

Fintech and E-Payment Methods in Tourism and Hospitality: Examining Customers' E-Satisfaction, E-Loyalty, and E-Trust During the Travel Experience

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This study aims to examine the impact of electronic payment methods (EPMS) usage on customers' e-satisfaction and how their e-satisfaction influences their e-loyalty. Additionally, it investigates the moderating role of customers' e-trust in the relationship between EPMS usage and customers' e-satisfaction. The population under study is travellers who have prior experience using e-payment methods within tourism and hospitality transactions in the MENA region (Middle East and North Africa). Data were gathered online from 211 e-payment users using a convenience-based purposive sampling technique. The findings reveal that EPMS usage has a positive and significant impact on customers' e-satisfaction. Additionally, customers' e-satisfaction with EPMS has a positive impact on their e-loyalty. Furthermore, the moderating role of e-trust is significant but has a weak effect in the direction of the relationship between EPMS usage and customers' e-satisfaction. This study provides valuable insights to enrich the existing literature on fintech services and e-payment methods, particularly in the tourism and hospitality industry. It also suggests how finance, tourism, and hospitality businesses can improve customers' EPM experiences to boost e-satisfaction, e-loyalty, and e-trust.

Keywords: fintech, electronic payment methods (EPMS), e-satisfaction, e-loyalty, e-trust



<https://doi.org/10.26493/2335-4194.19.71-89>

Introduction

Nowadays, the technological advancements of the internet and e-commerce have created new financial solutions, enabling enterprises to effectively market their services and products and engage directly with customers (Srivastava et al., 2024; Semenda et al., 2024). This shift has intensified competition and highlighted the necessity for the tourism and hospitality industry to take advantage of Information and Communication Technology (ICT) to thrive in a digital environment, enhance customer satisfaction, and improve service delivery, thereby generating val-

ue-added experiences for different market segments (Dharmawan et al., 2024).

With this revolution, financial technology, known as *fintech*, has become one of the main forces behind the digital transformation in the business environment (Sanyaolu et al., 2024). Fintech is a combination of financial services and information technology to facilitate the monetary processes across various business contexts through innovative methods (Ediagbonya & Tioluwani, 2023). It ensures secure transactions in just one click, where information technology is the main engine, reducing the conventional methods of

handling finances, and making financial transactions easier (Sanyaolu et al., 2024).

The economic growth of several countries has been boosted by fintech services (Anifa et al., 2022). For example, India and China are among the leading economies that have increasingly adopted fintech services, with a high usage rate of 87% (Kandpal & Mehrotra, 2019). With 64% of individuals worldwide utilising digital payment methods, Singh and Sinha (2020) project that fintech payment solutions could contribute an additional US\$3.7 trillion to the GDP of emerging economies by 2025.

Fintech has contributed to national economic growth in many countries, while also exerting a profound influence on specific industries, including tourism and hospitality. In recent years, tourism and hospitality enterprises have gained increasingly easy access to a wide range of fintech solutions (Mhlanga & Sethi, 2024). Electronic payment methods, referred to as EPMS, are among the most prominent fintech services, playing a key role in facilitating financial transactions and meeting customers' needs (Sanyaolu et al., 2024). The integration of EPMS in the tourism and hospitality sector has garnered significant attention in recent years, indicating ongoing advancements in the industry in light of technological innovations (Shaikh et al., 2024).

According to Pencarelli (2020), customers are experiencing a significant shift in payment methods in the age of digitised travel and tourism. EPMS have contributed to improving the experiences of customers by facilitating their financial transactions at the local and international levels, reducing transaction time and costs, and empowering customers to track and manage their finances simply (Özkan et al., 2010). Numerous EPMS such as e-wallets, online banking and mobile payment applications, exist and have become increasingly popular in the travel markets (Hu et al., 2019). Such EPMS are transforming the way payments are conducted during the travel experience by providing operations that are quicker, more resilient, convenient, efficient, reliable and safe (Putrevu & Mertzanis, 2024). This corresponds with the increasing trend of employing technology, the Internet of Things (IoT), artificial intelligence and smartphone applications to

customise services and enhance operational efficiency, which is essential in an industry marked by elevated customer expectations (Sanyaolu et al., 2024). Thus, several tourism and hospitality enterprises seek to adopt EPMS to increase their customer base, and improve their travel experiences by providing fast, secure and diverse payment options.

Earlier studies have shown that electronic payment methods (EPMS) can optimise financial transactions, reduce costs, and enhance data security, while also providing convenient access to financial resources, thereby increasing customer e-satisfaction and e-loyalty towards such digital payment methods (Hameed et al., 2023; Florido-Benítez, 2024; Ratna et al., 2024). However, one of the main concerns regarding the usage of EPMS is the security and transparency in financial transactions (Van Le & Tran, 2024). In the context of digital payments, people's money and private information are exchanged over digital networks without any direct interaction between the parties involved (Singh & Sinha, 2020). Thus, customers' e-trust is an important factor that could affect their satisfaction with EPMS (Alqahtani & Albahar, 2022).

