The Impact of Consumer Culture on Innovation Adoption in Developing Countries

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Abstract

There is limited research on the factors that influence people's continued use of mobile payments in developing countries, and it is likely that these factors vary from country to country. This study aims to explore how the factors affecting the continued use of mobile payments differ between Jordan and India, using the Unified Theory of Acceptance and Use of Technology (UTAUT2) as a framework. Additionally, this study extends the UTAUT2 model by including other factors such as trust, advertising value, payment culture, awareness, smartphone experience, and satisfaction. The study employs the fuzzy Analytic Hierarchy Process (AHP) approach to rank the factors that affect the intention to continue using mobile payments. The results suggest that price value and payment culture have the greatest influence on both Jordanian and Indian perceptions. Furthermore, habit was found to be the third most important factor affecting Jordanian perceptions, while smartphone experience was the third most significant factor affecting Indian perceptions.

Introduction

Mobile payment is a recent technology; it refers to the use of smartphones to make payments for bills, services, or goods (Damaini, Nugroho, 2018). As the world rapidly shifts to smartphones, it also increases the usage of mobile devices to make payments (Zhang et al., 2018). The popularity of smartphones is rapidly growing, it has been estimated by the researcher that by the end of 2019 the users of mobile devices will reach over five billion. Economical internet access and reasonable prices of mobile phones are two key points that boost the usage of smartphones (Shaw, Sergueeva, 2019). Recently, the traditional methods of payment, i.e., card or cash, are now replaced with mobile payment methods. This change is by the advancement in technology on the Internet, economic conditions, multiple social networks, and maximum customs of mobile. We can say that smartphones are an inescapable product and almost every individual has access to use them thus, it allows users to pay their bills through a mobile service payment system. The facility is not only limited to the digital system adoption rather it has been espoused by any business in order to provide access anytime, to anyone, and anywhere (de Luna et al., 2019).

Mobile payments are defined as "any payment transaction in which a mobile device is used to initiate, authorize and confirm the exchange of money" (ITU, 2019). This includes payments made through mobile banking apps, payment services such as Apple Pay, Samsung Pay, and Google Pay, and other payment apps that allow users to transfer money, pay bills, and make purchases using their mobile devices.

Mobile payments have grown significantly in popularity in recent years. According to a survey by the US Federal Reserve, the percentage of smartphone owners who have used mobile payments in the past 12 months increased from 24% in 2015 to 33% in 2019 (FRS, 2019). This growth can be attributed to the convenience and ease of use of mobile payments. With mobile payments, users can make transactions quickly and easily, without the need to carry cash or cards. Mobile payment is an innovation and a blessing for those individuals who do not choose to carry physical cash or credit cards. Mobile payment services have beenactivated in many developing countries. Another advantage of mobile payments is the added security they provide. Mobile payment services often require additional authentication steps such as biometric verification or password protection, making them more secure than traditional payment methods.[1]

This system of payment is being established in developing countries like Asia and Africa. The method of mobile payment facilitates P2PTs (person-to-person transfers), paying fees, motivating quick, small buying, paying bills, and the purchase of services or goods. It is a normal practice in a mobile payment system that their mobile network operators (MNOs) operate in many different regions or countries so that out of the border business and remittances can take place without any hurdles (Iman, 2018). Whereas, in emerging countries such as India and Jordan mobile payment systems are crucial because they help to revolutionize commerce and finance. Mobile payments are an increasingly popular and convenient way for people to make financial transactions. As technology continues to evolve, it is likely that we will see even more growth in the use of mobile payments in the future.

On the other hand, research on technological advances and mobile payment systems has mainly focused on established countries, with little attention given to emerging markets (Dhanapal, Sharma, 2022). The lower levels of technological infrastructure and adoption in emerging markets make it challenging to implement and study mobile payment systems in these contexts (Parker, Venkatesh, 2021). Unique cultural and societal factors in emerging markets may affect the adoption and use of technology and mobile payment systems, making it difficult to generalize findings from established markets (Kim et al., 2022). However, there is a growing recognition of the potential for technology and mobile payment systems to drive economic growth and improve access to financial services on emerging markets (Biradavolu et al., 2021).

Therefore, the current study contributes by examining how factors affecting individuals' intention to continue using mobile payments differ between Jordan and India. The study uses the Unified Theory of Acceptance and Use of Technology (UTAUT2) as a theoretical framework and extends it with additional factors such as trust, advertising value, payment culture, awareness, smartphone experience, and satisfaction. The study also employs the Fuzzy Analytic Hierarchy Process (AHP) approach to rank the factors that affect continuing intention to use mobile payment. The study found that price value and payment culture were the most significant factors influencing both Jordanian and Indian perceptions. Furthermore, habit was ranked as the third most influential factor for Jordanian perceptions, while smartphone experience was ranked as the third most influential factor for Indian perceptions. This research provides insights into the factors that influence individuals' intention to continue using mobile payments in different cultural contexts, which can be useful for policymakers, mobile payment providers, and researchers.

