value compared to the latent variable's greatest squared correlation (Fornell & Larcker, 1981). Hence, concluding that the measurement model demonstrates satisfactory convergent and discriminant validity.

Table 2: Descriptive data and latent variable correlation with square root of AVE

Construct	Ease of use	usefulness	trustworthiness	attitude	behaviour
Ease of use	**0.954**				
Usefulness	0.676	**0.924**			
Trustworthiness	0.529	0.527	**0.863**		
Attitude	0.430	0.732	0.675	**0.924**	
Behaviour	0.568	0.831	0.610	0.778	**0.898**
Mean	3.935	3.651	3.756	3.632	3.719
Standard deviation	1.226	1.218	1.112	1.176	1.221

Note: Bold numbers present √AVE.

Structural model assessment: Model fit assessment and model validity should be used as relevant criteria to check the structural model's validity (Hair et al., 2013).

Model fit assessment

The quality indices of the model are measured with four indicators. The average path coefficients (APC) and average R squared (ARS) where the values resulted to be (0.322, p-value< 0.001) and (0.704, p<0.001) respectively where the accepted fit is at a p-value of (<0.05). Average variance inflation factors (AVIF) equaled 2.184, and average full collinearity (VIF) equalled 3.373, which are considered acceptable if (<=5). Each mentioned value is within the acceptable range regarding Kock's model fit assumptions, concluding that the model's fit is satisfactory (Kock, 2011).

Model validity

In table (3), the values of the coefficient of determination (R^2) are substantial as the values are as recommended around 0.67 (Chin, 1998). The predictive relevance (Q^2) is positive and exceeds zero, depicting relevance (Fornell, 1994). Results show that the model explains 55, 78, and 77 percent of the variance in perceived usefulness, attitude, and intention consecutively, to use Twitter for trip planning. Therefore, the model is assumed to reflect travellers' intention towards the usage of Twitter for planning their trips.

Table 3: Model Validity

Construct	R²	Adjusted R²	Conclusion
Usefulness	0.552	0.549	substantial
Attitude	0.783	0.780	substantial
Behaviour	0.778	0.774	substantial
Construct	Q²		
Usefulness	0.540		relevant
Attitude	0.674		relevant
Behaviour	0.780		relevant

Sample characteristics

The sample showed a slight variance concerning the percentage of male to female participants. From the total sampled, 60 percent used Twitter several times a day, besides, the percentage of individuals under 30 years exceeded the older age generation presenting a percentage of 73, where 85 percent of the under 30 years old used Twitter a few times a day. This distribution is similar to the worldwide distribution of Twitter users by age groups (Clement, 2020c). It is noticed that the younger generation spend more time using social online networks, which is in line with (Lenhart et al., 2010). Table 4 summarises the respondents' characteristics.

Table 4: Sample Characteristics

	Sample size N= 241	Percentage
Gender		
Male	113	47%
Female	128	53%
Age		
Less than 30 years	177	73%
30 – 50 years	58	24%
older than 50 years	6	3%
Twitter use frequency		
Few times a day	144	60%
Few times a week	50	21%
Few times a month	47	19%

Path coefficients evaluation

The results of path evaluation are presented in table (5). Hypotheses H1a, H1b, and H1c address the considered relationships between ease-of-use and its effect on each of usefulness, attitude, and intention to use Twitter. Ease of use positively affected all three variables, although usefulness is the only significantly related variable (β= 0.624, p<0.001), while its effect on perceived attitude (β=0.108, p=0.077) and intention (β= 0.001, p=0.490) is insignificant. So, hypothesis H1a was supported, while hypotheses H1b and H1c were not supported.

Both the hypotheses H2a and H2b address the proposed relationships between usefulness and its effect on each of attitude and intention. Usefulness significantly and positively affected both attitude (β=0.574, p<0.001) and intention to use (β=0.514, p<0.001), and as a result supporting each of the hypotheses H2a and H2b.

Hypotheses H3a, H3b, and H3c showed that trustworthiness has a positive and significant effect on each of usefulness, attitude and intention with values of (β = 0. 0.178, p < 0.001; β=436, p<001; β=0.134, p<0.05) respectively. Hence, hypotheses H3a, H3b, and H3c were supported.

Finally, Hypothesis H4 addresses the structural positive relationships between perceived attitude and intentions towards using social media for planning trips. Hypothesis H4 was supported by the significant positive effect (β =0.331, p<001).

Table 5: Evaluation of path coefficients

H	Paths directions		Path coefficient	p-value	supported
H1a	Ease of use	usefulness	0.624	<0.001**	yes
H1b	Ease of use	attitude	0.108	0.077	no
H1c	Ease of use	intention to use	0.001	0.490	no
H2a	Usefulness	attitude	0.574	<0.001**	yes
H2b	Usefulness	intention to use	0.514	<0.001**	yes
H3a	Trustworthiness	usefulness	0.178	<0.001**	yes
H3b	Trustworthiness	attitude	0.436	<0.001**	yes
H3c	Trustworthiness	intention to use	0.134	0.005*	yes
H4	Attitude	intention to use	0.331	<0.001**	yes

Abbreviation: **significant at < 0.001, *significant at < 0.05.

