FACTORS AFFECTING CONSUMERS' SATISFACTION TOWARDS MOBILE PAYMENT SERVICES: AN ANALYTIC HIERARCHY PROCESS APPROACH

Asaad Alsakarneh [*], Shehadeh Mofleh Al-Gharaibeh [**], Abdelwahhab Allozi [**], Hisham Ali Shatnawi [***], Wael Basheer Abdul Kareem Alhyasat [***], Mohammad Wahppe Abedalhadi Alkasawneh [****], Bilal Eneizan [*****]

* *Corresponding author*, Faculty of Business, Department of Human Resource Management, Jerash University, Jerash, Jordan
Contact details: Faculty of Business, Department of Human Resource Management, Jerash University, 26150 Jerash, Jordan
** Faculty of Business, Abu Dhabi University, Abu Dhabi, UAE
*** Faculty of Business, Ajloun National University, Ajloun, Jordan
**** Commerce Department, University of Mysore, Mysore, Karnataka, India
***** College of Science and Humanities Studies, Prince Sattam Bin Abdulaziz University, As Sulayyil, Saudi Arabia; Business School, Jadara University, Irbid, Jordan

How to cite this paper: Alsakarneh, A., Al-Gharaibeh, S. M., Allozi, A., Shatnawi, H. A., Alhyasat, W. B. A. K., Alkasawneh, M. W. A., & Eneizan, B. (2023). Factors affecting consumers' satisfaction towards mobile payment services: An analytic hierarchy process approach. *Corporate & Business Strategy Review, 4*(3), 8–17.
https://doi.org/10.22495/cbsrv4i3art1

ISSN Online: 2708-4965
ISSN Print: 2708-9924

Received: 10.12.2022
Accepted: 21.07.2023

JEL Classification: A12, M5, M21
DOI: 10.22495/cbsrv4i3art1

Abstract

The aim of the study is to use the analytic hierarchy process (AHP) technique to identify and rank the factors affecting customer satisfaction with mobile payment services in the Jordanian market, where little research has been done on post-adoption behaviour. By gathering data from experts and analyzing the results, the study seeks to determine the relative importance of various factors, such as app quality, cost, trust, and social influence, in shaping customer satisfaction. The literature is rich with studies on the adoption of mobile payment services in developing countries. However, little attention has been paid to post-adoption behaviours, such as customer satisfaction. Additionally, the use of multi-criteria decision-making techniques, such as AHP, to rank factors affecting mobile payment service satisfaction is rare. Our literature search identified 17 factors, and we gathered data from 12 experts, which was sufficient for the AHP technique. The results revealed that app quality was the most critical factor affecting satisfaction, followed by cost, usefulness, trust, information risk, security, social influence, ease of use, performance, credibility, privacy, reliability, responsiveness, customer attitude, confidentiality, assurance, and feedback mechanism.

Keywords: Mobile Payment Service, Digital Service, Satisfaction, Multi-Criteria Decision-Making, Jordan

Authors' individual contribution: Conceptualization — As.A. and B.E.; Methodology — S.M.A.-G. and Ab.A.; Investigation — H.A.S. and W.B.A.K.A.; Resources — M.W.A.A.; Writing — As.A. and Ab.A.; Supervision — As.A. and B.E.

Declaration of conflicting interests: The Authors declare that there is no conflict of interest.

1. INTRODUCTION

As the use of smartphones increases day by day it also enhances the payment system done by mobile such as utility bills as well as also highlighting the need for information and communication technology (ICT) innovation. In this regard, fintech, i.e., the combination of technology and finance, has developed (Dahlberg et al., 2015). It is referred to as the merger of financial operations and information and communication technology, for example, remittance, payment through mobile, crowdfunding, and management of assets, and it also carter the high demand for financial services that may arise due to the increase in e-shopping and its bill payment like electricity and water.

Fintech provides several services for their user among which mobile payment is the most frequently used service. Mobile payment can be described as a service to pay a bill by using a mobile, it has advantages like paying anytime and anywhere and does not require long queues and specific time (Iman, 2018). Mobile payment also facilitates the electronic market by replacing the flow of cash in a market with payment through smartphones (Ondrus & Pigneur, 2006). According to researchers, services of mobile payment have played a significant role in the market (Menke & De Lussanet, 2006). It can be said that mobile payment is the most effective technological innovation of recent times, and it captures a huge chunk of the market in both developed and developing countries. According to Slade et al. (2014), in 2014, it has been estimated that by 2017 the expected mobile payment users would reach 450 million globally, this estimation was further added by GSMA (2016), claiming that in 2020 there would be 720 million users.

Literature shows many studies that discussed behavioral intention and adoption towards payment by using mobile (Choudrie et al., 2018; Alalwan et al., 2017) but the literature does not show adequate research on the behaviour of post-adoption like satisfaction. Thus, there is a clear gap present in the literature as a majority of studies only discussed behavioural intention and adoption of mobile payment. The key measure to compute the success of mobile payment and information systems is the satisfaction level of a user. Thus, the current study aimed to study the factors that affect the satisfaction towards mobile payment in Jordan, especially that related to mobile payment for bills, such as water and electricity. On the other hand, to our knowledge, no study so far applied in Jordan used the analytic hierarchy process (AHP) method to rank the factors that affect the satisfaction of mobile payment, such as the eFAWATEERcom app. Thus, this is another gap that will be covered in the current study.

Electronic bills or e-bills are a game charger service as they completely change the old method of payment that involve cash payment at fix place and in a given time frame, that old method of payment required more time, cost, and energy. With the help of e-bill, it has all become faster and easier, as well as new applications also made it quicker and stress-free to use mobile payment at any time or any place billing eFAWATEERcom service in Jordan is a leading service used.

Billing eFAWATEERcom service is an electronic system for viewing and paying bills. This service is presented and monitored by the Central Bank of Jordan. It facilitates the process for citizens by saving them time and effort. It is flexible in using the different banking channels to conduct a viewing and pay for bills by the private and public sectors. The Central Bank, in cooperation with MadfoatCom company, has specified a commission that is deducted from those who use the billing service. The commission is divided among the Central Bank (10%), the collecting bank gets 40% and the bill's company gets 50%. These commissions are paid instantly at the time of bill payments. At the end of the day, ratios are calculated to determine profitability by accumulating all commissions in the eFAWATEERcom bank account and added at the end of the year to the general revenues. It allows the user to pay their bills at their preferable time and place based on their convenience by using different methods to pay, such as tellers, online banking services, ATMs, post offices of Jordan and mobile also provides trusted centre numbers and safeway. Apart from this, www.efawateercom.jo can be used 24/7 to pay a bill through a credit card (Alghusin et al., 2017).