Even though EPM technology has been widely adopted over the years due to its increased convenience and ability to launch seamless services, little research attention has been given to such technology-oriented payment methods in the tourism and hospitality industry (Karim et al., 2022). To explain, previous studies have discussed the revolution of fintech such as EPMS across various non-tourism sectors, especially in banking (Alkhazaleh & Haddad, 2021; Ogbonna et al., 2024). Other studies have examined the benefits and challenges of different fintech app-based payment tools such as e-wallets, mobile banking, credit and debit cards, and peer-to-peer payment apps (Savitha et al., 2022). In addition, some scholars have covered aspects such as the technological and social antecedents affecting the usage of fintech payment solutions (Singh & Sinha, 2020; Florencia & Hamid, 2024).

Furthermore, to the authors' knowledge, the dynamic attributes that make EPMS more efficient, influence customers' adoption and enhance their satisfaction, such as ease of use, perceived security, and

usefulness, have not been fully addressed as antecedents of customers' e-satisfaction, especially in the tourism and hospitality industry. Additionally, loyal consumers are crucial to the longevity of a business since they spread the word about the company and provide positive recommendations (Cetin, 2020). However, few studies have discussed fintech and cashless payment methods in relation to consumer satisfaction and loyalty intentions (Alkhazaleh & Haddad, 2021). That is to say, little research attention has been given to explore how customers' e-satisfaction with EPMS influences their e-loyalty (Alnsour, 2022; Karim et al., 2022). As well, customers' e-trust is a crucial element, especially for travellers who often need to make electronic payments to book airline tickets, hotels, or purchase services. If travellers fear fraud or loss of money when using EPMS, they may hesitate to adopt them. Nevertheless, the understanding of how e-trust moderates the connection between EPMS usage and customer e-satisfaction is still limited in the research field.

As a result, there is an urgent need to address the abovementioned gaps in the literature. To address this gap, the authors developed a model that integrates the Technology Acceptance Model (TAM) (Davis, 1985)

and the Expectation Confirmation Theory (ECT) (Bhattacharjee, 2010) to achieve several objectives: first, to examine the influence of EPMS usage including ease of use, perceived security, and usefulness on customers' e-satisfaction; second, to provide a more holistic understanding of how customers' e-loyalty could be affected by their e-satisfaction with EPMS; third, to explore the role of e-trust as a moderating variable in the correlation between EPMS usage and customers' e-satisfaction.

Accordingly, the study provides a threefold contribution. First, it advances theoretical understanding by bridging gaps in the existing body of research on fintech and EPMS in the context of the tourism and hospitality industry, emphasising the interconnected roles of e-satisfaction, e-loyalty, and e-trust. Second, it provides practical implications that may benefit fintech companies by improving the quality of their products and services and developing more personalised customer services. Third, the study's findings will encourage tourism and hospitality enterprises to benefit from the widespread implementation of EPMS to improve the traveller experience, build customers' trust, and foster long-term customer relationships in a rapidly evolving digital environment.