Literature Review

The researcher combines the eight models of theories such as MM, TRA, and TPB. TAM, IDT, MPCU, and SCT to construct a Unified Theory of Acceptance Use of Technology. The current study brings out the four basic variables from the eight main theories of UTAUT

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[1] https://usa.visa.com/run-your-business/small-business-tools/payment-technology/mobile-payments-security.html, accessed 17.03.2023.

that show 32 different impacting factors. The four variables are effort expectancy, facilitating conditions, performance expectancy, and social influence. UTAUT has the highest explanatory power compared to any other technical model - 70% explanatory power. For this reason, the UTAUT model has been widely discussed in research work (Venkatesh et al., 2012).

Furthermore, UTAUT2 was proposed by Venkatesh et al. (2012) by using the UTAUT model as the basis, the updated model deals with the behavior of customers using information technologies. UTAUT2 added three more variables to enhance the productivity of the model, namely, habit, price value, and hedonic motivation. These three new variables have proven to be essential to studying information technology acceptance levels of users. Although the concept of UTAUT2 was discovered later and narrowly explained compared to TAM and UTAUT, it has garnered remarkable attention from scholars, specifically researchers of mobile businesses. Handayanto & Ambarwati (2022) proposed factors that influence the intention to continue using mobile payments. UTAUT2 was used as a foundation to conduct empirical research on mobile payment adoption intentions (Putri, 2018).

The UTAUT includes the two key factors from the TAM (perceived usefulness and perceived ease of use), but also incorporates additional factors such as social influence and facilitating conditions. While incorporating the attitudes and subjective norms from TRA, it adds additional factors such as facilitating conditions and behavioral intention. The model incorporates performance expectancy, effort expenctancy, and social influence from TPB, motivational factors from MM theory and innovation factors from IDT, however, it additionally includes social influence and facilitating conditions. The perception of the system is taken from MPCU and social and cognitive factors have been taken from SCT. Moreover, the UTAUT specifically focuses on technology acceptance and use. Hence, the UTAUT is considered a comprehensive and well-developed model that considers a wide range of factors that influence technology acceptance and use. It has been widely used and tested in a variety of contexts and has been found to be effective in predicting technology adoption and use (Venkatesh et al., 2016; Dwivedi et al., 2017).

UTAUT 2 factors

Performance Expectancy. Performance expectancy can be described as the state when technology usage benefits customers in a certain way (Venkatesh et al., 2012; Gharaibeh et al., 2018, Zhang, Li, 2021). The payment by using mobile phones can be increased by a positive perception of a customer therefore, it also impacts the intention to adopt mobile payments. Performance expectancy is the most effective construct that helps to forecast the interest of the user in using mobile payment systems (Sheikh et al., 2017). When the daily use of technology is beneficial for the customer, then they

are motivated to adopt the latest technology (Alalwan et al., 2017; Wang et al., 2021).

Effort Expectancy. Effort expectancy can be referred to as the level of ease a consumer feels when using a system (Gharaibeh et al., 2018; Venkatesh et al., 2003; Wang et al., 2020). Davis (1989) further elaborates upon the concept saying that the use of mobile payments involves the use of technology so the role of effort expectancy is important to understand in order to analyze customers' intention to adopt (Chen, Li, 2021). Effort expectancy can also be defined as the minimum effort required by the customer to use a given technology (Venkatesh et al., 2012). It is useful to check the probability of a new technology's success and adoption (Miltgen et al., 2013). If customers perceive that the use of mobile payments is easier than any other method, such services would perform well (Wang et al., 2020).

Social Influence. Social influence is the degree to which one individual can impact the perception of others, it can be further explained as how one person's belief that a new technology must be used can impact the adoption of that technology by another person (Wu et al., 2021; Venkatesh et al., 2003). In the case of payment via mobile devices, social influence would help motivate individuals to use that system, the social environment may include friends, family, or co-workers (Zhou et al., 2010). Before the adoption of a technology, it is a normal practice for an individual to search for feedback and guidance from prior or existing customers and this assists them in adopting the technology. Literature has defined social influence as the key factor in behaviural intention to adopt a technology, especially online payment systems (Alalwan et al., 2017; Turel, Qahri-Saremi, 2019).

Facilitating Condition. The facilitating condition can be explained as the intensity or level to which an organization or technology is offered to help a customer (Gharaibeh et al., 2018; Venkatesh et al., 2003). The consumer considers the condition suitable when the firm supports the use of the technology and makes it easier (Venkatesh et al., 2012). It has been stated by researchers that if the mobile payment system has the proper operational infrastructure to facilitate users, then the number of mobile payment users would increase (Oliveira et al., 2016). The government should come forward to facilitate and develop an ecosystem that supports internet usage and also motivates organizations to create such an environment where mobile payment systems enhance and smoothly flourish (Sobti, 2019).