EFAWATEERcom managed to provide a huge variety of online payments in 2014 for different segments, i.e., companies, individuals, government institutions, and e-markets in Jordan. This effective system helps to offer quick transactions that can be measured as 156 million Jordanian dinars based on 250,000 transactions from the launch date of the payment service. With 55 billers and more than 227 different services, we are in front of distinguished service that is to lead the market in the digital era. Using eFAWATEERcom, you will have the following benefits (Alghusin et al., 2017):

1. No time, money, or effort is consumed on traditional or impractical payment options.
2. Ability to avoid service interruption due to delayed payment.
3. A fast, reliable, and secure process to pay and review your bills whenever and wherever you are.
4. Flexible and versatile payment channels that meet your needs.

The selection of Jordan as the context for conducting the current study was because of the impedance of billing eFAWATEERcom service among the Jordanian population because it is considered as an ease tool to make the payment for bills, such as electricity and water. Even though mobile payment service apps have been attracting considerable interest in Jordan, the related issues of these apps have not been fully studied and tested by academics and researchers. As such apps have only recently been introduced in Jordan, there is a need to study the factors that affect satisfaction with mobile payment services. On the other hand, the current study will use a different methodology, namely the AHP approach, to rank the factors that affect satisfaction with mobile payment, specifically the eFAWATEERcom app.

Hence, the aim of the study is to investigate the factors that influence satisfaction with mobile payment for bills, specifically the eFAWATEERcom app in Jordan. This paper aims to fill the gap in the literature that has focused mainly on behavioral intention and adoption of mobile payment while

neglecting post-adoption satisfaction. The study also intends to apply the AHP method to rank the factors that affect mobile payment satisfaction. The eFAWATEERcom app is a leading electronic system for viewing and paying bills in Jordan, and it offers various payment options such as tellers, online banking services, ATMs, post offices, and mobile phones. The app has helped to simplify bill payments, reduce costs and save time. Hence, the study contributes to the understanding of mobile payment satisfaction, which is crucial to determining the success of mobile payment systems.

The remainder of the paper is structured as follows. Section 2 is a literature review that provides a comprehensive overview of the previously done studies. Section 3 provides details about the research methods used, the analysis technique, and the sample size. Section 4 provides the results of data analysis while Section 5 presents a detailed discussion of the study findings. Section 6 concludes the paper with study limitations, future research perspectives, and implications of the study.

2. LITERATURE REVIEW

Mobile payment services have become an increasingly popular method of payment in recent years. Consumer satisfaction is a critical factor in the adoption and continued use of mobile payment services. Several studies have identified various factors affecting consumers' satisfaction with mobile payment services. One of the most commonly cited factors is perceived ease of use, which refers to the ease with which consumers can complete a transaction using mobile payment services. A study by Anshari et al. (2021) found that perceived ease of use had a significant positive effect on consumers' satisfaction with mobile payment services. Another factor that has been found to affect consumers' satisfaction is perceived security. Consumers are concerned about the security of their financial transactions, and they need to feel that their personal and financial information is protected. A study by Nguyen-Phuoc et al. (2021) found that perceived security had a significant positive effect on consumers' satisfaction with mobile payment services.

Moreover, another important factor is perceived usefulness. Consumers need to feel that mobile payment services are beneficial to them and provide them with value. A study by Chen et al. (2021) found that perceived usefulness had a significant positive effect on consumers' satisfaction with mobile payment services. In addition, perceived trust has also been identified as a critical factor affecting consumers' satisfaction with mobile payment services. Consumers need to trust the service provider and the technology used to process their transactions. A study by Khalaf et al. (2023) found that perceived trust had a significant positive effect on consumers' satisfaction with mobile payment services.

Other factors that have been identified as affecting consumers' satisfaction with mobile payment services include service quality (Kim et al., 2021), perceived risk (Awa, 2021), social influence and perceived value (Chen et al., 2021). However, the relative importance of these factors may vary depending on the context, culture, and other demographic variables. Therefore, it is essential to understand consumers' perceptions and preferences to improve the design and implementation of mobile payment services and enhance consumer satisfaction. In conclusion, by considering the factors affecting consumers' satisfaction with mobile payment services, service providers can offer better services to consumers and increase their adoption and continued use of mobile payment services.

Several theories and models were applied in the current study to identify the factors that affect satisfaction with mobile payment services, such as the theory of reasoned action (TRA), technology acceptance model (TAM), diffusion of innovation (DOI), model of adoption of technology in households (MATH), theory of planned behaviour (TPB), Webqua Software Solutions (WEBQUA), the unified theory of acceptance and use of technology (UTAUT), the motivational model, the theory of interpersonal behaviour (TIB), and SERVQUAL. The different factors that have been taken from the above-mentioned theories are discussed below.

The most efficient way to measure the accuracy and productivity of digital platforms is to ask for feedback from customers, it allows service provider companies to improve as per their customer requirements. Along with this, feedback is also treated as a quick way of communication between the provider company and the customer, especially in the case of any error regarding mobile payment. Previously, customers know about the feedback system regarding renowned e-commerce companies such as Alibaba, Amazon, and eBay. Doney and Cannon (1997) stated that customers believe in customer feedback. It has been observed that customer trust depends on the mechanism of feedback as seen in social media dais (Pavlou & Gefen, 2004). Feedback can be defined as a key element in building trust in customers regarding the company or product and also safeguarding their interests and rights (Shao & Yin, 2019). Thus, we can conclude that feedback plays a significant role to boost the satisfaction level of mobile payment users.

The mobile service or digital model of payment is beneficial for the user as it allows them to withdraw cash at minimum cost, anytime, anywhere (Omwansa, 2009). It has been stated by a researcher that tangible benefit is important in order to enhance the satisfaction of users in technology platforms (Davis, 1989). If users consider mobile payment more effective than any other payment method then it will help to increase the satisfaction level of users.