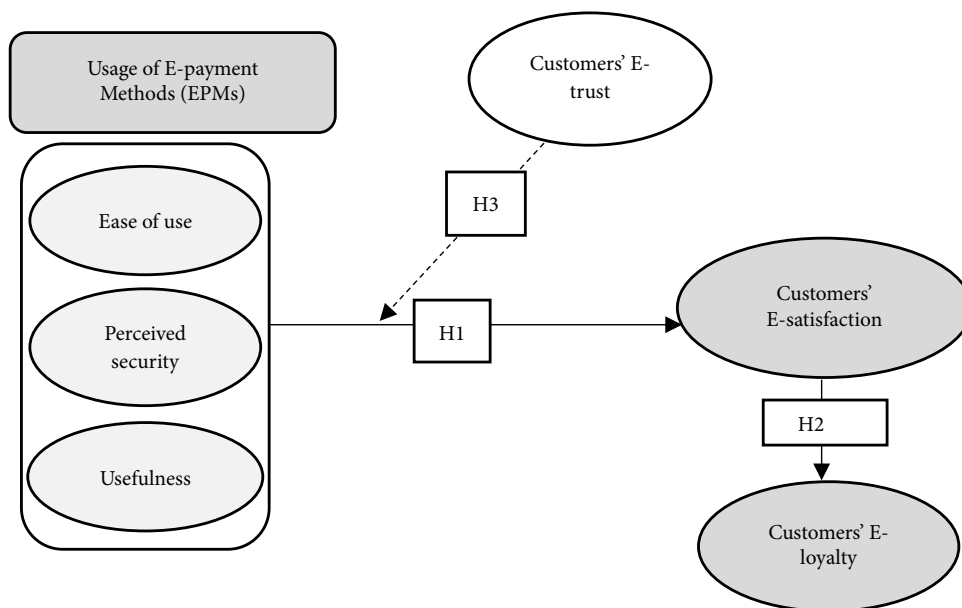


Figure 1 The Conceptual Model of the Study

Literature Review

Theoretical Background

We merged two theories to develop the study's research model. First is the Technology Acceptance Model (TAM), introduced by Davis in 1985. The purpose of TAM is to determine the degree to which customers understand and accept a new technology system (Davis, 1985). In TAM, individuals tend to adopt new technologies and services if they perceive impressive and tangible benefits (Sciarelli et al., 2021). The second theory is the Expectations Confirmation Theory (ECT), which is an essential framework for measuring the degree of customers' satisfaction with the actual purchase or use of a particular product or service (Oliver, 1980). To illustrate, customers put certain expectations around the use of a new technology or service. Then, when they accept this new technology and start using it, and their expectations are confirmed and met, they will be satisfied. The confirmation of these expectations is a strong predictor of overall satisfaction (Tzeng et al., 2021).

Following the suggestion of Bhattacharjee (2010), TAM and ECT were integrated to develop the Expectation Confirmation Model (ECM) to measure customers' willingness to continue using EPMS (post-usage behaviour). In the integrated model, TAM represents a 'pre-usage' phase in which customers form expectations regarding the functional factors of EPMS that influence their decisions to accept or reject them, such as ease of use, usefulness, and perceived security. After adopting EPMS, customers enter the 'post-usage' phase, which is represented by the ECT. In this phase customers compare their expectations with the actual performance of the EPMS. If the actual performance of EPMS exceeds their expectations, they will be satisfied. Continued satisfaction with EPMS increases customers' willingness to reuse them, reflecting the 'post-usage behaviour' described in the ECM. Moreover, this study integrated customer trust into the theoretical model, as trust plays a crucial role in fostering customers' satisfaction and loyalty towards EPMS (Cahyanti & Dhewi, 2022).

The proposed conceptual model suggests that the usage of EPMS positively influences customers' e-satisfaction, which in turn influences their e-loyalty. Addi-

tionally, it is predicted that customers' e-trust plays a moderating role in the relationship between the usage of EPMS and customers' e-satisfaction. The conceptual model for the current study is illustrated in Figure 1.

Hypotheses Development

Fintech and E-Payment Methods in Tourism and Hospitality Industries

Fintech has immensely enhanced digital financial systems globally, facilitating data accumulation and enabling more efficient and innovative service delivery in both developed and developing nations (Srivastava et al., 2024). Fintech refers to the innovative use of technology to make financial transactions smarter, faster, and safer (Rahim et al., 2022). It integrates mobile-centric technological advancements with financial services to improve system efficiency (Edigbonya & Tioluwani, 2023). Also, it utilises internet technology and automated information processing to provide accessible financial solutions across many platforms (Ngo & Nguyen, 2024). This transition has revolutionised financial processes and enhanced client interactions, especially in tourism and hospitality industries, by enabling convenient, safe, and efficient financial transactions (Hameed et al., 2023).

A key component of fintech is EPMS, which represent a significant fintech innovation that provide considerable benefits for travellers. EPMS improve the travel experience by streamlining booking processes, minimising cash usage, and ensuring secure and smooth payments (Qadri, 2023). Additionally, EPMS provide diverse solutions specifically designed to address the distinct requirements of the tourism and hospitality industry, including international transactions, currency exchange, and the management of unanticipated expenses (Ratna et al., 2024).

The electronic payment landscape encompasses various methods, each addressing distinct customer preferences and facilitating seamless transactions and bookings regardless of travellers' location (Hameed et al., 2023). The following are examples of EPMS used in the tourism and hospitality industry: (1) Credit and debit cards are universally accepted and extensively utilised for transactions at airports, hotels, resorts, restaurants, travel agencies, and tourist attractions

(Florida-Benítez, 2024); (2) E-Wallets, such as PayPal and Google Pay, facilitate rapid and convenient transactions, which are especially advantageous for tourists; (3) Mobile banking applications enable users to manage their finances and conduct transactions remotely (Koh et al., 2024); (4) QR Code Payments are contactless, efficient and simple payments in which users utilise scanned QR codes for quick transaction completion (Maharjan et al., 2024); and (5) Peer-to-Peer Payments facilitate direct monetary transfers between individuals, characterised by low effort and cost (Savitha et al., 2022). It is worth noting that the mechanism through which EPMS are processed is called an online payment gateway. Online payment gateways act as third-party platforms that securely enable e-commerce transactions by linking merchants and customers (Albshaier et al., 2024). Digital gateways offer value-added services like loyalty rewards, real-time currency conversion, and easy-to-use interfaces that make transactions faster and better (Ivanov, 2019).

The incorporation of EPMS into the tourism and hospitality industry presents various advantages (Dharmawan et al., 2024). EPMS minimise reliance on physical currency and eliminate the need for manual transactions, thereby enhancing the travel experience (Susanto et al., 2022). Moreover, EPMS have improved security by employing advanced encryption and authentication technologies to protect financial information and reduce the likelihood of fraud (Khanra et al., 2021). Furthermore, the implementation of automated processes considerably reduces transaction costs for both tourism service providers and travellers (Ngo & Nguyen, 2024). Additionally, EPMS can provide visitors with individualised services, thus improving their entire travel experience (Shang & Chiu, 2022).