Hedonic Motivation. Hedonic motivation is considered a pillar of human behavior and experience (Gharaibeh et al., 2018; Piotrowski, Armstrong, 2022). It is effective in bringing out well-being in an individual as well as maintaining good behavior. However, it is difficult to sustain hedonic motivation because it has an adaptive impact on a user (Ozturk, Bilgihan, 2021). We can elaborate upon this motivation as the pleasure or enjoyment a person feels while using a technology. For

any customer, motivation is the key factor to continue using any technology or adopting the new technology (Venkatesh et al., 2012). As mobile phone payment is a very recent technology and users also enjoy it, this leads to the adoption of this technology (Oliveira et al., 2016). The hedonic motivation concept is a detailed and extensive version of perceived enjoyment and is also incorporated into the acceptance of technology.

Price value. The price value concept falls into the financial side of the system or product usage. As the current study takes into account the Indian and Jordan markets, the construct of price value is important because these countries are price sensitive. Both countries proposed many offers like points, discounts, and coupons. A study was conducted by Alalwan (2020) to check the correlation between user satisfaction and price value. The result shows that until mobile payment providers offer price value deals, they would not have satisfied users of the mobile payment system.

Habit. Habit is defined as a natural action or behavior of an individual that he or she automatically performed due to learning. In the case of technology, when a user has been using a certain technology for some time, they would inevitably use it without giving it a second thought (Zhao et al., 2021; Amoroso, Lim, 2017). Furthermore, if a user of mobile payment shows habitual behavior while using the application we consider that their requirements and needs fulfilled. Additionally, in Jordan, mobile payment providers offer customer loyalty rewards to regular customers, thus consumers have a high tendency to remain with the same service company to earn higher rewards. According to Kim et al. (2014), there is a strong correlation between continuous intention and perceived substituting costs from habit. Another study carried out by Wilson et al. (2010) found a positive relationship between habit and performance expectancy. Put simply, habit is a behavior with which a person is satisfied and agreeable to continue doing.

Extended UTAUT 2 model with six factors
Advertising value

Advertising effectiveness is measured by the value of advertising; researchers defined it as an analysis of advertising utility and worth to the consumers (Ducoffe, 1995). The companies offering mobile payment services should also focus on the development of their application to the lifestyles and requirements of their users. The real challenge for mobile payment service providers is to convey their message to the public in a way that motivates them to start using their services and for non-interested parties, to garner interest in the adoption of mobile payments (Humbani, Wiese, 2018). It is a natural that a person be more likely to adopt those innovations about which they have awareness and also perceive value for money (Pham, Ho, 2015). Thus, to make mobile payment services more popular, it is important to educate customers about the application of

mobile payments and also highlight the factors that add value to their adoption (Humbani, Wiese, 2018). To achieve this objective, mobile advertisements play a vital role and assist customers in learning about the advantages of mobile payment systems, which results in mobile payment acceptance and adoption.

While UTAUT is a useful model for understanding technology adoption and use, it is important to also consider the role of advertising value in the adoption and use of mobile payments. Advertising value refers to the perceived value that individuals place on advertisements related to mobile payments, such as those that promote the benefits and convenience of using mobile payments. Advertising value is an important factor to consider when trying to understand and predict individuals' adoption and use of mobile payments, as it can play a key role in creating awareness, influencing perceptions of usefulness and ease of use, and exerting social influence (Xu et al., 2018).

Payment culture

Cultural value significantly impacts the way a person processes information (Baptista, Oliveira, 2015). The term payment culture can be explained as a combination of opinions, values, beliefs, and attitudes that inform a group and help them to act in a certain way (Tam, Oliveira, 2017). This research has paid special attention to uncertainty avoidance because it is the main component in payment culture and refers to the provided code of conduct influencing both the service and user to reduce uncertainty (Baptista, Oliveira, 2015; Fan et al., 2018). When an individual is not willing to face uncertainty, he or she may encounter a rough situation like ambiguity and thus may choose to avoid the risk altogether (Baptista, Oliveira, 2015). Baptista & Oliveira (2015) and Fan et al. (2018) concluded that mobile payment adoption intention has been highly influenced by payment culture.

Payment culture refers to the prevailing attitudes and behaviors related to payment methods within a society or culture (Kim, 2021). For example, in some cultures, cash is the preferred payment method, while in others, electronic payments such as credit cards and mobile payments are more widely used. Payment culture is an important factor to consider when trying to understand and predict individuals' adoption and use of mobile payments, as it can influence habitual behavior, perceptions of ease of use and trust, and social influence (Jang et al., 2020). By taking into account payment culture and the other UTAUT factors together, we gain a more comprehensive understanding of the factors that influence mobile payment adoption and use.

