

## Research Article

# Can Your Smartphone Make You a Tourist? Mine Does: Understanding the Consumer's Adoption Mechanism for Mobile Payment System

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Payment through mobile phones is a vital breakthrough in the arena of online businesses and e-commerce. The purpose of this study was to investigate the determinants, enablers, and barriers involved in the success or failure of the mobile payment system (MPS) for the travel industry. The study employs the constructs operationalized from coping theory, unified theory of acceptance and use of technology (UTAUT 2), and innovation resistance theory (IRT). The data has been collected from the 378 travelers who have used MPS for travel bookings for the first time. The customers of various travel agencies have been approached using an online questionnaire. Data has been analyzed using Statistical Package for Social Sciences (SPSS) and Analysis of Moment Structures (AMOS) version 26. The analysis revealed several interesting findings. All of the direct hypotheses for coping theory constructs were accepted except for the mediating role of satisfaction. However, the factors of UTAUT 2 and IRT revealed very thought-provoking findings, questioning various obvious perceptions. The findings of the study can be used by the media agencies, hotels, and travel and tourism departments of the governments, especially in the context of developing nations.

## 1. Introduction

Behavior modeling has been a central theme in psychology and the social sciences since their emergence as academic disciplines [1]. The influx of Internet-driven disruptive digital and communication technologies has influenced, and continues to influence, every walk of life, regardless of a country's size or level of development [2]. A case in hand is Pakistan, where 35 percent of the total population is Internet users, i.e., 76.98 million users, and it is growing at the phenomenal rate of 17% per annum. The Internet usage through mobile phones is the highest (75.9%) and the remaining (24.1%) by combined usage of desktops, laptops,

and tablet computers [3]. Almost 85% of the total time spent on social media sites is through hand-held mobile devices [4]. The exponential increase in the usage of mobile phones has also altered the behavior of travelers [5]. They share their experiences, obtain information, and purchase using smartphones [6]. Similarly, travel-related hotel bookings and planning are made mostly through smartphones instead of other related devices [7].

Despite the massive usage of mobile phones for booking and traveling, online payments using mobile phones are still in their infancy stage, with a tiny proportion of people making payments online by using mobile phones, e.g., 4% in Germany, 5% in the U.K., 6% in Canada and Australia, 7%

in the U.S., 9% in South Africa, 10% in South Korea, and 23% in India [5]. A similar trend in the adoption of mobile payments for travel bookings could be noticed [8]. The number of retailers accepting online payments has increased to 29% in 2018 from 24% in 2015. The usage of smartphones has reached maturity even in many developing countries; yet, the owners of mobile wallets are only 39% worldwide [9]. The payment through MPSs in Pakistan, a developing country, is 6.297. Although the percentage usage of MPS in Pakistan is higher than that of Germany, U.K, Canada, and Australia, it is not substantial and requires significant improvements, which could be done by focusing on the enablers and barriers of MPS [10].

Given the focus of the government of Pakistan to promote tourism and an increasing number of tourists in the country, the shift towards MPS is becoming even more important and essential [11]. The tourism revenue of Pakistan was \$19.4 billion, i.e., 6.9% of the country's total GDP in the year 2017. World Travel and Tourism Council (WTTC) anticipates that the travel revenue of Pakistan will rise to \$36.1 billion by the year 2030 [12]. The tourism and travel spending of Pakistanis are increasing by 7.8% per annum. It reached \$10.6 billion in the year 2019 compared to \$2.6 billion in the year 2000. Pakistan's travel industry has great potential and could be the world's top travel destination [13]. There are several options available for online travel-related bookings, including the websites of the passenger airline companies. Furthermore, several traditional travel agencies also give an option to customers of online payment transfer, which can be quickly done via MPSs. However, making payments by using MPSs for travel bookings is still not very common.

As per a survey, 60% of the travelers regarded mobile payment as a vital factor for hotel bookings. It has also been noted that hotel booking payment via a mobile phone can dominate developing countries such as China [14]. Earlier studies in the field mainly considered the absence of consumer practice, the nonexistence of inclusive application options, awareness, trust, inconsistency, and security threats in MPS [15]. Wang et al. [16] suggested that website functionality and usability are the enablers of MPS adoption. Furthermore, Martin [17] presented the reasons for low adoption as fewer incentives, resources, variety of options, unified services, and security in such transactions. Hence, we came up with the following broader research questions:

- (1) Which factors encourage consumers to adopt MPS for travel and tourism-related bookings?
- (2) What stops people from adopting MPS for travel and tourism tourism-related bookings?
- (3) How can an inclusive model incorporating inspiring and hindering elements for well-informed business decisions be presented?

Considering the information above, the adoption and usage of mobile payment options and their future are uncertain. This indicates that there are certain barriers to shifting

towards MPS and there is a need to understand encouraging factors. This acts as an impetus for the present study with the following four research objectives:

- (1) To classify the determinants involved in MPS for travel and tourism-related bookings
- (2) To ascertain the enabling factors for the adoption of MPS for travel and tourism-related bookings
- (3) To investigate the barriers to the adoption of MPS for travel and tourism tourism-related bookings
- (4) To present a comprehensive model from the amalgamation of determinants, enablers, and barriers to suggest policy guidelines

In order to understand the behavioral response towards new technology, we employed coping theory [18]. The factors proposed in the coping theory have been engaged as the determinants to understand consumers' behavior towards adopting MPS for travel purposes. Previously, Gong et al. [19] investigated how users' intention to utilize new mobile payment services is influenced by their inertial use of incumbent web payment services. Furthermore, satisfaction has been used in the previous studies related to hotel booking [20, 21]. However, it has not been studied in terms of MPS for travel bookings being led by perceived value.