There are many stations has been built to provide quality service to the customer. These stations are liable to accommodate customer needs and requirements. Nowadays, smartphones have become a necessity of society so the updated mobile application that facilitates payment systems would be helpful to acquire customer satisfaction it also motivates a user to continue their usage of mobile payment. As Kim et al. (2009) highlighted, a good mobile application will motivate users and also increase their satisfaction level.

Trust can be defined as a potential risk that is attached to any financial transaction. We can say that satisfaction and risk are directly proportional, i.e., if a customer has a high trust level, then the mobile payment services would also increase

users. Trust boosts the relationship or transaction between customers and providers (Peha & Khamitov, 2003). In this regard, Mohammad Arif and Du (2019) further added that besides the issue of being intangible, mobile service is also associated with unpredictability and risk. Thus, trust is a significant element in mobile payment services.

The cost is also an important factor to be considered while focusing on mobile service. Cost can be explained as all the expenses that occur while using the service of mobile payment. The cost of transactions and onboarding must be lower so that the satisfaction of users can be increased through mobile payment services (Mallat, 2007).

In the technological advancement era, security acts as a backbone to support the whole system of payment, as well as smoothen the user and provider relationship (Mallat, 2007). It has been observed that security is the main trepidations for users. In order to minimize the risk while making an online transaction through mobile, users are provided with a special password or code that defines the private information of customers. In the current environment of digital development, it is important to balance the system of authorization, authentication, and non-repudiation among payment services, providers, and customers (Shon & Swatman, 1998).

Social influence is considered a key component to influence others and helps to increase the adoption rate of digital services such as services related to mobile (Venkatesh et al., 2003). An individual can attempt to try new technology if the social group supports him/her to do so, even if individual confidence is low to bash new technology. Slade et al. (2014) argued that social influence help to change the intention of the customer thus it leads to the adoption of new technology.

Digital services can be impacted and increased by information risk (Mustafa et al., 2020). For the suave transaction of digital payment, authorization and integrity are important (Slade et al., 2015). A low level of information risk also helps to boost the confidence of users because they also lower their worries regarding sharing their personal or financial information with other parties either willingly or involuntarily. The information risk factor can be activated by many other factors for example time, economic, financial, or social (Mustafa et al., 2020). It has been stated by researchers that when information risk increases, it also increases the probability of a customer not adopting new technology (Weerakkody et al., 2017).

The term "performance" is used to define the feeling customer that he/she may feel after the mobile payment service usage, it also assists to measure the transaction everywhere and anytime, and it also involves speed, risk, and authentication while performing the online task (Gholami et al., 2010; Venkatesh et al. 2003). Prior research shows that a higher level of performance helps the user to adopt behavioral intention to try technological advancement services (Slade et al., 2014).

Credibility in mobile service is essential, i.e., service provider institutions must be creditable enough so that users can trust them that the service provider would not misuse the given information or data and their interest would not be validated. This act required a sense of trust from a customer in the service provider company. We can say that there is a positive relationship between service provider company and the intention of an individual to use online services (Slade et al., 2015).

Reliability is referred to the expectation of a customer that the results of service would remain uniform (Parasuraman et al., 1988). It also enlightens the fact that the firm can provide effective services repeatedly and dependably with time. When users utilize technology in a continuous and repeated manner the reliability of a financial service becomes critical and does not provide the same quality results. Thus there is a positive relationship between higher reliability and adoption of service.

Lin (2013) stated that mobile payment is the fastest way to process the payment than any other methods used previously. The satisfaction of users is also enhanced by responsiveness in the online payment system. It has been observed that when the responsiveness is higher it involves very little effort from the customer which leads to a higher level of satisfaction. Apart from this, responsiveness is also important in a scenario where human interaction is important due to any system issue or technical problem that restricted automated operationalization. In such cases, a quick response from the provider side helps to increase customer satisfaction.

The most attractive part of any technology adoption is its ease of use as literature shows TAM. The use of mobile for payment is also easy; thus, it affects positively the adoption of behavioural intention (Guriting & Oly Ndubisi, 2006). When the criteria of mobile service payment are made easy it would also rectify potential errors that may occur while making a financial transaction online (Flavian et al., 2005).

With the use of mobile payment (such as eFAWATEERcom), users will have to transfer their personal information. Confidential information in an electronic payment systems context is described as information related to the transaction such as the identity of the payer/payee, purchase content, amount, and credit card information (Meharia, 2012). Confidentiality requires that this information be restricted only to the parties involved in the transaction (Meharia, 2012). This can be achieved by encrypting transmissions and properly protecting user information. As normal users do not understand the technical aspects of confidentiality, users must perceive that mobile payment properly protects confidential information. The literature further highlighted the government's intervention to monitor the financial transactions conducted through mobile although the government has demonetized the transaction in order to attain governance and taxation (Mohan & Kar, 2017).

In digital services, where personal data is involved, like payment or sharing via a mobile, privacy has a significant role (Tsai et al., 2011). Privacy is a major concern and it requires the availability of information that can be used to conduct a financial transaction through mobile. Information privacy can be described as the permission of the service provider to access mobile data like messages, images, memory, location, and network data (Albashrawi & Motiwalla, 2019).

Assurance sufficiently plays its role to increase the trust level of a user along with lower their risk level while using mobile transactions (Parasuraman et al., 1991). Furthermore, assurance is an intangible factor and shows the service provider's commitment to be more effective, thus contributing positively to providing higher service. The main problem in an online payment system is that the user is not sure about the receiver until the payment is completely done, thus it creates ambiguity (Mohan & Kar, 2017). There is a direct relationship between assurance and satisfaction.

Literature shows mixed results regarding the attitude of customers, i.e., it can be positive or negative based on their experience of using digital services (Arvidsson, 2014). The literature further elaborates that the technology that is based on the internet has a high level of influence on the user attitude and it also determines their willingness to adopt technology (Dwivedi et al., 2007). There may be several reasons that drive the attitude of a user for example a customer would have a positive attitude if the privacy level is high if the risk associated with a transaction is low if the use of technology is easy, and if the cost to conduct the transaction is low (Arvidsson, 2014).

3. METHODOLOGY

3.1. Data collection and analysis

The AHP method begins with the identification of issues, which is followed by the dispersion of problems into layers. The AHP approach was used based on prioritizing the selection criteria for choosing digital services. Initial groups of experts were discovered and selected for pairwise comparison in the first phase of the program. After implementing a paired comparison questionnaire, the relative weights of mobile app characteristics were examined using the AHP approach (Saaty, 1990; Saaty & Sodenkamp, 2008). The ranking of the characteristics was examined in the last step, based on the priority weights.