Trust in mobile payment

Trust is subjective, it is a belief that an entity will meet its obligations and, in this case, fulfil its role in the transaction of electronic payments, where a customer has to experience high risks because of the loss of control

and environmental uncertainty (Zhou, 2011). Trust is also a good predictor of future activities among parties and can build connections, both commercial and interpersonal (Sharma, Sharma, 2019). In short, trust is a guarantee that users will experience a positive environment, honesty, goodwill, and facility in using mobile payments.I If a consumer has no trust in a mobile payment service provider, they cannot have a good experience (Zhou, 2013). Trust can be enhanced with a good online environment that includes strong privacy and minimal social cues (Singh et al., 2018; Zhou, 2012).

The intention of a consumer to use a service is based on the trust they attain from an improved system and process. The intention of the user is related to the ambiguity and perceived risk of service usage. In this case, trust help to avoid ambiguity and improve the intention of a user to continue employing a particular technology (Belanche et al., 2014). Therefore, trust strengthens the provider and receiver relationship and continuing intention to use a technology in the long term. Trust is a critical factor in the UTAUT model for understanding mobile payment adoption and use (Sharma, Barua, 2021). Trust can be defined as the belief that the mobile payment system is reliable and secure, and that users can depend on it to complete transactions without the risk of fraud or losses (Zhou, 2021).

Awareness of mobile payments

Awareness related to a technology directly influences technology acceptance. The well-informed users have a continuing intention to use mobile payment services. With the help of awareness, the consumer can have full knowledge of its usefulness. The convenience of mobile payments and the high spread of technology increases the need for a customer to become well-aware (Öztüren, 2018). Thus, awareness is directly related to continuing intention to use a technology.

The importance of awareness for mobile payment systems can be seen in several studies and reports. For example, a report from the Federal Reserve Bank of Atlanta found that "lack of awareness and education are among the key reasons for low adoption rates" of mobile payments in the United States (Adams, 2016). Similarly, a study conducted by the Pew Research Center found that while 29% of US adults had used a mobile payment system in 2015, many were still hesitant to adopt the technology due to concerns about security and privacy (Smith et al., 2012).

Another report, by the consulting firm Accenture, found that while 19% of US consumers had used mobile payments in 2015, only 9% used them regularly. The report attributed this low adoption rate to "a lack of awareness, concerns over security, and limited merchant acceptance" (Accenture, 2016). To address these concerns, it is essential for mobile payment providers and financial institutions to prioritize education and awareness efforts. This can include providing clear and concise information about the security measures in place to protect users' data, as well as tips and best practices for safe mobile payment use.

Customer satisfaction

Satisfaction can be described as a positive feeling that one can experience from the use of an application designed to execute a mobile payment. A satisfied customer is a key source to bringing new customers via positive feedback (Thong et al., 2006) and is also a key source of revenue for the company. A prior study also mentioned that satisfaction is the main component of repeated use of a technology (Mouakket, Bettayeb, 2015). Continuing intention to use describes a current user of mobile payments who wants to keep using it in future (Setterstrom et al., 2013). It has been discussed in the literature that the continuing intentions have been influenced by customer satisfaction (Chen et al., 2012).

Recent academic work has highlighted the importance of satisfaction in mobile payment systems. For example, a study by Lee, Kwon, and Kim (2021) found that satisfaction with mobile payment systems positively influenced users' intention to continue using the technology. Similarly, a study by Liao and Chen (2021) found that satisfaction with mobile payment systems was positively related to users' trust in the technology, which in turn was positively related to their intention to use the technology in the future. The study also found that factors such as perceived ease of use, perceived usefulness, and perceived security were important determinants of users' satisfaction with mobile payment systems.

In order to improve satisfaction with mobile payment systems, it is important for providers to focus on factors such as usability, security, and reliability. For example, providers can offer clear and easy-to-understand instructions on how to use the technology, as well as robust security measures to protect users' personal and financial information.

Smartphone Experience

Experience can be defined from the starting time of technology use to the current date; it is measured by level of use and based on time (Venkatesh et al., 2012). Experience is considered a significant measure in the process of technology adoption as high experience in technology results in the positive perception of technology use by customers (Faqih, Jaradat, 2015). Experience allows individuals to maintain their behavior over time (Castaneda et al., 2007). Smartphone experience is essential to the success of mobile payment systems as it provides a convenient and secure platform for users to make transactions. Recent studies have shown that customers are more likely to use mobile payments if they find the experience easy and convenient (Elok et al., 2021). Therefore, mobile payment systems should prioritize a seamless and user-friendly experience, robust security features, and convenience

to drive adoption (Accenture, 2019). Thus, the current study suggests that high experience is directly correlated with continuing intention to use a technology.