4. DISCUSSION AND CONCLUSIONS

Conclusion

The authors primarily aimed to investigate the factors influencing the adoption of Twitter for trip planning. Perceived usefulness resulted in being the most influencing factor on perceived attitude and behavioural intention followed by trustworthiness, supporting (Mariani et al., 2019; Agag & El-Masry, 2016) and similar to Rehman et al., (2020) who noted that perceived benefits held by the consumers and trustworthiness were to be the most important antecedents of using social media. Ukpabi and Karjaluoto (2018) confirmed that trust was the most significant antecedent for attitude in the travel industry to use consumer-generated content, which assures the importance of trust as an antecedent. This means that travellers engage in

online communities and tend to adopt Twitter if the media proves to be helpful and improves their decision making, but they must also feel confident that the provided information is trustworthy.

However, perceived ease of use had a positive, although insignificant effect in the present context. This result is similar to (Kim, 2016) where ease of use did not affect behavioural intentions. The findings are in contrast with previous studies, where ease of use was a key driver to the acceptance of technology (Venkatesh, 2000), travel 2.0 websites (Muñoz-Leiva et al., 2012), and (Moon & Kim, 2001) who concluded that perceived ease of use significantly affected perceived attitude and behaviour more than perceived usefulness considering the world wide web in general. It is valuable to interpret that ease of use is less influential in recent year's studies, which may be due to the increased take-up of technology and consumers becoming more familiar with the usage of various social media platforms. Also, the sample consists of actual Twitter users who are accustomed to the medium.

As the results ascertained that trustworthiness positively and significantly affects perceived attitude and behaviour intention, but is a less effective predictor in our study, making it an interesting result. Findings of Yoo and Gretzel (2010) also noted that trust mainly depends on the type of platform that posts the information and the readers' personality. A reason to explain this result is that knowledge sharing in the travel sector does not include financial transactions, and therefore even if the information shared is not completely trustworthy, it may still be considered useful. Last but not least, attitude had a significant effect on behaviour intentions, which is consistent with previous study (Muslim et al., 2020). Considering the variation in results among studies notes that the effect may vary according to the social media platform used.

Theoretical Implications

The current study contributes to academic advancement by enriching theory-based TAM studies in the domain of social media adoption for planning trips, to reach a better understanding of the main aspects that affect customers' attitude and intention. The study investigated and validated an extended version of the technology acceptance model that included trustworthiness as a third antecedent along with perceived ease of use and usefulness. The role of trustworthiness is critical in supporting travellers' trip decisions, as opinions among consumers differ, whether they should believe posts as they present real experiences or the tweets which could be faked. Trustworthiness has been seldom theorised and examined together with social media in the travel and tourism setting. The study also expanded the reach of social media in trip planning to non-travel specific social media. In sum, the study revealed that usefulness and trustworthiness in the order of their influencing strength, were vital factors in anticipating attitude and intention, while ease of use was insignificant.

Managerial Implications

The study presents considerable practical implications for managers in the hospitality and tourism sector. Analysing the proposed model provides further insights for managers and marketing practitioners to understand the reasons behind travellers using social media, especially Twitter, as a decision-making tool to better plan their trips. The study reveals that Twitter is considered useful and trustworthy, although it is not a travel-specific social media platform. Tourism businesses should be eager to incorporate social media in their business activities and be aware of the travel online communities, which considerably affect travellers' attitudes and intentions. Marketing strategies should be able to correspond to the continuous change in demand of consumers, which can be monitored by following travellers' opinions about destinations and facilities in social media. Marketers should be aware of the challenges related to the continuous change in distribution channels, including the development of new media and content generation.

Limitation and Future Scope

Even though the study added information on the efficacy of social media to the theoretical context, and provided insights for the tourism industry, interpreting the limitations is important to guide future researchers. Firstly, the present study focuses on measuring the variables as perceived by the travellers, which could vary from studies' results that apply actual measures. Therefore, it is recommended to extend this model by incorporating actual behaviour. Second, the study is applied in the Saudi Arabian context, hence, limiting the option to generalise the study's results. The research could be extended to explore the influence of cultural differences in the beliefs, expectations, and actions of social media users, whether in the other Gulf countries, Middle East, Asia, or globally. Studying variations in demographic characteristics will also be important. Third, the research considered using Twitter only in the first phase of acquiring tourism services when information seeking, neglecting the second and third phase (during and after the trip). Proposing a model linking all three phases of trip planning would be fruitful. Fourth, the findings are limited by the nature of the social media platform used and may be applied to other types of platforms as each has its specific method of engagement. Generalising the findings may be challenging as for the temporary attributes of the technical features of social media platforms. Last but not least, the study may be replicated in other service industry settings to advance research by giving further insights to the antecedents' importance in predicting attitude and intentions, in addition to the point of view of service providers. Although, the aforementioned limitations, the present study adds value by providing further understanding of the TAM in Saudi Arabia's tourism sector where field studies are still limited, despite the high usage of the internet.

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