Only a few studies are available on payment services regarding consumers' sustainable intentions in the western context [22–24]. Recently, Unified Theory of Acceptance and Use of Technology (UTAUT2) model was combined with a consumer brand engagement (CBE) model to predict customers' intentions to use contactless payment systems [22]. However, there is a void of literature on understanding how consumers' continuous usage intentions for payment using a mobile phone related to travel booking, especially in a developing country. To fill the gap in the existing literature, we employed the revised Unified Theory of Acceptance and Use of Technology (UTAUT2) [25] by adopting its core predictors as antecedents to continuous intention to use MPS for travel bookings. We also attempt to investigate the factors leading to the sluggish adoption of MPS. Various barriers presented in innovation resistance theory [26] have been implied to understand the consumer's resistance to using MPS for travel bookings. A related study employing innovation resistance theory has solely focused on young adults who use a certain MPS (PayTm) in the Indian Context [27]. The current research also fills this gap highlighted by the authors by considering all age groups and options available for MPS.

The current study contributes to the existing literature by providing a comprehensive model by evidencing the impact of the conceptualizations used from the most robust theories related to technology towards MPS for travel bookings in developing country's perspectives. The findings will be helpful for the travel agencies, hotels, and governmental policymakers in devising policies and procedures as mentioned in section 5 in detail.

## 2. Theoretical Exposition and Hypotheses Development

*2.1. Coping Theory.* According to coping theory, users go through three cognitive assessment processes before responding behaviorally to new systems [21]. The study takes its theoretical roots from the coping theory suggesting that the behavioral response towards new systems is formulated by opportunity appraisal, threat appraisal, and secondary appraisal collectively [18, 28]. In accordance with coping theory, we anticipate that perceived value, perceived threat, and perceived controllability will be major predictors of intention to utilize MPS. We considered the constructs of coping theory in this study as the determinants of the usage of MPS for travel bookings.

Extant literature advocates that perceived value is one of the most important factors for using new systems [16, 29]. The effectiveness of making payment through mobile phone gratifies the users' emotional and functional needs [30]. With the help of mobile phones, consumers can make bookings and purchases conveniently and instantly [31]. Consumers are frequently encouraged to use mobile payment systems by offering certain incentives, points, and discounts [32]. Consumers also feel pride in becoming early adopters of such products and intend to use mobile payment services as a result of value perceptions [33, 34]. Thus, we hypothesize the following:

H1a: Perceived value has a positive impact on user's intention to use MPS for travel bookings.

MPSs are vulnerable to threats because they are connected to wireless networks and the hacker can attack handily [35]. In MPS money transfers in the form of data from one device to another, it is referred to as electronic cash. Hence, hacking data can result in financial loss and the victim also suffers from psychological issues [36]. The users having perceived threat feel that they are more prone to financial and other negative consequences while using MPSs [37]. Gong et al. [19] analyzed that perceived threat has an inverse effect on the use of MPS. These users would not be willing to make mobile payments for travel bookings. Hence, we posit:

H1b: The perceived threat has a negative impact on the user's intention to use MPS for travel bookings.

Perceived controllability refers to the ability and resources of the individuals to use MPS [28]. This tendency can be high for a few individuals and for some it is low [38]. People with high perceived controllability believe that they can control the accidents and generate positive outcomes from the MPS [36]. Low perceived controllability can cause users to suffer from threats and uncertainty more easily [35]. Perceived controllability was found to be a significant predictor of the adoption of MPS by Gong et al. [19]. Based on the above discussions, we suggest the following:

H1c: Perceived controllability has a positive impact on users' intention to use MPS for travel bookings.

*2.2. Mediating Role of Satisfaction.* Several studies highlighted that the perceived value generates customer satisfaction [39]. It has been further conceived that customer satisfaction leads to usage intention [40]. Thus, satisfaction

plays a two-fold role; at one point in time, it becomes an outcome of perceived value and then in the same process, it acts as a predictor of intention. The users of mobile payment services derive satisfaction from the perceived value and then this satisfaction leads them to use MPS. Hence, we propose the following:

H2: Customer satisfaction mediates the positive relationship between perceived value and MPS usage intention for travel bookings.

*2.3. The Unified Theory of Acceptance and Use of Technology (UTAUT and UTAUT2).* Venkatesh et al. [25] modified UTAUT [41] to UTAUT2 by adding three additional variables (HM, price value, and habit) in the model and limiting moderators to three (age, gender, and experience). The UTAUT2 model addresses the consumer context and has been used in various perspectives related to consumer buying and payment behavior such as contactless payment [22], m-commerce [23], and m-banking [24].

Performance expectancy (PE) is deliberated as a useful construct related to the user's intention towards using information systems [36]. It relates to the degree to which an individual will have an advantage by adapting to the new system [41]. MPS reducing time and effort in making payments is a clear benefit of PE. PE has been used in previous related researches and proved its importance such as the intention to use NFC-based contactless payment systems in hotels [42], m-banking services adoption [43], and also intention to use social networking sites [44]. Considering the above-mentioned studies it has been hypothesized that:

H3a: Performance expectancy has a positive impact on users' intention to use MPS for travel bookings.

Effort expectancy (EE) is related to the ease of using technology [25]. EE is interrelated with other theories in similar connotations like perceived ease of use (Technology Acceptance Model), complexity (Innovation Diffusion Theory), and perceived self-efficacy [41]. It is a widely used construct and has successfully provided an impact on consumers' usage intentions. Some of the contexts include mobile technologies [45], usage of tablets [46], m-banking [24], and contactless payments [22]. In line with these studies, we propose the following:

H3b: Effort expectancy has a positive impact on users' intention to use MPS for travel bookings.

Lindenberg [47] described hedonic motivations as the desire to "feel better." Such objectives are tied to certain means, and these means contribute to social and physical comfort [48]. HM has a significant and direct effect on information systems acceptance and usage [49]. UTAUT2 model suggests that the HM is a critical factor in determining technology usage intention [25]. The construct HM has been employed earlier in studies related to technology acceptance and usage and provided promising results, for example, inverter air conditioners [50], Internet banking [51], and contactless payments [22]. Hence, we suggest:

H3c: Hedonic motivation has a positive impact on users' intention to use MPS for travel bookings.