Methodology

This research aims to rank the key factors that are important for the adoption of mobile payment systems. The authors employ the fuzzy AHP approach developed by Professor Saaty in 1979 due to its inherent ability to deal with complicated and contradictory issues (Saaty, 1979; Ibrahim et al., 2021; Saraswat et al., 2021). This approach can solve complex problems through a network- or hierarchical structure-based approach (Ren, Sovacool, 2015). The top level of the hierarchy comprises the research study's goal/the identified problem, the middle level holds the factors to be examined for the analysis, and finally, the lowest level provides possible alternatives (Saraswat et al., 2021).

In the present study, the qualitative evaluations of eleven experts are collected among which six are from Jordan and five are from India. These evaluations are converted into crisp numeric weights using Buckley's geometric mean value method.

The first step of fuzzy AHP is to perform a pair-wise comparison, to obtain the relative importance of decision criteria.

$$p = (a_1 \times a_2 \times .... \times a_k)^{1/k}, q = (b_1 \times b_2 \times ... \times b_k)^{1/k},$$
$$r = (c_1 \times c_2 \times ... \times c_k)^{1/k} \qquad (1)$$

There are k decision criteria that need to be compared pairwise.

For each pair of criteria, a value a(i,j) or b(i,j) etc. is assigned to denote the relative importance of criterion i compared to criterion j. This value is usually determined through a pairwise comparison matrix, where decision-makers compare each criterion to every other criterion and assign a score based on their relative importance.

The values for all pairwise comparisons are multiplied together for each criterion and then raised to the power of 1/k (where k is the number of criteria).

The resulting values for each criterion (p, q, r) represent their relative importance compared to all other criteria.

Obtaining the fuzzy weights by multiplication of fuzzy geometric mean and reciprocal of summation of those fuzzy geometric mean values is explained in Eq. 2.

$$w_l = p_l (p_1 + p_2 + ... + p_k)^{-1}, w_m = q_m (q_1 + q_2 + ... + q_k)^{-1},$$
$$w_u = r_u (r_1 + r_2 + ... + r_k)^{-1} \qquad (2)$$

In simpler terms, Equation 2 is used to convert the pairwise comparisons made by decisionmakers into a set of fuzzy weights for the criteria. The fuzzy geometric mean values (p, q, r) are used to represent the importance of each criterion, and the reciprocals of the summation of these values are used to normalize them to obtain weights that add up to 1.

It is worth noting that the fuzzy AHP method can be used to handle imprecise and uncertain information, which is often present in real-world decision-making scenarios. The use of fuzzy sets allows decisionmakers to express their judgments in linguistic terms (e.g., very important, somewhat important) rather than precise numerical values (Kahraman, Yazici, 2013).

Obtaining the de-fuzzified crisp numeric values (DCNV) by an average of the fuzzy lower, medium, and higher values is given in Equation 3

$$DCNV = (w_l + w_m + w_u) / 3 \qquad (3)$$

After obtaining the fuzzy weights for each criterion (w_l, w_m, w_u) using Equation 2, we need to obtain a single numerical value for each criterion that can be used for further analysis.

The de-fuzzification process involves combining the fuzzy lower, medium, and higher values for each criterion to obtain a single numerical value.

Equation 3 computes the average of the fuzzy lower, medium, and higher values, weighted by the fuzzy weights obtained in Equation 2 (Wu, Olson, 2008).

In order to confirm that the decisionmaker's assessment was accurate and free of conflicting factors, the consistency ratio was examined. A consistency ratio below 0.1 indicates that the criteria weight is truly valid.

$$CR = CI / RI \qquad (4)$$
$$CI = (\lambda_{max} - n) / (n - 1) \qquad (5)$$

Equations 4 and 5 are used to calculate the consistency ratio in the Fuzzy Analytic Hierarchy Process (AHP), which is used to validate the consistency of the decisionmaker's judgments. Here is an explanation of each component of the equations:

- The consistency ratio (CR) is a measure of the consistency of the pairwise comparisons made by the decisionmaker. It is calculated as the ratio of the consistency index (CI) to the random index (RI).
- The consistency index (CI) measures the extent to which the pairwise comparisons made by the decisionmaker are consistent with each other. It is calculated as the difference between the maximum eigenvalue (λmax) and the number of elements (n), divided by (n-1).
- The random index (RI) is a reference value used to determine the threshold for an acceptable level of consistency. It is calculated based on the number of elements (n) in the pairwise comparison matrix..