When it comes to EPM usage, it is crucial to consider the functional factors regarding its use which affect customers' satisfaction, like ease of use, perceived security and usefulness. To explain, a key antecedent of customer satisfaction with EPMS is their ease of use (Abed & Alkadi, 2024; Dharmawan et al., 2024). Ease of use refers to how the user-friendly and intuitive design of these methods reduces the effort required to

complete financial transactions (Setiawan et al., 2021). Payment methods that involve less cognitive effort are more likely to be accepted and appreciated by consumers. Furthermore, user-friendliness enables easy interactions in different situations and enhances the travel experience, thereby improving customer satisfaction (Althinayyan & Alojail, 2024).

Furthermore, perceived security is a critical concern, particularly for those transacting in unfamiliar environments, such as travellers (Nguyen et al., 2021). Hwang et al. (2021) define perceived technology security as customers' belief regarding the level of security of their personal information when engaging in electronic transactions. With respect to electronic payments, consumers may suffer significant losses due to data breaches, fraudulent transactions, and unwarranted debits (Van Le & Tran, 2024). Therefore, security is a critical attribute of EPMS that greatly influences satisfaction (Alkadi & Abed, 2023).

In addition, usefulness is an important component of EPM usage. It indicates the actual benefits of e-payment technology in enhancing travel efficiency (Karim et al., 2022). EPMS are especially desirable due to features such as currency conversion, loyalty points, rapid transactions, global acceptability, and integration with numerous travel apps (Hameed et al., 2023). Such benefits improve customer e-satisfaction and make the overall experience more enjoyable (Ivanov, 2019; Savitha et al., 2022; Ngo & Nguyen, 2024). Building on the preceding discussion, we propose the following hypothesis:

- H1 *The usage of EPMS positively affects customers' e-satisfaction.*

The Relationship Between Customers' E-satisfaction and Their E-loyalty

E-satisfaction with EPMS can be defined as customers' feelings of pleasure regarding their experience with online financial transactions (Ranjbarian et al., 2012). E-satisfaction can be assessed by determining the extent to which customers' expectations of this online technology align with their actual experience (Tjiptono, 2012). Customers' e-loyalty can be measured by customers' intention to continue using the online service or technology, positive word of mouth

and positive recommendations to others (Suharyanto & Damayanti, 2022).

Previous research confirmed that there is a significant positive correlation between customers' e-satisfaction and their e-loyalty (Rodríguez et al., 2020). In the context of online transactions, Syahidah and Fikry Aransyah (2023) conducted a study on DANA Digital Wallet users in Indonesia and found that the higher the customers' e-satisfaction, the greater their e-loyalty toward the DANA e-wallet. Furthermore, prior studies by Nasimi et al. (2018), Lin et al. (2016), and Alhider and Hassan (2018) revealed that customers' e-satisfaction is the main driver of their e-loyalty. This is because satisfied customers are more loyal and less convinced by competitors' offers, whereas dissatisfied customers are more likely to seek alternative options and accept competitors' offers. Accordingly, the following hypothesis is formulated:

- H2 *Customers' e-satisfaction with EPMS positively affects their e-loyalty.*

The Moderating Role of Customers' E-trust in the Relationship Between the Usage of E-payment Methods and Customers' E-satisfaction

In the context of online technology specifically designed for financial transactions, e-trust can be defined as 'the degree to which customers perceive their service providers to be credible, the technology to be secure, and the service to be reliable' (Alwabel & Zeng, 2021). Customers' e-trust plays a crucial role in achieving success in any online business. It reflects the extent to which a customer is willing to make potentially risky decisions due to confident and positive perceptions of their service providers (Pan & Chiou, 2011).

Previous studies examined the relationship between customers' e-trust and their e-satisfaction and found that customers' e-trust plays a vital role in shaping customers' e-satisfaction with online technology (Singh & Sinha, 2020). In other words, e-trust has a positive and significant effect on e-satisfaction (Rahmawati & Ramli, 2024). For example, by using a sample of 200 respondents in Indonesia, Cahyanti and Dhewi (2022) found that the greater the level of e-trust users have in ShopeePay (e-wallet), the

higher their level of e-satisfaction. Similarly, Ghane et al. (2011) surveyed a sample of 121 students in Tehran universities in Iran regarding e-banking and they confirmed that customers' e-trust significantly affected their e-satisfaction.