Habit in the context of information technology can be said as the people's automatic use of information systems

because of learning [52]. Habit can be considered the antecedent of the intention and can lead to continuance usage behavior [53]. Habit referring to past behavior has been used in several studies [54, 55]. Habit has also been implied in technology-related studies, for example, UTAUT2 [25], contactless payments [22], and NFC m-payments in the hospitality industry [42]. Thus, we posit the following:

H3d: Habit has a positive impact on users' intention to use MPS for travel bookings.

**2.4. Innovation Resistance Theory.** The resistance-oriented behavior of consumers can be understood by using Innovation Resistance Theory (IRT) [26]. Resistance-oriented behavior can originate in an individual's life due to the change in life going to occur by using innovations [56]. The success or failure of new technology/information systems/innovations is dependent upon consumer resistance [26]. We used preadoption functional and psychological barriers to understanding consumers' usage intention of MPS for travel bookings.

The interruption caused by using the new system is unraveled by the usage barrier. Usage barrier negatively impacts the usage behavior as evidenced by the previous literature on online shopping [57], mobile gaming [58], mobile commerce [59], mobile services [60], mobile banking [61], and mobile payment system [27]. However, there is no final verdict on the drawbacks of the usage barriers as a recent study reveals that the consumer's intention to use mobile commerce is greater when barriers are high [56]. Thus, we posit the following:

H4a: Usage barrier has a negative impact on users' intention to use MPS for travel bookings.

The value barrier is related to the cost and benefits associated with learning the new technology [62]. More benefits should be offered to the users in comparison to the effort they have to make in order to understand and use new systems. Several studies suggested that value barrier negatively impacts user intention, such as online shopping [57], mobile gaming [58], mobile commerce [59], mobile services [60], mobile banking [61], and mobile payment system [27]. Hence, we hypothesize the following in the context of the study:

H4b: Value barrier has a negative impact on users' intention to use MPS for travel bookings.

The resistance resulting from uncertainties related to innovation is referred to as a risk barrier. Innovations with higher levels of uncertainty have a lower level of acceptance [63]. Risks related to mobile payment can be loss of money, fraud, poor internet connectivity, or poor battery power of their smartphones. Literature suggests that risk barriers adversely affect usage intention in various segments, e.g., mobile commerce [59], online shopping [57], m-shopping [64], mobile banking [61], mobile gaming [58], and mobile payment system [27]. Thus, it can be posited that:

H4c: The risk barrier has a negative impact on users' intention to use MPS for travel bookings.

The success or failure of any innovation can be gauged by the traditions of the society. Traditions are so closely related to the people that they cannot go against them and any change leads to discomfort [65]. In the case of MPS,

there is a clash with the traditional payment systems. Previous studies propose a negative association of traditional barriers with purchase intention like online shopping [57], mobile shopping [64], mobile commerce [59], mobile gaming [58], and m-banking [61], whereas Kaur et al. [27] suggested a favorable impact of traditional barriers on usage intention. Therefore, we would like to dig into the phenomenon further by the following hypothesis:

H4d: The traditional barrier has a negative impact on users' intention to use MPS for travel bookings.

The destructive impression due to difficulty of usage or foundations is referred to as the image barrier [66]. The negative impression in terms of MPS can be related to security and perceived difficulty in using the innovation-oriented MPS in comparison to traditional payment methods [67]. Extant literature suggests that the image barrier harms usage intention for mobile banking [61], mobile gaming [58], mobile commerce [59], mobile services [60], and mobile payment system [27]. So we assume that:

H4e: Image barrier has a negative impact on users' intention to use MPS for travel bookings.

The comprehensive model to understand travelers' behavior regarding MPS is presented in Figure 1.

### 3. Methodology

**3.1. Instrument.** The data for the study has been collected with the help of a structured questionnaire. The questionnaire was divided into two parts, followed by a cover page. The cover letter was added to share the purpose of the research and to assure respondents that their personal information will not be made available to anyone following the suggestions of Podsakoff et al. [68]. The first part contained information about the demographic profile of the respondents given in Table 1. The second part contained the measurement items of the constructs. The items of perceived value have been measured using semantic differential scaling. The items for the remaining constructs were measured on a five-point Likert scale wherein 1 = strongly disagree and 5 = strongly agree. The standardized reliable and established scales have been used in the present study. However, a few items have been slightly modified to suit into MPS framework. The provision of the face and content validity was ensured by getting the questionnaire reviewed by 03 experts.

Perceived value is a second-order construct comprised of utilitarian value and hedonic value. The five sets of bipolar anchors for each category adapted from the study of Im et al. [69] have been used to measure the attitude of the consumers towards using the MPS. Perceived threat is also a second-order construct like perceived value and has two dimensions, i.e., the severity of threat and susceptibility to threat. The scale is intended to measure the level of threat alleged by the customers with the use of MPSs. Three items scale of each dimension proposed by Witte [70] has been used in this study. Three items scale adapted from the study of Jia et al. [71] for perceived controllability has been used to gauge the level of control assumed by the customers after using MPS for travel bookings purposes.