3.2. Analytic hierarchical process in business research

The AHP is a decision-making tool used to evaluate and prioritize complex problems by breaking them down into smaller, more manageable components (Al Jafa, 2020). In business research, the AHP is important. The AHP provides a systematic and structured approach to evaluating and prioritizing various business options based on a variety of criteria. It enables decision-makers to consider multiple factors, including both tangible and intangible elements, in their decision-making process. By breaking down complex problems and considering multiple factors, AHP helps to ensure that decisions are based on a thorough and informed analysis. Moreover, AHP enables decision-makers to openly discuss and compare their perspectives, leading to a more informed and collaborative decision-making process (Canco et al., 2021). Overall, the use of AHP in business research provides a transparent and systematic approach to decision-making that takes into account multiple factors and enables more informed, collaborative, and accurate decision-making.

A small sample size can be justifiable in AHP if the decisions being made are relatively straightforward and the preferences of the decision-maker(s) are well understood. AHP is a multi-criteria decision-making (MCDM) method that uses a structured approach to weigh and rank options based on factors that are important to the decision-maker (Munier & Hontoria, 2021). If the decision problem is well defined, and the criteria are well understood, a smaller sample size can still yield meaningful results in AHP.

3.3. Analytic hierarchical process and alternative methods

The AHP methodology involves breaking down a complex decision problem into a hierarchy of criteria, sub-criteria, and alternatives. Decision-makers then assign weights to the criteria and sub-criteria based on their relative importance and compare the alternatives against each other on each criterion. A mathematical formula is then used to calculate the overall score for each alternative, based on the assigned weights and comparison scores.

Alternative methods to AHP for decision-making include:

1. *Weighted sum model:* This method involves assigning weights to each criterion, and then summing up the weighted scores of each alternative on each criterion. The alternative with the highest overall score is selected.

2. *Elimination by aspects (EBA):* This method involves establishing a minimum acceptable score for each criterion, and then eliminating alternatives that fail to meet the minimum score on any criterion. The remaining alternatives are then compared again on the remaining criteria until only one alternative remains.

3. *Decision tree analysis:* This method involves creating a decision tree that maps out the various decision paths and outcomes, and assigning probabilities to each decision path and outcome. The alternative with the highest expected utility is then selected.

4. *SWOT analysis:* This method involves analyzing the Strengths, Weaknesses, Opportunities, and Threats of each alternative, and selecting the alternative that best leverages its strengths, addresses its weaknesses, and capitalizes on its opportunities while minimizing its threats.

AHP has several advantages over the alternative methods mentioned in terms of its ability to handle complex decision problems and provide more accurate and consistent results. Here are a few reasons why AHP may be considered better than its alternatives.

The hierarchical structure of AHP provides a clear and organized way to break down complex decision problems into smaller, more manageable parts. This allows decision-makers to better understand the decision problem and the trade-offs involved in selecting alternatives. It allows decision-makers to prioritize and weigh multiple criteria and sub-criteria based on their relative importance, and evaluate alternatives on each of these criteria. This allows for a more comprehensive analysis of alternatives and can lead to more informed decisions.

Unlike some other decision-making methods, it can handle both qualitative and quantitative factors and can integrate them in a meaningful way to provide a more holistic analysis. The mathematical formula for calculating scores ensures that

the results are consistent and transparent, and can be easily replicated by others. This is particularly useful in situations where multiple decision-makers are involved, and there is a need for consensus on the best alternative. Moreover, it allows decision-makers to conduct sensitivity analysis, which involves changing the weights assigned to criteria and sub-criteria to see how the results are affected. This allows decision-makers to test the robustness of their decisions and identify any potential biases.

4. RESULTS

The AHP approach has been utilized in a variety of fields to solve multicriteria decision-making problems, and it has proven to be the most appropriate and successful instrument for analyzing problems with multilayer characteristics. The approach is particularly beneficial for selecting and evaluating multiple choices, or for quantifying subjective data (Badea et al., 2014). Expert Choice software was used in this investigation. The steps of the AHP approach are as follows.

The first stage entails the creation of a questionnaire and the collection of data. The experts were given thorough information on the variables. They were asked to do a pairwise comparison using the proposed AHP scale (1–9) by Saaty (1990), as shown in Table 1. Twelve (12) experts in the eFAWATEERcom app participated in the study. A sampling frame of 10 experts is sufficient for the AHP technique (Pun & Hui, 2001).

Table 1. Fundamental scale for pairwise comparison

Intensity	*Definition*	*Description*
1	Equally important	Two criteria have equal contributions toward the objective
2	Weak or slight	
3	Moderately important	One criterion slightly favorable over another
4	Moderate plus	
5	Strongly important	Strong favor towards a criterion over another
6	Strongly plus	
7	Very strongly important	Very strong favor of a criterion over another
8	Very, very important	
9	Extremely important	The importance of one criterion over another is affirmed in the highest possible order

Source: Saaty (1990).

The second stage involved creating a pairwise comparison matrix based on expert judgment on a scale of 1 to 9. The significance or preference of one element over another is reflected on an absolute scale. The pairwise comparison of criteria i and j is denoted by the symbol a_{ij}. The other intersecting values are reciprocal to the criterion values and are written as $a_{ij} = 1/a_{ji}$ in the equation. A number greater than 1 indicates that the basic criterion takes precedence over the other criteria. Because there were 12 experts in this study, the comparative judgments of all of them were merged using the geometric mean to create a combined comparison pairwise judgment matrix. The geometric mean of the observation of the nth number of participants is represented by the following equation:

$$Geometric\ mean\ = \sqrt[n]{x^1 x^2 x^3 x^4 \dots x^n} \qquad (1)$$

Table 2 shows the average judgmental pairwise comparison of each criterion with respect to other criteria based on the geometric mean.