Regarding the usage of e-payment methods, previous studies have investigated the correlation between perceived security and customers' e-trust and found that lower levels of perceived security can decrease customers' e-trust in smartphone banking (Susanto et al., 2016). For example, Daragmeh et al. (2022) found that perceived security is one of the strongest drivers of post-adoption of e-wallets among academics in Palestine. Moreover, Saoula et al. (2023) investigated the relationship between ease of use and customers' e-trust in online shopping and found significant correlation. Specifically, the ease of shopping on a Web-based store can enhance customers' e-trust regarding their future purchase transactions (Silitonga et al., 2020). Additionally, other studies, for instance, Daud et al. (2018), found that ease of use and usefulness positively and significantly affect customers' e-trust regarding e-commerce industry. Similarly, Mulyaningsih (2022) noted that high levels of ease of use and usefulness of a system or technology can lead to customers' e-trust in this technology.

To the authors' knowledge, no studies have examined customers' e-trust as a moderator between the usage of e-payment methods and customers' e-satisfaction. We propose that customers' e-trust is not a direct predictor of their e-satisfaction but rather has a moderating effect on the relationship between the usage of e-payment methods and customers' e-satisfaction. That means, when customers' e-trust in e-payment methods increases or decreases, the relationship between the usage of e-payment methods and customers' e-satisfaction will change. Following the previous arguments, the following hypothesis is proposed:

- H3 *Customers' e-trust moderates the correlation between the usage of e-payment methods and customers' e-satisfaction.*

Methodology

Study Approach

This study can be classified as a descriptive explanatory study in which the researchers employed a quantitative approach to test the study's hypotheses and achieve its objectives. The study hypothesises that there is a positive impact of the usage of EPMS on customers' e-satisfaction. Moreover, it proposes that customers' e-satisfaction positively affects their e-loyalty. Additionally, this study examines the moderating role of customers' e-trust in the correlation between usage of EPMS and customers' e-satisfaction.

Study Population and Sample

The target population of the study is travellers who have prior experience using e-payment methods within tourism and hospitality transactions in the MENA region (e.g. Egypt, Oman, Tunisia). The MENA region was selected due to the relative homogeneity of social, cultural, and institutional contexts across many of its countries, which provides a coherent setting for investigating the adoption and use of e-payment methods within tourism and hospitality transactions (Mahajan, 2012).

Given the large and geographically dispersed nature of the target population and consequently the difficulty of applying probability sampling techniques, the researchers employed non-probability sampling. Hence, convenience-based purposive sampling was used for data collection. Firstly, the researchers employed convenience sampling, a method that allows data to be collected from easily accessible respondents, to form a readily available pool of participants (Karim et al., 2022). Secondly, the researchers applied purposive sampling, through using a screening question in the questionnaire, to select participants from this pool who meet specific study criteria. Nikolopoulou (2023) confirmed that using purposive sampling allows the researchers to focus on participants who could provide meaningful insights into the research questions. To extend the sample, the researchers also incorporated snowball sampling, in which participants refer other travellers in their networks (Ting et al., 2025).

Questionnaire Development

To test the theoretical model proposed in the study, an online questionnaire consisting of two main sections was developed to collect the required data. First, the questionnaire started with an introduction that explained the purpose of the study and the confidentiality of the data collected. The first section of the questionnaire consisted of a number of questions regarding the demographic and behavioural characteristics of the respondents. Demographic questions (such as *gender, age, marital status, and educational level*) were included to gain an accurate understanding of the respondents' profiles. Behavioural questions were included to focus on the actions, behaviours and patterns of respondents regarding their use of EPMS during their travel.

Before asking the behavioural questions, the researchers used a screening question: 'Have you used EPMS previously during travel?' This question was designed to ensure that only respondents with previous experience using EPMS in the travel context would complete the questionnaire. Respondents who answered 'yes' were directed to the behavioural questions and allowed to complete the questionnaire. Conversely, those who answered 'no' were excluded from the valid responses.

Section two included questions to measure the study variables related to the usage of EPMS (ease of use, usefulness and perceived security), customers' e-satisfaction, e-trust and e-loyalty. A 5-point Likert scale, ranging from 1 'Strongly Disagree' to 5 'Strongly Agree', was used to assess all variables. The usage of EPMS was measured using nine statements (three for ease of use, three for usefulness, and three for perceived security), adapted from Karim et al. (2022). Customers' e-satisfaction was measured using three statements adapted from Abed and Alkadi (2024). Additionally, three statements adapted from Karim et al. (2022) were used to measure customers' e-loyalty. Finally, five statements were adapted from Geebren et al. (2021) to measure customers' e-trust. Finally, the questionnaire concluded with open-ended questions about the types of challenges respondents faced during their e-payment experience and their suggestions for addressing these

challenges. These questions were added to gain insights which could enhance the implications of the study.

Data Collection

The data was collected through an online questionnaire, which was created using Google Forms. The data collection process was conducted in several stages. First, due to the respondents' different levels of understanding of the English language, the questionnaire was translated into Arabic to enhance the response rate. Secondly, as recommended by Olson (2010), the questionnaire was sent to 10 academic experts at a pilot stage to review its structure, wording, translation and alignment with the study's main objectives. Based on the experts' valuable comments, slight adjustments were made. For instance, the experts recommended adding open-ended questions at the end of the questionnaire to gain a deeper understanding of the challenges faced by e-payment users and their suggestions for resolving those challenges. Furthermore, to ensure the validity of the responses, one of the experts recommended being more specific in framing the question regarding the frequency of using EPMS during travel. As a result, the researchers revised the answer options for this question (*How often do you use e-payment methods during your travel experience*) from (*frequently, often, and rarely*) to (*very frequently 'several times a day', often 'once or twice a day', occasionally 'few times during the trip', and rarely 'only when necessary'*).