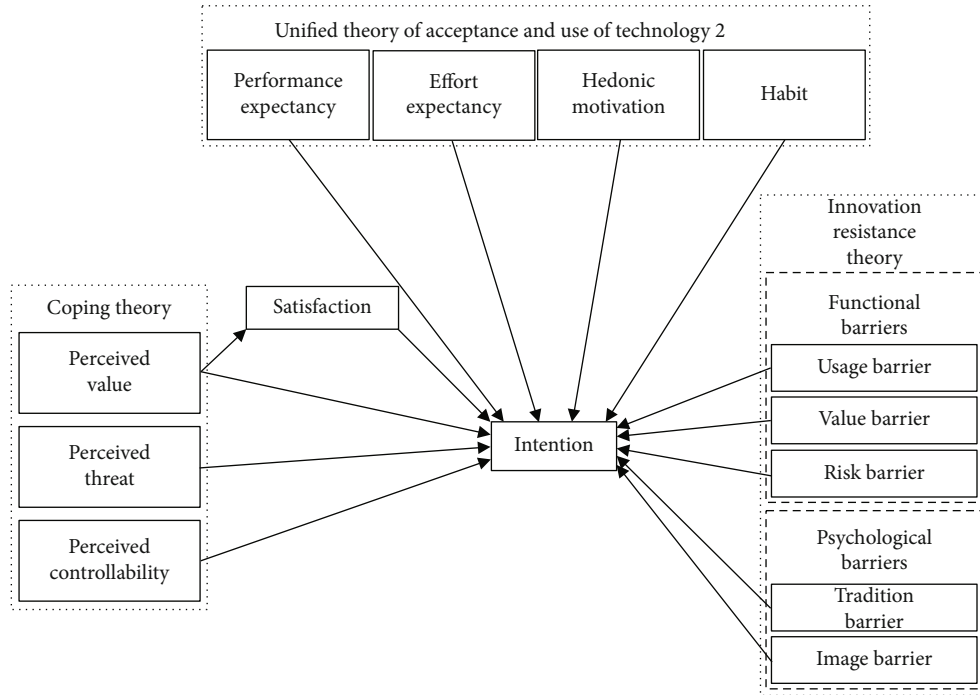


FIGURE 1: Conceptual framework.

TABLE 1: Demographic profiles.

Demography	Details	Frequency	Percent
Gender	Male	210	55.6
	Female	168	44.4
Age	Below 19 years	67	17.7
	20 to 29 years	248	65.6
	30 to 39 years	56	14.8
	40 to 49 years	7	1.9
	Total	378	100.0

Customer satisfaction has been measured by using three items scale adapted from the study of Mittal and Frennea [72]. The scale is intended to measure the level of satisfaction derived by the customers of the travel industry from using the MPS. The measurement scales for the constructs of UTAUT 2 have been adapted from the study of Venkatesh et al. [25]. The constructs of the theory aim to measure the level of acceptance of the customers for MPS from various dimensions. Performance expectancy, effort expectancy, and habit have been measured with four items scale each, whereas HM scale had three items.

The innovation resistance theory has five dimensions and has been measured by adapting the scale from the study of Laukkanen [61]. Theory measures the perceived barriers to using technology and in the context of our study, barriers are related to the usage of MPS for travel-related bookings. Usage and risk barrier has been measured with four items scale. Two items scale was used to measure the value and image barrier, whereas the tradition barrier was measured

using five items scale. The construct for intentions to use MPS has been measured using five items adapted from the study of Johnson et al. [73]. The scale intends to measure the continuous usage intention of the consumers for MPSs related to travel bookings.

**3.2. Sample and Procedure.** The data has been collected by the people who have used the MPS for the first time for payment of travel-related bookings. First-time users have been targeted in order to understand the barriers to not using it earlier and the same users can also provide insights into the motivational factors, at the same time can share their experience after using it. Thus, these individuals can cover all aspects of the study as determinants, enablers, and barriers. The techniques suggested by Lynn [74] have been used for managing non-response methods can be minimized using several techniques: It was made sure that they are first-time users with the help of a screening question, i.e., “Have you started making payment for travel-related bookings from a mobile payment system for the past six months only?” This question helped to filter out the suitable respondents for the study. An online questionnaire developed through Google Forms has been used to collect data from the respondents. Travel agencies were approached to discuss the objectives of the research and were requested to share the online link of the questionnaire with their customers by employing purposive sampling technique. Travel agencies were ensured that their and their customers’ identifying information will be kept confidential.

A short letter was sent to the respondents in advance to inform them about the upcoming survey. A pilot study was conducted to collect data from 40 respondents following

the recommendation of Peterson and Merunka [75]. The refined questionnaire was used for data collection in a period of 3 months from mid of October to the mid of December 2021. The sample size for this research was determined by following Hair et al. [76] and Leguina's [77] criteria. The researchers suggested 05 responses per each item of the construct. Therefore, the suitable sample size for the current study is estimated at 295 responses ( $59 \times 5 = 295$ ). Furthermore, the respondents under the age of 18 had to fill out the informed consent from their guardians. The questionnaire was initially shared with 700 customers and 289 responses were received back within a period of two months. A soft reminder was sent to customers with the note that your participation is voluntary and we received further 145 responses. We applied one-way ANOVA to estimate the structural differences in both data sets. The results revealed that there is no significant difference in both the data sets. So, we combined the data for further analysis. A total of 434 responses were received with a response rate of 62%. The invalid and incomplete responses were removed before analyzing the data.

#### 4. Results

From the finalized sample, it was found that most of the respondents were male, however, the study has got a significant number of female respondents. The majority of the participating respondents in the study were between the age group of 20 to 29 years. This young population has all the access to the technology, they are well equipped, and have command over several applications from social media to social commerce. However, the other age groups are also found in the sample, especially those who are below 19. This generation is growing up with technology and is more tech-savvy than their earlier generations, especially the millennials.

For the inferential purpose, covariance-based structural equation modeling (CB-SEM) using AMOS version 26 was applied to a final sample of 378 responses. AMOS was utilized as one of the primary structural equation modeling (SEM) methodologies to examine the data. The benefits of this technique over alternative methods, such as regression equation systems and PLS-PA, as suggested by Westland [78] are as follows: (a) considering the correlations between outcome variables, (b) generating standard outputs. The essential assumptions of this technique are multivariate data and a normal distribution. As a result, before employing this strategy, it is necessary to check that the distribution of data from both surveys is normal [79]. Two approaches were used to study this: the Skewness–Kurtosis and the Q–Q diagram. The ranges of Skewness and Kurtosis results were under the acceptable normal distribution criterion of  $\pm 2$  [80]. As a result, the data distribution was deemed normal. The CB-SEM was used in two stages; at first, confirmatory factor analysis, i.e., reliability, validity, and fitness indices were acquired and in the second stage, the hypothesized model was used to check the hypotheses [81]. Moreover, considering the nature of the data acquired, the study has also applied common method variance (CMV).