Analysis and Results

To collect the responses, an online survey has been carried out among the experts of Jordan and India. Determining the appropriate sample size for Fuzzy Analytic Hierarchy Process (AHP) depends on several factors, such as the number of decision criteria, the complexity of the decision problem, and the level of precision desired in the results. Generally, there is no fixed rule for determining the sample size for Fuzzy AHP, as it can

Table 1. Triangular Linguistic Scale for Weights of Decision Criteria

Linguistic terms	Numeric Nomenclature	Fuzzy score
Perfectly strong (PS)	9	(2, 2.5, 3)
Highly strong (HS)	8	(1.5, 2, 2.5)
Moderately strong (MS)	7	(1, 1.5, 2)
Lightly strong (LS)	6	(1, 1, 1.5)
Equal (E)	5	(1, 1, 1)
Lightly weak (LW)	4	(0.667, 1, 1)
Moderately weak (MW)	3	(0.5, 0.667, 1)
Highly weak (HW)	2	(0.4, 0.5, 0.667)
Perfectly weak (PW)	1	(0.33, 0.4, 0.5)

Source: authors.

vary based on the specific context of the decision problem.

However, some researchers have suggested that a sample size of at least 10 to 15 decisionmakers is appropriate for Fuzzy AHP to achieve reliable results (Buyukozkan, Cifci, 2012; Zavadskas et al., 2016). It is also recommended to use sensitivity analysis to determine the robustness of the results against different sample sizes. Hence this study collects the data from the 11 experts. The experts were asked to assign the relative importance among the criteria using a triangular linguistic scale as shown in Table 1. The scale carries the nine classes namely, perfectly strong, highly strong, moderately strong, lightly strong, equal, lightly weak, moderately weak, highly weak, and perfectly weak.

Further, the linguistic weights of experts were converted into the crisp numeric weights incorporating the discussed methodology. Here, Table 2 comprises the details of fuzzy geometric mean values, fuzzy weights, and normalized weights of criteria. The criteria were ranked according to the order of highest normalized weights to least normalized weights.

Further, the assigned normalized weights of decision criteria are graphically shown in Figure 1. It shows that the criterion price value carries the highest weighted normalized index of 0.235, followed by payment culture (0.176) and habit (0.148). On the other hand, the least preference is given to criterion effort expectancy which carries the weight share of 0.010.

Furthermore, in terms of countries, the study also elaborately discusses the perception of Jordan and India. Based on Table 3 and Figure 2 the results indicated that among the most important factors that affect the intention to continue using mobile payment technology from the Jordanian perspective, price value is the most important followed by payment culture, habit, smartphone experience, advertising value, facilitating condition, trust, awareness, satisfaction, performance expectancy, hedonic motivation, effort expectancy, and social influence.

Finally, the perceptions of Indian experts is elaborated. Based on the Table 4 and Figure 3, the results indicated that the most important factor that effect the intention to continue using mobile payment technology from the Indian perspective is price value, followed by payment culture, smartphone experience, facilitating condition, habit, advertising value, awareness, trust, performance expectancy, satisfaction, hedonic motivation, social influence, effort expectancy.

Discussion

The main purpose of the current study is to identify the factors that impact the intention to continue using mobile payments and rank them Jordan and India. This research incorporated UTAUT 2 extended models that take into consideration habit, performance expectancy, hedonic motivation, effort expectancy, price value, facilitating condition, and social nfluence along with additional six factors: smartphone experience, trust,

Table 2. Weights of Decision Criteria Using Fuzzy AHP Approach

| Criteria	Fuzzy Geometric Mean Values	Fuzzy Weights	Normalized weight (center of area)	Ranking
Performance Expectancy	(0.383, 0.433, 0.494)	(0.016, 0.021, 0.028)	0.021	10
Effort Expectancy	(0.163, 0.182, 0.264)	(0.007, 0.009, 0.015)	0.010	13
Social Influence	(0.229, 0.258, 0.295)	(0.010, 0.013, 0.017)	0.013	12
Facilitating Condition	(1.568, 1.795, 2.048)	(0.066, 0.087, 0.115)	0.087	5
Price value	(4.222, 4.873, 5.513)	(0.179, 0.237, 0.310)	0.235	1
Hedonic Motivation	(0.301, 0.347, 0.406)	(0.013, 0.017, 0.023)	0.017	11
Habit	(2.643, 3.052, 3.484)	(0.112, 0.148, 0.196)	0.148	3
Trust	(0.648, 0.726, 0.813)	(0.027, 0.035, 0.046)	0.035	8
Advertising value	(1.193, 1.367, 1.570)	(0.051, 0.066, 0.088)	0.067	6
Payment culture	(3.089, 3.635, 4.181)	(0.131, 0.177, 0.235)	0.176	2
Awareness	(0.907, 1.047, 1.214)	(0.038, 0.051, 0.068)	0.051	7
Smartphone experience	(1.920, 2.238, 2.580)	(0.081, 0.109, 0.145)	0.109	4
Satisfaction	(0.551, 0.630, 0.728)	(0.023, 0.031, 0.041)	0.031	9

Source: authors.