Thirdly, to obtain a representative sample of the target population, the researchers distributed the questionnaire online to members of social media groups (Facebook, Instagram and WhatsApp) focused on travel experiences in the MENA region. The researchers sent messages containing greetings, a brief description of the study topic, and the questionnaire link (in both Arabic and English). To expand the sample, the researchers also shared the survey link with colleagues working in the tourism and hospitality sectors and academic colleagues and asked them to share it with other travellers in their networks, incorporating a snowball sampling approach.

After a series of follow-up messages, a total of 337 questionnaire responses were received. The researchers then reviewed the answers to the screening question and excluded all responses with no prior experience using electronic payment methods in tourism and hospitality transactions (126 responses), in line with the study's purposive sampling criteria. Therefore, 211 questionnaires, representing a response rate of 63%, were valid for final analysis. The questionnaire was distributed from October 2024 to December 2024.

Valid responses were coded and entered into SPSS 25 statistical software. The data were then analysed using SMART-PLS 4.1.0.2 software, applying Structural Equation Modelling (SEM) techniques.

Results

Sample profile

Respondents' demographic characteristics are summarised in Table 1.

Table 1 Sample Profile

Item	Frequency	%
Gender		
Male	74	35.1
Female	137	64.9
Age		
20–30	70	33.2
31–40	73	34.6
41–50	56	26.5
50 and older	12	5.7
Educational background		
High School or less	7	3.3
University student	16	7.6
Bachelor's degree	127	60.2
Master/ PhD Degree	57	27.0
Other	4	1.9
Marital status		
Single	69	32.7
Married	136	64.5
Other	6	2.8

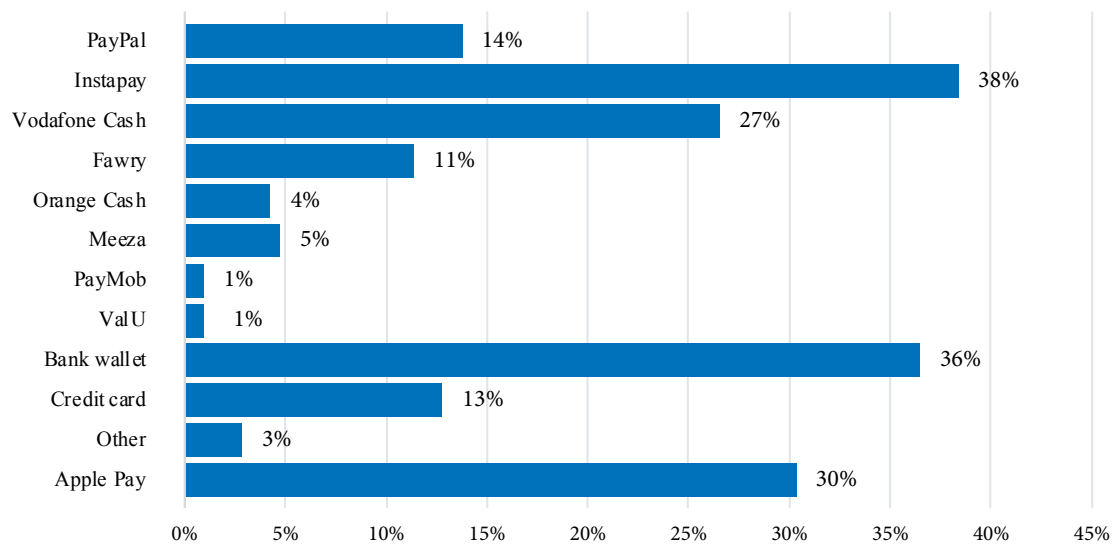


Figure 2 The Most Popular E-payment Methods Customers Use During Their Travel Experience