The study used confirmatory factor analysis (CFA) and then tested the hypotheses. We have run the model twice to achieve the desired CFA and model fitness values. In the initial CFA, some of the indicators were meeting the desired threshold of 0.7, which also leads to low values of Cronbach's alpha and AVE. Hence, we have deleted the items PE4 and TB4 and ran the model again on AMOS which can be seen in Figures 2 and 3.

The updated results of CFA are presented in Figure 3 and Table 2 which show that all the reliability constructs are meeting the minimum criteria of 0.7. Moreover, all the AVE values are above 0.5, which means the constructs are explaining more variance than the error in the data [82]. The MSV and ASV values are less than the AVE, which means the study is free from the issue of discriminant validity. This also shows that the items are explaining variances to their own constructs and not leading the variances to the other constructs [83].

$$CR = \frac{(\sum_{i=1}^n \lambda_i)^2}{(\sum_{i=1}^n \lambda_i)^2 + (\sum_{i=1}^n \delta_i)}, AVE = \frac{\sum_{i=1}^n \lambda_i^2}{\sum_{i=1}^n \lambda_i^2 + \sum_{i=1}^n \delta_i}, \quad (1)$$

where  $\lambda$  = standardized factor loading;  $n$  = number of items;  $\delta$  = error variance =  $(1 - \text{multiple correlation coefficient}) = 1 - \lambda^2$ .

Share variance (SV): square of the correlation. If the correlation between two variables is "X," their shared variance will be "X<sup>2</sup>" Suggested by Fornell and Larcker [83].

Kline [84] suggested that for model fit indices, the chi-square model (CMIN/DF), root mean square error of approximation (RMSEA), comparative fit index (CFI), and standardized root mean square residual (SRMR) indicators are the most important to report. In this study, CMIN value is found under 3, RMSEA and SRMR are well below 0.08, and CFI is above 0.9. Hence, in the light of the thresholds given, the model passed the fit indices' threshold values [85] as presented in Table 3.

After achieving the desired results in the CFA, the study then applied the hypothesized model using 1000 subsamples in AMOS version 26. Table 4 provides the results of the individual hypothesis proposed earlier. In H1a, a positive relationship was proposed between perceived value and intentions. The study noted that the relationship was found significant and positive where the  $p$ -value was 0.000 which is far less than 0.05 and *the variance explained in the relationship was 56.7%, which is a strong variance*. In H1b, a negative relationship between perceived threat and intention was proposed. The study found that the relationship is insignificant and negative with a  $p$ -value was more than 0.05 ( $p = 0.125$ ;  $est = -0.064$ ). H1c was about the positive relationship between perceived controllability and intentions. The results were found otherwise, where the relationship gets insignificant. In hypothesis H2, a mediating relationship was proposed between perceived value and intentions through customer satisfaction. However, in the results, no significant mediation relationship was found ( $p = 0.576$ ;  $est = 0.038$ ).

In H3a, performance expectancy was proposed with intentions. The study also found this relationship significant

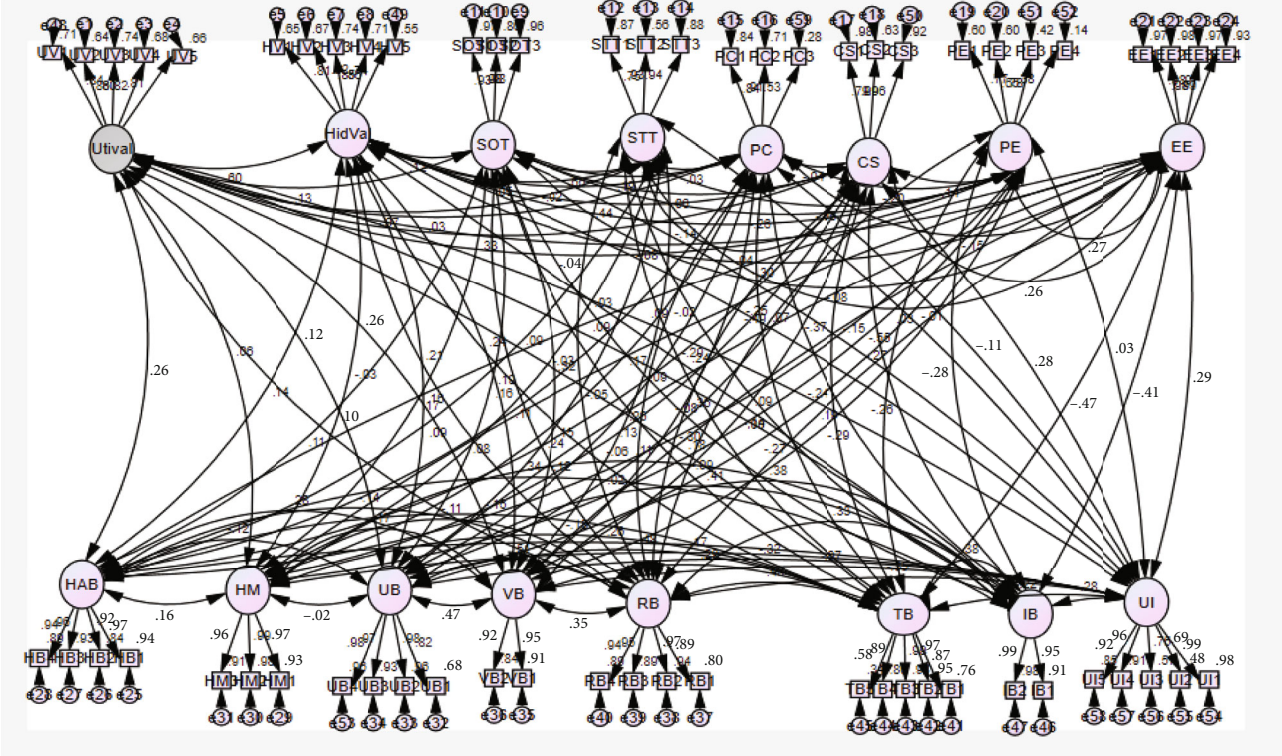


FIGURE 2: Initial CFA.