Table 2. Average pairwise comparison matrix

	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*	*16*	*17*
1	1	3.21	4.54	3.46	3.6	4.1	3.65	3.62	3.45	4.02	3.28	3.73	3.73	3.3	2.88	3.47	2.8
2	0.31	1	3.44	3.12	2.87	2.71	2.65	3.38	2.76	2.78	2.98	3.17	3.67	2.98	3.05	3.8	2.95
3	0.22	0.29	1	3.03	2.92	3.66	3.19	3.28	3.22	3.24	3.41	3.93	3.5	3.16	3.14	3.08	3.36
4	0.29	0.32	0.33	1	3.15	3.29	3.07	3.07	3.11	2.88	2.96	3.41	3.04	2.81	2.93	2.85	3.67
5	0.28	0.35	0.34	0.32	1	2.57	2.93	2.68	2.88	2.79	2.38	2.14	2.31	2.48	2.51	2.59	2.77
6	0.24	0.37	0.27	0.3	0.39	1	2.34	2.35	2.42	3.04	2.49	2.31	2.22	2.68	2.32	2.64	2.39
7	0.27	0.38	0.31	0.33	0.34	0.43	1	2.36	2.99	2.4	2.99	2.76	2.89	2.41	3.24	3.21	3.09
8	0.28	0.3	0.3	0.33	0.37	0.42	0.42	1	2.7	3.33	1.97	2.66	2.59	2.81	2.54	2	2.52
9	0.29	0.36	0.31	0.32	0.35	0.41	0.33	0.37	1	2.51	2.53	2.46	2.03	2.28	2.09	2.28	2.3
10	0.25	0.36	0.31	0.35	0.36	0.33	0.42	0.3	0.4	1	2.24	2.14	2.53	2.28	2.08	2.47	2.41
11	0.3	0.34	0.29	0.34	0.42	0.4	0.33	0.51	0.4	0.45	1	1.97	2.51	1.97	2.33	2.47	2.41
12	0.27	0.32	0.25	0.29	0.47	0.43	0.36	0.38	0.41	0.47	0.51	1	3.04	3.46	3.21	2.71	2.75
13	0.27	0.27	0.29	0.33	0.43	0.45	0.35	0.39	0.49	0.4	0.4	0.33	1	3.1	2.83	2.42	2.24
14	0.3	0.34	0.32	0.36	0.4	0.37	0.42	0.36	0.44	0.44	0.51	0.29	0.32	1	2.68	2.65	2.74
15	0.35	0.33	0.32	0.34	0.4	0.43	0.31	0.39	0.48	0.48	0.43	0.31	0.35	0.37	1	3.14	3.07
16	0.29	0.26	0.32	0.35	0.39	0.38	0.31	0.5	0.44	0.41	0.41	0.37	0.41	0.38	0.32	1	3.15
17	0.36	0.34	0.3	0.27	0.36	0.42	0.32	0.4	0.44	0.42	0.42	0.36	0.45	0.36	0.33	0.32	1

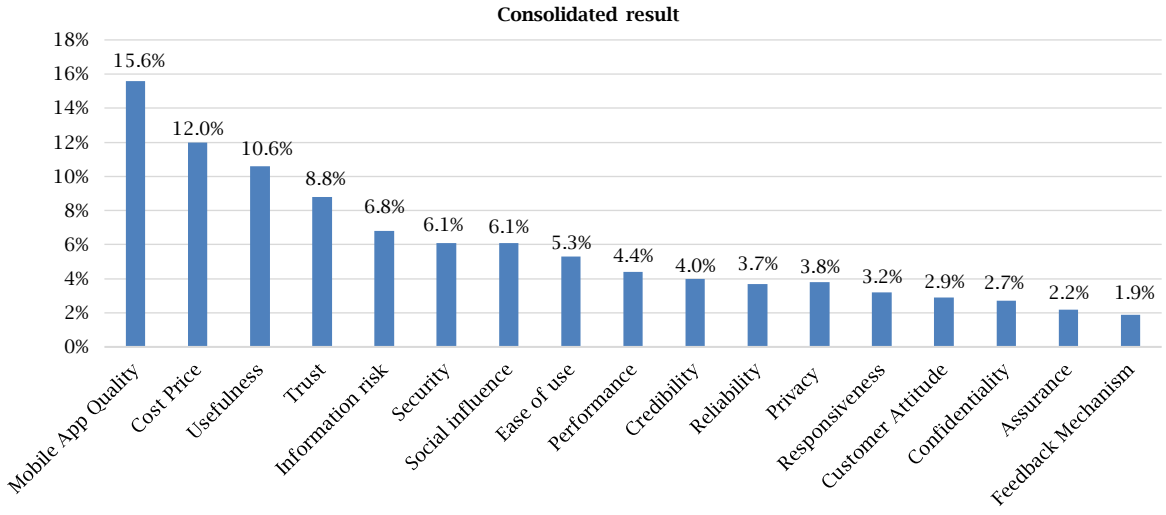
The third stage entails assessing factors through eigenvectors and weights. A normalized pairwise comparison matrix was used to compute the eigenvector. By dividing the individual values of the components by the total of the values in the column, the eigenvector value was calculated. The relative weights of each criterion are calculated by row-wise averaging of eigenvector values. Table 3 shows the priority weights and ranking of each criterion in support of the aim. The consistency ratio was determined in the following phase to assess the pairwise comparison matrix's efficacy and consistency. During the pairwise comparison, it was predicted that the experts would give inflated

perspectives or make irresponsible or unthinking assessments, resulting in the inconsistency of viewpoints. A consistency ratio with a maximum value of 0.1 is considered acceptable. Beyond this point, the pairwise comparison procedure must be reevaluated, and this process must be repeated until an acceptable result of less than or equal to 0.1 is obtained (Saaty, 1990). The consistency index is required before the consistency ratio can be calculated. The consistency index is derived using the formula CI 5 $(max - n)/(n - 1)$, where max is the pairwise comparison matrix's major (largest) eigenvalue and n is the number of comparisons. The consistency ratio (CR) was then calculated by dividing CI by RI, where RI stands for random consistency index. The consistency ratio for the current analysis is $0.097 < 0.01$, hence acceptable.