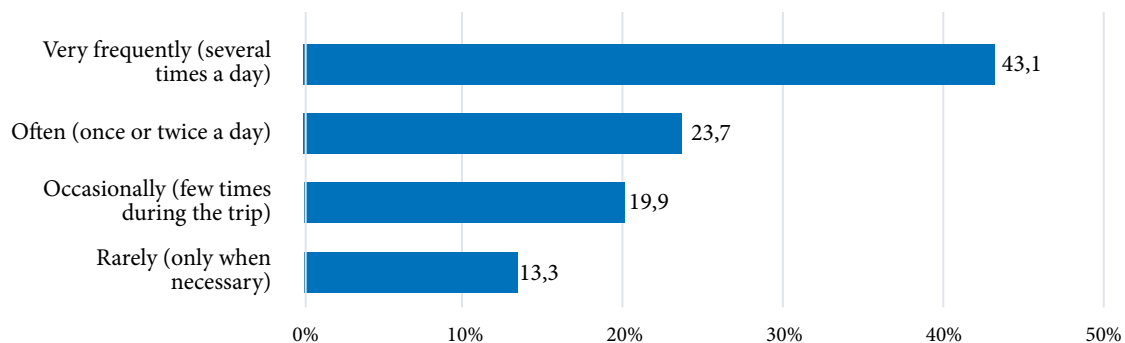


Figure 3 EPMS Frequency of Usage During Travel Experience

Analysing of Behavioural Questions

Respondents were asked regarding the most popular EPMS they use during the travel experience. Data in Figure 2 show that InstaPay (38%), followed by bank wallets (36%), Apple pay (30%), and Vodafone cash (27%) are the most frequently used methods among customers. Close usage rates were observed for PayPal (14%), credit card (13%), and Fawry (11%). The range of EPMS usage reflects customers' preferences. Each method's ease of use, security, usefulness, or promotions may explain this. Such a difference also implies that EPMS have become a popular choice

among travellers, indicating a general acceptance of digital payment technology, while some EPMS are used at a low rate, such as Meeza (5%) and Orange Cash (4%), reflecting the need to improve such methods to enhance the user experience, security, or provide new features to attract more customers. Moreover, the findings in Figure 3 show that 43% of respondents use EPMS very frequently, followed by 24% who use them once or twice a day during the trip. This indicates that customers depend on EPMS but use them at varying frequencies based on their needs and circumstances.

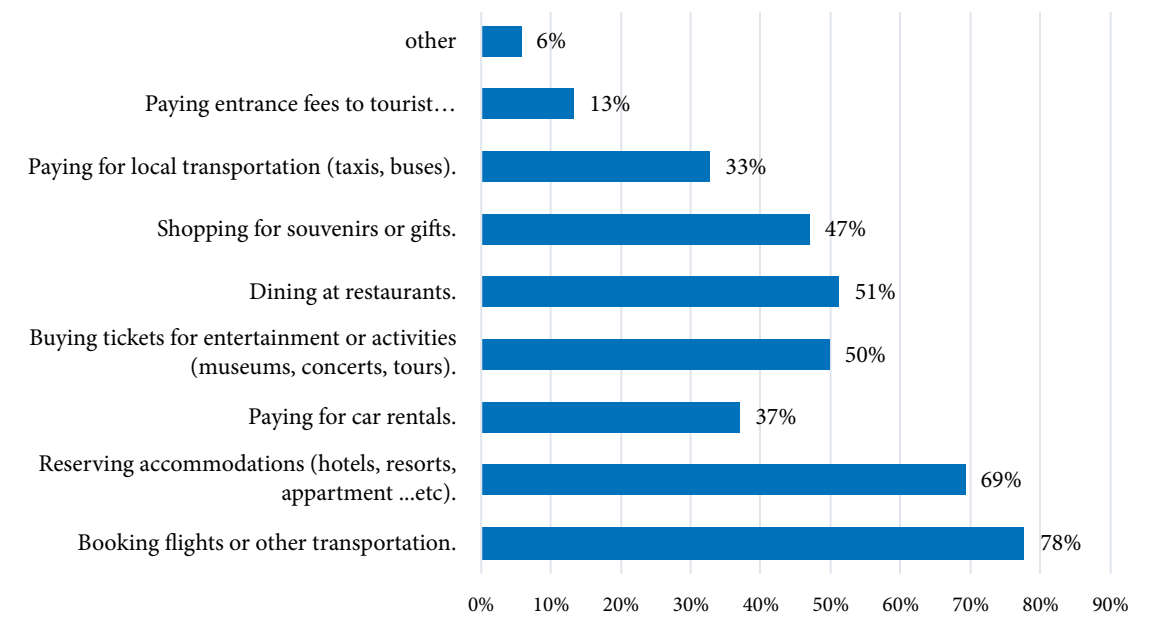


Figure 4 E-Payment Usage Across Travel Stages

Participants were also asked about the most common purposes for which they used EPMS during the travel experience. Results in Figure 4 show that 87% of customers use EPMS to book flights and other transportation, followed by 69% who use them for reserving accommodation.

Measurement Model

Testing convergent and discriminant validity using the guidelines set by Hair et al. (2019), Nguyen et al. (2023), and Cheung et al. (2024) helped confirm the confidence of the suggested model. First, each element in the suggested model should have an outer loading

Table 2 Constructs' Validity and Reliability

Constructs	Items codes	Statement	Loadings	Alpha	Rho_A	CR	AVE
EPMS usage	EOU1	It is easy to use E-payment methods	0.902	0.941	0.952	0.952	0.690
	EOU2	I believe the interface of E-payment methods is friendly and easy to understand	0.880				
	EOU3	It is easy for me to have a device that allows me to use E-payment methods services	0.834				
	P.Sec1	I feel E-payment methods are secure	0.898				
	P.Sec2	I feel secure when E-payment methods provide me with clear instructions during usage	0.873				
	P.Sec3	I am not worried about the data/information security while using E-payment methods	0.836				
	USE1	E-payment methods meet my needs	0.787				
	USE2	I save a lot of time using E-payment methods	0.863				
	USE3	E-payment methods increase my efficiency	0.541				