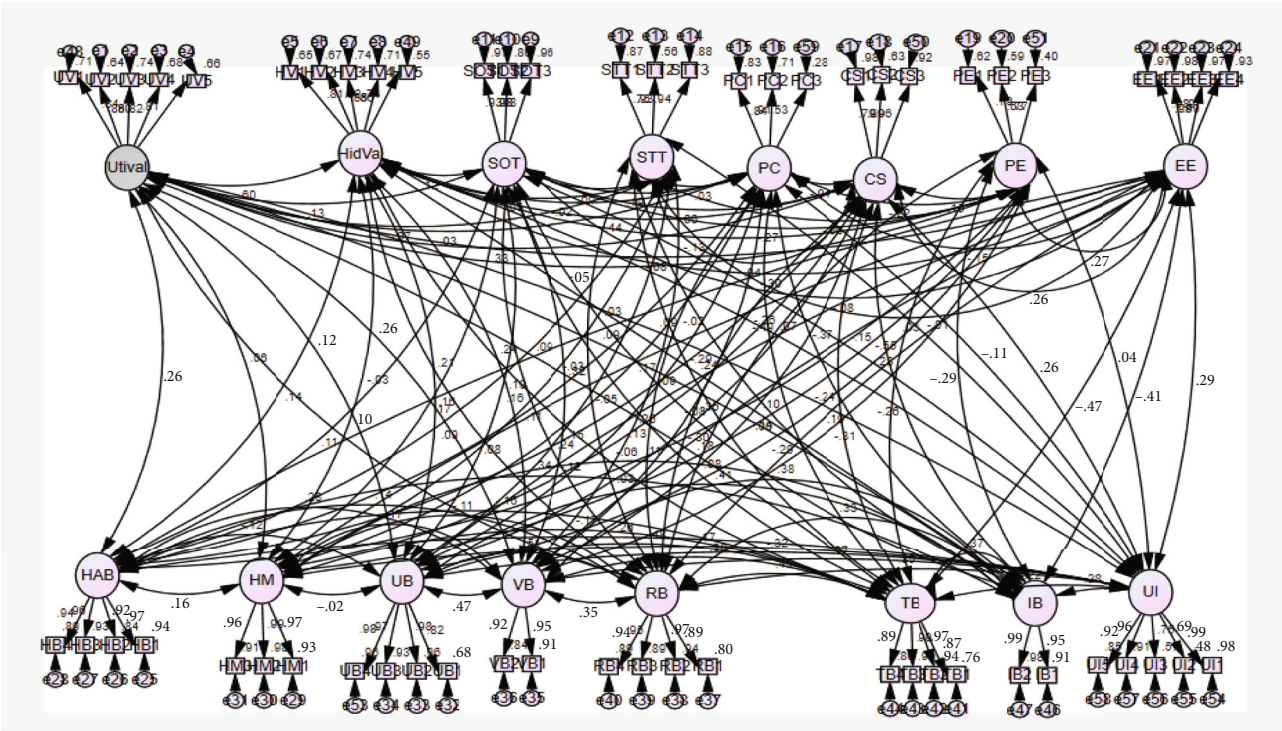


FIGURE 3: Final CFA.

TABLE 2: Confirmatory factor analysis.

Construct/ indicators	Standardized factor loading (CFA-AMOS)	Construct reliability		Convergent validity (AVE)	Construct validity	
		Cronbach's alpha	Composite reliability (CR)		Discriminant validity (MSV)	Discriminant validity (ASV)
Perceived value						
Utilitarian value						
UV1	0.843					
UV2	0.800	0.914	0.916	0.685	0.358	0.078
UV3	0.858					
UV4	0.824					
UV5	0.812					
Hedonic value						
HV1	0.806					
HV2	0.821	0.906	0.908	0.644	0.358	0.081
HV3	0.858					
HV4	0.845					
HV5	0.739					
Perceived threat						
Severity of threat						
SOT1	0.984	0.976	0.976	0.932	0.396	0.064
SOT2	0.930					
SOT3	0.982					
Susceptibility to threat						
STT1	0.931	0.901	0.909	0.770	0.396	0.034
STT2	0.749					
STT3	0.940					
Perceived controllability						
PC1	0.914	0.780	0.817	0.609	0.114	0.041
PC2	0.841					
PC3	0.532					
Customer satisfaction						
CS1	0.988	0.938	0.941	0.843	0.202	0.016
CS2	0.795					
CS3	0.959					
Performance expectancy						
PE1	0.785	0.769	0.775	0.536	0.162	0.069
PE2	0.769					
PE3	0.633					
Effort expectancy						
EE1	0.984	0.900	0.900	0.920	0.175	0.082
EE2	0.988					
EE3	0.984					
EE4	0.967					
Hedonic motivation						
HM1	0.966	0.980	0.981	0.994	0.100	0.023
HM2	0.992					
HM3	0.956					
Habit						
HB1	0.968	0.972	0.972	0.898	0.202	0.043
HB2	0.917					
HB3	0.963					
HB4	0.941					



TABLE 2: Continued.