Table 3. Priority weights and ranks

No.	*Criteria*	*Priority*	*Rank*
1	Mobile app quality	16.50%	1
2	Cost (price)	12.10%	2
3	Usefulness	11.00%	3
4	Trust	9.20%	4
5	Information risk	7.10%	5
6	Security	6.00%	6
7	Social influence	5.90%	7
8	Ease of use	5.00%	8
9	Performance	4.20%	9
10	Credibility	3.70%	10
11	Reliability	3.50%	12
12	Privacy	3.60%	11
13	Responsiveness	2.90%	13
14	Customer attitude	2.70%	14
15	Confidentiality	2.50%	15
16	Assurance	2.10%	16
17	Feedback mechanism	1.90%	17

Figure 1. Priority weights of individual criteria



5. DISCUSSION

The study found that the most important factor affecting consumers' satisfaction with the eFAWATEERcom app was mobile app quality. This is consistent with previous research that has highlighted the importance of app quality in determining user satisfaction with mobile payment services (Kim et al., 2020; Xie et al., 2021). App quality refers to the extent to which the app is fit for its intended use, which includes factors such as performance, stability, testing, and usability (Khalifa & Liu, 2016).

Improving mobile app quality should be a priority for eFAWATEERcom providers, as it has been shown to have a direct impact on user satisfaction (Turel et al., 2019). In addition, the study found that security and privacy were also important factors affecting user satisfaction with the eFAWATEERcom app. This is consistent with previous research that has highlighted the importance of security and privacy in determining user acceptance and adoption of mobile payment services (Alalwan et al., 2017; Wang et al., 2021).

The second factor, cost, has been identified in previous studies as a key factor affecting consumers' adoption and usage of mobile payment services, particularly in developing countries where the income is low (Khalifa & Shen, 2008; Corkindale et al., 2019). This finding emphasizes the importance of offering affordable and competitive pricing to increase customer satisfaction.

The third factor, usefulness, is consistent with previous studies that have highlighted the importance of perceived usefulness in

influencing consumers' intention to use and satisfaction with mobile payment services (Islam et al., 2018; Turel et al., 2019). This finding suggests that providers should strive to enhance the functionality of the mobile app and explore opportunities to expand its usage across different sectors to increase customer satisfaction.

Trust, the fourth factor identified in this study, has also been recognized in prior research as a significant factor influencing consumers' adoption and usage of mobile payment services (Mukherjee & Nath, 2017). This finding highlights the importance of building trust through transparent communication, providing evidence about the app's security and reliability, and addressing any perceived risks associated with financial transactions.

The fifth and sixth factors, information risk and security, are also consistent with previous research that has highlighted the importance of maintaining the integrity and authorization of transactions and protecting consumers' sensitive information (Kim & Kim, 2019). Providers should focus on implementing robust security measures such as encryption and biometric authentication to reduce the risk of fraud and ensure the security of consumers' personal and financial data.

The seventh factor, social influence, has been identified in previous research as a significant factor affecting consumers' adoption and usage of mobile payment services (Zheng et al., 2013; Kim et al., 2019). This finding suggests that providers should focus on delivering high-quality services to increase customer satisfaction and encourage positive word-of-mouth recommendations among social networks.

6. CONCLUSION

This study aimed to investigate the factors that influence consumers' satisfaction with the eFAWATEERcom app as a digital service and mobile payment service. The results of the study suggest that mobile app quality, cost, usefulness, trust, information risk, security, and social influence are the key factors that affect customer satisfaction. The study found that mobile app quality was ranked the highest in terms of importance by experts, highlighting the need for providers to continually improve app quality and ensure fitness for purpose. Furthermore, the study highlights the importance of cost in increasing customer satisfaction, especially in developing countries with low incomes. Usefulness was also found to be important, and the providers should focus on enhancing the mobile app to be used in various sectors. Trust, information risk, and security were also identified as significant factors affecting customer satisfaction. The providers should ensure that the app provides full information and evidence to ensure trust, maintains the integrity and authorization of transactions, and ensures the security of the user's private key or secret code. Moreover, the study identified social influence as a crucial factor in increasing customer satisfaction, and providers should focus on providing the best service to increase satisfaction, leading to positive word of mouth among users. The study has several implications for eFAWATEERcom providers to improve customer satisfaction and increase app adoption.

However, there are some limitations to this study. The study was conducted in Jordan, limiting the generalizability of the findings to other countries. Additionally, the study used expert evaluations rather than user feedback, which may not reflect the actual user experience. In the future, further research is needed to validate the findings of this study, especially through user feedback. Additionally, future studies could explore the factors affecting customer satisfaction in different countries and cultures. Overall, this study provides valuable insights for eFAWATEERcom providers to improve customer satisfaction and increase the adoption of mobile payment services.

REFERENCES

1. Al Jafa, H. (2020). Improving ERP software selection process by integrating QFD with AHP approach. *Network Intelligence Studies, 8*(16), 157–167. https://www.ceeol.com/search/article-detail?id=945821
2. Alalwan, A. A., Dwivedi, Y. K., & Rana, N. P. (2017). Factors influencing adoption of mobile banking by Jordanian bank customers: Extending UTAUT2 with trust. *International Journal of Information Management, 37*(3), 99–110. https://doi.org/10.1016/j.ijinfomgt.2017.01.002
3. Alalwan, A. A., Rana, N. P., Dwivedi, Y. K., & Algharabat, R. (2017). Social media in marketing: A review and analysis of the existing literature. *Telematics and Informatics, 34*(7), 1177–1190. https://doi.org/10.1016/j.tele.2017.05.008
4. Albashrawi, M., & Motiwalla, L. (2019). Privacy and personalization in continued usage intention of mobile banking: An integrative perspective. *Information Systems Frontiers, 21,* 1031–1043. https://doi.org/10.1007/s10796-017-9814-7
5. Alghusin, N. A. S., Alsmadi, A. A., Alqtish, A. M., & Al-Qirem, R. (2017). The relationship between e-banking services and profitability Jordanian banks as a case. *International Journal of Economics and Finance, 9*(5), 114–120. https://doi.org/10.5539/ijef.v9n5p114
6. Anshari, M., Arine, M. A., Nurhidayah, N., Aziyah, H., & Salleh, M. H. A. (2021). Factors influencing individual in adopting eWallet. *Journal of Financial Services Marketing, 26,* 10–23. https://doi.org/10.1057/s41264-020-00079-5
7. Arvidsson, N. (2014). Consumer attitudes on mobile payment services — Results from a proof of concept test. *International Journal of Bank Marketing, 32*(2), 150–170. https://doi.org/10.1108/IJBM-05-2013-0048
8. Awa, E. O. (2021). *Federal government in Nigeria.* University of California Press.
9. Badea, M. (2014). Social media and organizational communication. *Procedia — Social and Behavioral Sciences, 149,* 70–75. https://doi.org/10.1016/j.sbspro.2014.08.192
10. Canco, I., Kruja, D., & Iancu, T. (2021). AHP, a reliable method for quality decision making: A case study in business. *Sustainability, 13*(24), Article 13932. https://doi.org/10.3390/su132413932
11. Chen, C. F., Nelson, H., Xu, X., Bonilla, G., & Jones, N. (2021). Beyond technology adoption: Examining home energy management systems, energy burdens and climate change perceptions during COVID-19 pandemic. *Renewable and Sustainable Energy Reviews, 145,* Article 111066. https://doi.org/10.1016/j.rser.2021.111066
12. Choudrie, J., Junior, C.-O., McKenna, B., & Richter, S. (2018). Understanding and conceptualising the adoption, use and diffusion of mobile banking in older adults: A research agenda and conceptual framework. *Journal of Business Research, 88,* 449–465. https://doi.org/10.1016/j.jbusres.2017.11.029