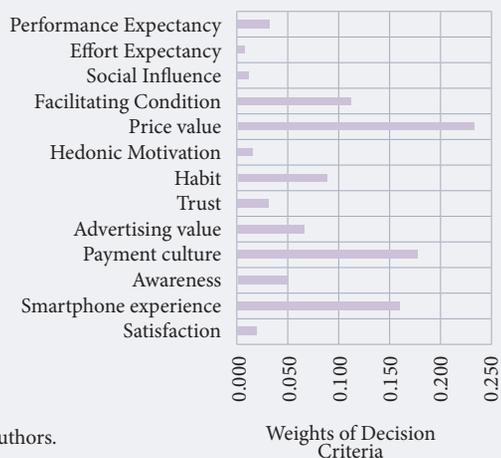Figure 1. **Preference Score of Decision Criteria**
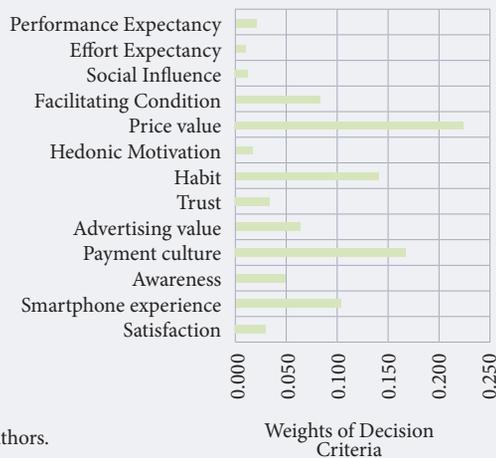
Source: authors.

Figure 2. **Preference Score of Decision Criteria in Geographical Location of Jordan**
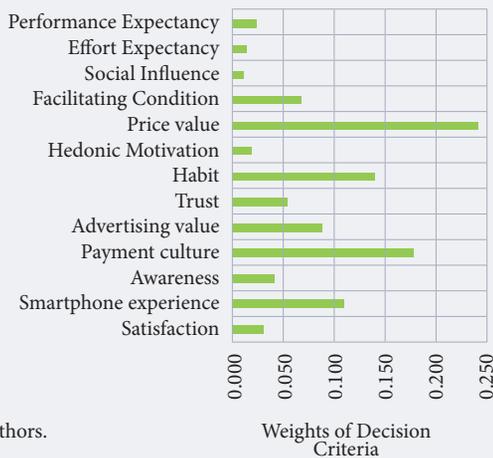
Source: authors.

Figure 3. **Preference Score of Decision Criteria in Geographical Location of India**

Source: authors.

satisfaction, advertising value, awareness, and payment culture. The literature has little discussion about the intention to continue using mobile payments on a comparative basis. This study compares two countries, Jordan and India, and provides knowledge about mobile payment service providers and wider mobile technologies in these countries.

Comparing the results of this study in both countries, we find similarities in the factors that influence the intention to continue using mobile payment technologies. Price value is a highly important factor in Jordan. The same result is found in India. These results indicate the fact that many services provided are now charging transaction fees. Citizens of these countries are generally in the low-income bracket and thus highly affected by cost.[2] Thus, the author suggests that for the emerging markets, it is important that mobile payment service providers have low prices to capture such markets.

The second most significant factor that affects the Indian and Jordanian customers' intention to continue using mobile payments was payment culture. Payment culture influences the intention of a user to adopt mobile payment services. The result is consistent with earlier studies (e.g., Yang, Fang, 2021; Oh, Lee, 2021; Lu et al., 2020). The technology of mobile payment is also affected by uncertainty. In an environment where the uncertainty is lower, there is a higher chance of customers continuing to use technology compared to the environment where there is a high level of uncertainty. Thus, the current study found that payment culture is the second essential factor that impacts the adoption of mobile payment technology in India and Jordan. We can conclude that in both countries customers follow the provided rules and regulations proposed by the service provider companies so that they can reduce uncertainty to the maximum possible extent.

Conclusion

In conclusion, this study aimed to investigate the factors that impact intentions to continue us of mobile payment technology in the emerging markets of India and Jordan. The research incorporated UTAUT2 extended models with six additional factors to compare the two countries. The findings showed that both India and Jordan have similar factors that significantly influence intentions to continue using mobile payments. Price value and payment culture emerged as the most crucial factors in both countries. The study also highlighted the importance of low-cost services in captur-

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[2] The importance of price value as a factor in the intention to continue using a technology is not unique to Jordan and India. Many recent studies have also found similar results in various contexts. For example, a study conducted in Malaysia found that perceived usefulness and price value significantly influenced intention to continue use of mobile banking services (Shah Alam et al., 2020). Another study conducted in China also found that price value played a significant role (Yang, Huang, 2021). Furthermore, a study conducted in the United States found that perceived usefulness, ease of use, and price value were significant predictors of continuing use of mobile health applications (Tsai et al., 2020).