Construct/ indicators	Standardized factor loading (CFA-AMOS)	Construct reliability		Construct validity		
		Cronbach's alpha	Composite reliability (CR)	Convergent validity (AVE)	Discriminant validity (MSV)	Discriminant validity (ASV)
Usage barrier						
UB1	0.823					
UB2	0.981	0.962	0.968	0.883	0.289	0.043
UB3	0.966					
UB4	0.980					
Value barrier						
VB1	0.953	0.931	0.933	0.874	0.279	0.093
VB2	0.916					
Risk barrier						
RB1	0.892					
RB2	0.972	0.964	0.967	0.881	0.272	0.020
RB3	0.945					
RB4	0.943					
Tradition barrier						
TB1	0.874					
TB2	0.971	0.963	0.965	0.873	0.289	0.022
TB3	0.994					
TB4	0.893					
Image barrier						
IB1	0.952	0.971	0.972	0.954	0.228	0.037
IB2	0.992					
Intentions to use						
UI1	0.990					
UI2	0.692					
UI3	0.753	0.940	0.939	0.757	0.175	0.010
UI4	0.956					
UI5	0.920					
Reliability and construct validity thresholds: Suggested by Fornell and Larcker [77]		$\alpha > 0.70$ [76]	CR > 0.70	(i) AVE > 0.50 (ii) CR > AVE.	MSV < AVE	ASV < AVE

TABLE 3: Model fitness indicators.

CMIN/DF	RMSEA	CFI	SRMR	R square (CS)	R square (UI)
2.586	0.065	0.919	0.078	0.24	0.31

( $p=0.021$ ;  $est=412$ ). In H3b, effort expectancy was proposed as an antecedent to intentions. The study confirmed that the construct is positively and significantly related. The  $p$ -value was significantly lower than 0.05 ( $p=0.03$ ;  $est=0.126$ ). In H3c, hedonic motivations were proposed positively with intentions. The results of this study confirmed that there is a positive and significant relationship between hedonic motivations and intentions with a  $p$ -value less than 0.05 and the variance explained was around 13% ( $p \leq 0.001$ ;  $est=13.5$ ). In H3d, a positive relationship between habit and intentions was proposed. The result in Table 4 confirmed that the hypothesis is significant and positive ( $p=0.005$ ;  $est=17.7\%$ ).

The H4a was about the negative influence of usage barriers on intentions. The study found a negative and signifi-

cant relationship between the two where a  $p$ -value was found less than 0.05 ( $p=0.021$ ;  $est=0.103$ ). The H4b was about the negative relationship between value barrier and intentions; however, the study did not find any significance in the relationship. The H4c proposed a negative relationship between risk barrier and intentions. The study confirmed the negative significance ( $p=0.006$ ;  $est=11.6$ ). In H4d, the tradition barrier was proposed negatively with intentions. The study found no significance between these two constructs ( $p=0.268$ ;  $est=0.049$ ). In H4e, the inverse relationship between image barrier and intentions was proposed. The study confirmed that both the constructs are negatively related where the  $p$ -value was found less than 0.05 ( $p \leq 0.001$ ;  $est=0.143$ ).

TABLE 4: Hypotheses assessment summary.

Path models	Estimate/variance	Sig value	Empirical decision
H1a. Perceived value > intention	0.567	0.000	Supported
H1b. Perceived threat > intention	-0.064	0.125	Unsupported
H1c. Perceived controllability > intention	-0.065	0.320	Unsupported
H2. Perceived value > satisfaction > intention	-0.038	0.576	Unsupported
H3a. Performance expectancy > intention	-0.412	0.021	Supported
H3b. Effort expectancy > intention	0.126	0.003	Supported
H3c. Hedonic motivation > intention	0.135	0.000	Supported
H3d. Habit > intention	0.177	0.005	Supported
H4a. Usage barrier > intention	-0.103	0.021	Supported
H4b. Value barrier > intention	0.069	0.127	Unsupported
H4c. Risk barrier > intention	-0.116	0.006	Supported
H4d. Tradition barrier > intention	0.049	0.286	Unsupported
H4e. Image barrier > intention	-0.143	0.000	Supported

## 5. Discussions and Conclusion

The online payment of money for various reimbursements is getting momentum in all parts of the world. However, limited research is available on this particular aspect related to the travel and tourism industry. The current research identifies the determinants and elements which induce a person to use MPS. The study also investigates the factors creating resistance to adopting MPS. In order to scrutinize objectives number 1 and 2 of the research, coping theory with the integration of satisfaction and the UTAUT 2 model have been used. To identify the resisting factors, the study draws upon the conclusions of the results from the functional barriers and the psychological barriers by employing innovation resistance theory (IRT). This allows us to present deep insights into the challenges related to the MPS in the developing economies related to travel and tourism-related services (research objective number 3). Furthermore, a comprehensive model has been presented with the amalgamation of determinants, enabling, and resisting factors in order to respond to objective number 4 of the study.

Perceived value serves as the basis of consumer decision for the adoption of MPS. This suggests that the consumers are convinced with the return they are getting from using MPS for bookings. The results are aligned with the previous studies related to the perceived value for technological systems [33, 34]. The mediating effect of satisfaction was not found significant; this may be because the perceived value itself has a direct effect on the intention to adopt MPS. This might be the reason why no other prior research has used this combination in this context. Satisfaction can be used as a focal predictor instead of a mediator and getting value is more imperative for consumers.

The perceived threat has generally restricted consumers from adopting new systems and also presented an indirect effect on the intention to use MPS in earlier studies [19, 28]. The negative effect of perceived threat on intention to use MPS was not found significant in the current study. This implies that the people in developing countries do not deem

it risky. This may be possible because of the trust in the vendor to whom they are transferring payment. Perceived controllability in the model proposes that the consumers having a sense of control over the outcomes are more inclined towards the adoption of MPS. However, this assumption has been found insignificant in the current study. The foremost reason for this particular result would be because they are unsure of what will happen in case of loss of amount due to hacking, etc. This shows consumers' lack of awareness regarding the procedure for filing a claim and doubt whether they would be able to receive the amount back or not. The findings from perceived controllability are contrary to the prior research [18, 28].