13. Corkindale, D., Chen, H., & Ram, J. (2019). Empirically analysing factors influencing users' adoption of online information services (OISs): A case of a travel business in Taiwan. *Electronic Journal of Information Systems Evaluation, 22*(1), 38–53. https://academic-publishing.org/index.php/ejise/article/view/127
14. Dahlberg, T., Guo, J., & Ondrus, J. (2015). A critical review of mobile payment research. *Electronic Commerce Research and Applications, 14*(5), 265–284. https://doi.org/10.1016/j.elerap.2015.07.006
15. Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(13), 319–340. https://doi.org/10.2307/249008
16. Doney, P. M., & Cannon, J. P. (1997). An examination of the nature of trust in buyer–seller relationships. *Journal of Marketing, 61*(2), 35–51. https://doi.org/10.1177/002224299706100203
17. Dwivedi, Y. K., Khan, N., & Papazafeiropoulou, A. (2007). Consumer adoption and usage of broadband in Bangladesh. *Electronic Government, an International Journal, 4*(3), 299–313. https://doi.org/10.1504/EG.2007.014164
18. Flavian, C., Guinaliu, M., & Torres, E. (2005). The influence of corporate image on consumer trust: A comparative analysis in traditional versus internet banking. *Internet Research, 15*(4), 447–470. https://doi.org/10.1108/10662240510615191
19. Gholami, R., Ogun, A., Koh, E., & Lim, J. (2010). Factors affecting e-payment adoption in Nigeria. *Journal of Electronic Commerce in Organizations (JECO), 8*(4), 51–67. https://doi.org/10.4018/jeco.2010100104
20. Guriting, P., & Oly Ndubisi, N. (2006). Borneo online banking: Evaluating customer perceptions and behavioural intention. *Management Research News, 29*(1–2), 6–15. https://doi.org/10.1108/01409170610645402
21. Iman, N. (2018). Is mobile payment still relevant in the fintech era? *Electronic Commerce Research and Applications, 30,* 72–82. https://doi.org/10.1016/j.elerap.2018.05.009
22. Islam, M. A., Ali, A., & Abdullah, M. A. (2018). Determinants of consumers' intention to adopt mobile payment system in Bangladesh. *Journal of Systems and Information Technology, 20*(2), 99–117.
23. Khalaf, A. K., Ashour, A. A., & Abdel Rady, H. A. W. (2023). Towards digital transformation techniques application at the Egyptian airports. *Minia Journal of Tourism and Hospitality Research, 15*(1), 32–52. https://doi.org/10.21608/mjthr.2022.169140.1068
24. Khalifa, M., & Liu, V. (2016). Online consumer retention: Contingent effects of online shopping habit and online shopping experience. *European Journal of Information Systems, 16,* 780–792. https://doi.org/10.1057/palgrave.ejis.3000711
25. Khalifa, M., & Shen, K. N. (2008). Drivers for transactional B2C m-commerce adoption: Extended theory of planned behavior. *Journal of Computer Information Systems, 48*(3), 111–117. https://www.tandfonline.com/doi/abs/10.1080/08874417.2008.11646027
26. Kim, J., Jin, B., & Swinney, J. L. (2009). The role of etail quality, e-satisfaction and e-trust in online loyalty development process. *Journal of Retailing and Consumer Services, 16*(4), 239–247. https://doi.org/10.1016/j.jretconser.2008.11.019
27. Kim, M., & Kim, J. H. (2019). Perceived security, trust, and privacy in mobile payments in Korea. *Journal of Retailing and Consumer Services, 47,* 166–176.
28. Kim, M., Kim, S., & Kim, J. (2019). Can mobile and biometric payments replace cards in the Korean offline payments market? Consumer preference analysis for payment systems using a discrete choice model. *Telematics and Informatics, 38,* 46–58. https://doi.org/10.1016/j.tele.2019.02.003
29. Kim, S. S., Lee, Y. J., & Lee, H. (2020). A study on mobile payment user satisfaction: Focusing on the moderating effect of payment method. *Journal of Digital Convergence, 18*(2), 47–56.
30. Kim, Y., Wang, Q., & Roh, T. (2021). Do information and service quality affect perceived privacy protection, satisfaction, and loyalty? Evidence from a Chinese O2O-based mobile shopping application. *Telematics and Informatics, 56,* Article 101483. https://doi.org/10.1016/j.tele.2020.101483
31. Lin, H.-F. (2013). Determining the relative importance of mobile banking quality factors. *Computer Standards & Interfaces, 35*(2), 195–204. https://doi.org/10.1016/j.csi.2012.07.003
32. Mallat, N. (2007). Exploring consumer adoption of mobile payments — A qualitative study. *The Journal of Strategic Information Systems, 16*(4), 413–432. https://doi.org/10.1016/j.jsis.2007.08.001
33. Meharia, P. (2012). Assurance on the reliability of mobile payment system and its effects on its' use: An empirical examination. *Accounting and Management Information Systems, 11*(1), 97–111. http://online-cig.ase.ro/RePEc/ami/articles/11_1_6.pdf
34. Menke, L., & De Lussanet, M. (2006). *SMS-based mobile payment: Popular with the young*. Forrester Research.
35. Mohammad Arif, A. S., & Du, J. T. (2019). Understanding collaborative tourism information searching to support online travel planning. *Online Information Review, 43*(3), 369–386. https://doi.org/10.1108/OIR-05-2017-0141
36. Mohan, R., & Kar, A. K. (2017). #Demonetization and its impact on the Indian economy — Insights from social media analytics. In A. K. Kar, P. V. Ilavarasan, M. P. Gupta, Y. K. Dwivedi, M. Mäntymäki, M. Janssen, A. Simintiras, & S. Al-Sharhan (Eds.), *Digital nations — Smart cities, innovation, and sustainability* (I3E 2017: Lecture Notes in Computer Science, Vol. 10595, pp. 363–374). Springer International Publishing. https://doi.org/10.1007/978-3-319-68557-1_32
37. Mukherjee, A., & Nath, P. (2017). Role of perceived usefulness, security and trust in the adoption of mobile banking services. *International Journal of Bank Marketing, 35*(5), 779–800.
38. Munier, N., & Hontoria, E. (2021). *Uses and limitations of the AHP method*. Springer International Publishing. https://doi.org/10.1007/978-3-030-60392-2
39. Mustafa, S. Z., Kar, A. K., & Janssen, M. F. W. H. A. (2020). Understanding the impact of digital service failure on users: Integrating Tan's failure and DeLone and McLean's success model. *International Journal of Information Management, 53,* Article 102119. https://doi.org/10.1016/j.ijinfomgt.2020.102119
40. Nguyen-Phuoc, D. Q., Oviedo-Trespalacios, O., Vo, N. S., Le, P. T., & Van Nguyen, T. (2021). How does perceived risk affect passenger satisfaction and loyalty towards ride-sourcing services? *Transportation Research Part D: Transport and Environment, 97,* Article 102921. https://doi.org/10.1016/j.trd.2021.102921
41. Omwansa, T. K. (2009). *M-PESA: Progress and prospects*. School of Computing and Informatics, University of Nairobi. http://erepository.uonbi.ac.ke/handle/11295/47813
42. Ondrus, J., & Pigneur, Y. (2006). Towards a holistic analysis of mobile payments: A multiple perspectives approach. *Electronic Commerce Research and Applications, 5*(3), 246–257. https://doi.org/10.1016/j.elerap.2005.09.003
43. Parasuraman, A., Berry, L. L., & Zeithaml, V. A. (1991, Aprtil 15). Understanding customer expectations of service. *MIT Sloan Management Review, 32*(3), 39–48. https://sloanreview.mit.edu/article/understanding-customer-expectations-of-service/

44. Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing, 64*(1), 12–40. https://psycnet.apa.org/record/1989-10632-001
45. Pavlou, P. A., & Gefen, D. (2004). Building effective online marketplaces with institution-based trust. *Information Systems Research, 15*(1), 37–59. https://doi.org/10.1287/isre.1040.0015
46. Peha, J. M., & Khamitov, I. M. (2003). PayCash: A secure efficient Internet payment system. In *Proceedings of the 5th international conference on electronic commerce* (pp. 125–130). Association for Computing Machinery. https://doi.org/10.1145/948005.948022
47. Pun, K. F., & Hui, I. K. (2001). An analytical hierarchy process assessment of the ISO 14001 environmental management system. *Integrated Manufacturing Systems, 12*(5), 333–345. https://doi.org/10.1108/EUM0000000005711
48. Saaty, T. L. (1990). The analytic hierarchy process in conflict management. *International Journal of Conflict Management, 1*(1), 47–68. https://doi.org/10.1108/eb022672
49. Saaty, T. L., & Sodenkamp, M. (2008). Making decisions in hierarchic and network systems. *International Journal of Applied Decision Sciences, 1*(1), 24–79. https://doi.org/10.1504/IJADS.2008.017952
50. Shao, Z., & Yin, H. (2019). Building customers' trust in the ridesharing platform with institutional mechanisms: An empirical study in China. *Internet Research, 29*(5), 1040–1063. https://doi.org/10.1108/INTR-02-2018-0086
51. Shon, T. H., & Swatman, P. M. C. (1998). Identifying effectiveness criteria for Internet payment systems. *Internet Research, 8*(3), 202–218. https://doi.org/10.1108/10662249810217759
52. Slade, E. L., Dwivedi, Y. K., Piercy, N. C., & Williams, M. D. (2015). Modeling consumers' adoption intentions of remote mobile payments in the United Kingdom: Extending UTAUT with innovativeness, risk, and trust. *Psychology & Marketing, 32*(8), 860–873. https://doi.org/10.1002/mar.20823
53. Slade, E. L., Williams, M. D., & Dwivedi, Y. K. (2014). Devising a research model to examine adoption of mobile payments: An extension of UTAUT2. *The Marketing Review, 14*(3), 310–335. https://doi.org/10.1362/146934714X14024779062036
54. Tsai, J. Y., Egelman, S., Cranor, L., & Acquisti, A. (2011). The effect of online privacy information on purchasing behavior: An experimental study. *Information Systems Research, 22*(2), 213–417. https://doi.org/10.1287/isre.1090.0260
55. Turel, O., Serenko, A., & Bontis, N. (2019). User acceptance of hedonic digital artifacts: A theory of consumption values perspective. *Information & Management, 47*(1), 53–59. https://doi.org/10.1016/j.im.2009.10.002
56. Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly, 27*(3), 425–478. https://doi.org/10.2307/30036540
57. Wang, F., Yang, N., Shakeel, P. M., & Saravanan, V. (2021). Machine learning for mobile network payment security evaluation system. *Transactions on Emerging Telecommunications Technologies,* Article e4226. https://doi.org/10.1002/ett.4226
58. Weerakkody, V., Irani, Z., Kapoor, K., Sivarajah, U., & Dwivedi, Y. K. (2017). Open data and its usability: An empirical view from the citizen's perspective. *Information Systems Frontiers, 19,* 285–300. https://doi.org/10.1007/s10796-016-9679-1
59. Xie, J., Ye, L., Huang, W., & Ye, M. (2021). Understanding FinTech platform adoption: Impacts of perceived value and perceived risk. *Journal of Theoretical and Applied Electronic Commerce Research, 16*(5), 1893–1911. https://doi.org/10.3390/jtaer16050106
60. Zheng, Y., Zhao, K., & Stylianou, A. (2013). The impacts of information quality and system quality on users' continuance intention in information-exchange virtual communities: An empirical investigation. *Decision Support Systems, 56,* 513–524. https://doi.org/10.1016/j.dss.2012.11.008