Table 3. **Weights of Decision Criteria Using Fuzzy AHP Approach in Jordan**			
Criteria	Fuzzy Geometric Mean Values	Fuzzy Weights	Norma-lized weight	Ranking
Performance Expectancy	(0.398, 0.453, 0.521)	(0.017, 0.023, 0.031)	0.023	10
Effort Expectancy	(0.24, 0.27, 0.308)	(0.011, 0.014, 0.018)	0.014	12
Social Influence	(0.188, 0.215, 0.253)	(0.008, 0.011, 0.015)	0.011	13
Facilitating Condition	(1.145, 1.313, 1.505)	(0.05, 0.066, 0.089)	0.067	6
Price value	(4.047, 4.706, 5.354)	(0.178, 0.238, 0.316)	0.237	1
Hedonic Motivation	(0.314, 0.366, 0.424)	(0.014, 0.019, 0.025)	0.019	11
Habit	(2.302, 2.715, 3.135)	(0.101, 0.137, 0.185)	0.137	3
Trust	(0.899, 1.047, 1.227)	(0.04, 0.053, 0.072)	0.053	7
Advertising value	(1.489, 1.711, 1.954)	(0.065, 0.087, 0.115)	0.087	5
Payment culture	(2.937, 3.46, 3.983)	(0.129, 0.175, 0.235)	0.175	2
Awareness	(0.704, 0.802, 0.917)	(0.031, 0.041, 0.054)	0.041	8
Smartphone experience	(1.791, 2.117, 2.47)	(0.079, 0.107, 0.146)	0.107	4
Satisfaction	(0.509, 0.587, 0.683)	(0.022, 0.03, 0.04)	0.03	9
Source: authors.			

Table 4. **Weights of Decision Criteria using Fuzzy AHP Approach in India**			
Criteria	Fuzzy Geometric Mean Values	Fuzzy Weights	Norma-lized weight	Ranking
Performance Expectancy	(0.595, 0.678, 0.78)	(0.024, 0.031, 0.042)	0.032	9
Effort Expectancy	(0.141, 0.154, 0.169)	(0.006, 0.007, 0.009)	0.007	13
Social Influence	(0.216, 0.245, 0.278)	(0.009, 0.011, 0.015)	0.011	12
Facilitating Condition	(2.101, 2.408, 2.735)	(0.086, 0.112, 0.146)	0.112	4
Price value	(4.415, 5.022, 5.681)	(0.18, 0.233, 0.302)	0.233	1
Hedonic Motivation	(0.282, 0.321, 0.371)	(0.011, 0.015, 0.02)	0.015	11
Habit	(1.652, 1.891, 2.159)	(0.067, 0.088, 0.115)	0.088	5
Trust	(0.595, 0.66, 0.728)	(0.024, 0.031, 0.039)	0.03	8
Advertising value	(1.236, 1.422, 1.64)	(0.05, 0.066, 0.087)	0.066	6
Payment culture	(3.256, 3.835, 4.411)	(0.133, 0.178, 0.235)	0.178	2
Awareness	(0.906, 1.042, 1.203)	(0.037, 0.048, 0.064)	0.049	7
Smartphone experience	(3.025, 3.443, 3.906)	(0.123, 0.16, 0.208)	0.16	3
Satisfaction	(0.367, 0.414, 0.47)	(0.015, 0.019, 0.025)	0.019	10
Source: authors..			

ing semerging market. Furthermore, the research provides insights for mobile payment service providers who are attempting to develop strategies to increase user adoption. The study recommends that the service providers should focus on creating a payment culture, reducing uncertainty, and increasing customer satisfaction to encouragec continued use of mobile payment technology. Overall, this study contributes to the limited literature on comparative analyeis of mobile technology use intentions on emerging markets and offers recommendations to mobile payment providers to help them increase market share.

Although the current study has contributed to the existing literature, it has some limitations. Firstly, the study uses 11 experts, five from India and six from Jordan, thus the results are limited to these findings. It would be useful to analyze the data by incorporating more experts from both the countries., which would

furhter enhance the validity of the research. Secondly, the results are restricted to the Indian and Jordanian markets and they cannot be applied to any other country because every country has its own characteristics and dynamics. Therefore, it is suggested that future researchers analyze the same factors by using different countries to check the reliability of the results. Lastly, the literature has mentioned different significant factors that have an impact on intention to continue use of a technology, but the current study focuses on the UTAUT2 model with a few different factors (payment culture, trust, satisfaction, advertising value, and smartphone experience, and awareness). Future research can analyze other factors like performance, privacy, security, and mobile application quality.

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