The results indicate that the factors of the UTAUT 2 model are important determinants of MPS in the travel and tourism industry. The impact of performance expectancy on intention to use has been accepted likewise previous research in the field [22, 25, 42–44]. This finding is critical and shows that the performance of MPS is as per the expectations of the consumers. The hypotheses related to effort expectancy [22, 24, 46] and hedonic motivation [50, 51] have been accepted in line with the literature on the UTAUT 2 model. It suggests that the consumers consider MPS easy to use and they feel better after making payments through their mobile. However, the hypothesis related to the impact of habit on usage intention has been rejected. This finding is contrary to some of the recent research findings but is very predictable [22, 42]. As per the UTAUT 2 model, habit refers to the automatic use of technology and continuous use behavior. In our scenario, first of all, most of the time payment information was not explicitly available and secondly, the respondents were first-time users of MPS. Both of these mentioned points give a clue as to why this hypothesis can get rejected.

The findings of innovation resistance theory present useful insights. The relationship stating that usage barrier has a negative impact on intention to use has been accepted. The findings are similar to most of the other studies in the field [27, 57–61]. This entails that the usage barrier act as a hurdle and the systems should be easy to use.

The value barrier was not found to be negatively affecting the intention to use MPS for travel bookings. This finding is in contrast to the existing studies [57–61]. This is not considered a barrier because MPSs are not complicated and have a user-friendly interface. Furthermore, it also suggests that the people planning for travel and tour make related arrangements in excitement and do not consider it as a barrier. The acceptance of the hypotheses related to the risk barrier shows that the uncertainties associated with making online payments are a hindrance for users in making payments through mobile as presented in prior research [27, 57–61, 64].

Our study does not support the hypothesis that the tradition barrier has a negative impact on the intention. The possible explanation for this could be that the usage of the smartphone has become very common nowadays. Even almost every bank has its own specialized online banking application. The situation forced societies to move towards online and mobile systems due to the advent of COVID-19. Tradition barriers are an obstacle when technology is new, and its association becomes inconsequential when the innovation develops. The findings of the current study are aligned with the findings of Kaur et al. [27]; however, a substantial number of studies present contradictory findings [57–61, 64]. The last hypothesis stating that the image barrier has an inverse relationship with the intention to use MPS has been accepted as presented in related studies [58–61]. The misconceptions related to using MPSs can be the basis of the image barrier. People do not prefer to use MPS for travel-related bookings because they consider it unsafe and problematic to use.

**5.1. Implications.** Our study has a few pertinent managerial and policy implications. The foremost is the creation of perceived value strategically. The basic strategy that a firm must adopt is “*Raise perceived value by proving your actual value.*” It could be done by focusing on the reliability, availability, and agility of mobile payment systems. For MPS, the first element that a customer requires is reliability, both in terms of the usage and security of the information. In developing countries like Pakistan a number of times, consumers either remain incapacitated to pay through mobile payment systems and if they do pay, they bear the brunt in the shape of information leakage. It highlights that to create superior perceived value, both government and merchants must work together to make a seamless, secure, and agile mobile payment system. China offers one such example, where around 46% of the country’s population perform their financial transaction using mobile. Interestingly, almost 85% of the transaction are performed using “WeChat.”

Businesses in developing countries like Pakistan can develop such an app, backed by the governments for data security and reliability. It can significantly uplift the usage of MPS. The provision of certain incentives in terms of discounts, lower prices, and extra faculties, which are prevalent in Pakistani, could be increased. Such incentives would significantly contribute to the perceived value of the customers, thus using them to use MPS. Several countries, like Malaysia and Thailand, are capitalizing on the incentive-driven increase in perceived value.

Regarding the perceived threats, many of the tourists perceive the MPS as can result in cyber fraud. It can result in the hacking of their bank accounts and other financial information. Such perception is widely prevalent in developing countries as the number of hacking and financial frauds was rooted back to the developing countries. In such a scenario, the responsibility of the government and businesses increases manifold. The cyber security measures, swift action on the cybercrime complaints, and usage of the latest technologies to prevent the cyber-attacks could be a few essential measures, which we recommend based on our findings. Moreover, the technological context factors are critical considerations for corporate technology adoption and deployment [86].

In a nutshell, both government and businesses have to come together to uplift the mobile payment system’s reliability, agility, and trustworthiness. Likewise, comprehensive patronage and campaigns at the government level to promote MPS may also play an influential role in increasing its users. From the business side, the provision of a wide variety of incentives for using MPS can also captivate the users’ attention.

**5.2. Limitations and Future Research.** The study has some key limitations, the major among which is the cross-sectional, static data usage. Several researchers argue that the usage of longitudinal data can better predict the trends and prevalence of a phenomenon. The second limitation of the study is context specificity. The study focuses on Pakistan, which has a diverse and unique cultural setting. Hence the findings of the study may have limited generalizability to other countries. Based on the aforementioned limitations of the study, we suggest future researchers take the panel data consisting of the various regional countries. It will help to examine how the barriers and enablers of MOS are (homo) heterogeneous across various countries.

Furthermore, the study has been conducted on the direct effects of the theories on the adoption intention of the consumers, whereas satisfaction has been used as an interviewing variable between perceived value and intention to adopt MPS. It is suggested that future studies may incorporate the influence of certain control variables. How does gender, age, income, and reputation of the vendor affect the consumer’s choice of online payment platforms? The interaction effect of the above-mentioned constructs can provide significant findings. In addition to that, most of the respondents in the study were young people; hence, future research can be conducted by carefully selecting the targeting respondents covering all age groups.

## Data Availability

The data sets analyzed during the current study are available from the corresponding author on reasonable request.

## Consent

Informed consent was obtained from all subjects involved in the study.

## Conflicts of Interest

The authors declare no conflict of interest.

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