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Table 2 Continued from previous page

Constructs	Items codes	Statement	Loadings	Alpha	Rho_A	CR	AVE
E-satisfaction	E.sat1	I am satisfied with the way that E-payment methods have carried out my transactions	0.951	0.947	0.947	0.966	0.904
	E.sat.2	My choice to use E- payment methods was a wise one	0.945				
	E.sat3	Overall, I am satisfied with E-payment methods	0.956				
E-loyalty	E.loy1	I would share positive experiences regarding E-payment methods with others	0.922	0.913	0.916	0.945	0.851
	E.loy2	I would recommend E-payment methods to others	0.934				
	E.loy3	I will continue using E-payment methods	0.911				
E-trust	E.trust1	E-payment methods keep their promises	0.897	0.945	0.946	0.958	0.820
	E.trust2	E-payment methods facilitate my financial transactions	0.899				
	E.trust3	E-payment methods are trustworthy	0.919				
	E.trust4	I think E-payment methods are concerned with the interests of users	0.896				
	E.trust5	Overall, I trust E-payment methods	0.917				

Source Authors' own compilation. Notation(s): TP = total publications, TC = total citations.

greater than 0.5 (Hair et al., 2019). Table 2 demonstrates that the item loadings for all constructs ranged from 0.541 to 0.956, indicating a suitable level of item reliability. Cheung et al. (2024) and Mohd Dzin and Lay (2021) indicated that the values for Composite Reliability (CR) and Cronbach's alpha (α) must exceed 0.7. The data shown in Table 2 indicates that both the CR and α values ranged from 0.952 to 0.966 and from 0.913 to 0.947, respectively, confirming the internal consistency of the hypothesised model. In addition, regarding the collinearity statistics, the VIF value of all items varied between 1 and 5.2, verifying that the

study's variables exhibit no problematic multicollinearity (Nguyen et al., 2023). As well, the scores of Average Variance Extracted (AVE) as displayed in Table 2 met the statistical criterion of 0.50, as recommended by Cheung et al. (2024), representing a sufficient convergent validity.

In terms of the model's discriminant validity, the Fornell-Larcker and cross-loading criteria were utilised to verify the degree to which a specific construct is distinct and different from others in the proposed model (Benitez et al., 2020). As shown in Table 3, the Fornell-Larcker criterion was met as the

Table 3 Discriminant Validity

	Fornell-Larcker criterion			
	E.loy	E.sat	E.trust	EPMS Usage
E.loy	0.922			
E.sat	0.916	0.951		
E.trust	0.873	0.912	0.906	
EPMS Usage	0.909	0.912	0.911	0.830

Continued on the next page

Table 3 Continued from previous page

	Cross loadings			
	E.loy	E.sat	E.trust	EPMS Usage
E.loy1	0.922	0.797	0.761	0.802
E.loy2	0.934	0.821	0.806	0.810
E.loy3	0.911	0.909	0.843	0.896
E.sat.2	0.864	0.945	0.863	0.871
E.sat1	0.887	0.951	0.861	0.858
E.sat3	0.862	0.956	0.876	0.872
E.trust1	0.828	0.839	0.897	0.833
E.trust2	0.843	0.865	0.899	0.869
E.trust3	0.764	0.820	0.919	0.795
E.trust4	0.719	0.779	0.896	0.798
E.trust5	0.794	0.820	0.917	0.824
EOU1	0.831	0.822	0.757	0.902
EOU2	0.800	0.821	0.780	0.880
EOU3	0.757	0.757	0.715	0.834
P.Sec1	0.842	0.849	0.838	0.898
P.Sec2	0.827	0.829	0.797	0.873
P.Sec3	0.746	0.741	0.748	0.836
USE1	0.691	0.705	0.802	0.787
USE2	0.758	0.766	0.807	0.863
USE3	0.471	0.432	0.535	0.541

Table 4 Model Fit

Q² cross-validated redundancy			
	Q²predict	RMSE	MAE
E.loy	0.830	0.420	0.304
E.sat	0.868	0.371	0.248
R² coefficient of determination			
	R-square	R-square adjusted	
E.loy	0.840	0.839	
E.sat	0.872	0.870	
Standardised root mean square residual			
Indicators	Saturated model	Estimated model	
SRMR	0.050	0.061	
Chi-square	793.240	765.763	
NFI	0.852	0.858	

Source Authors' own compilation. Notation(s): TP = total publications, TC = total citations.

squared roots of AVEs for each construct are greater than their highest squared correlation with all other constructs (Nguyen et al., 2023; Kamel, 2025). Similarly, the cross-loading criterion was also met as shown in Table 3, as the outer loading of items on a specific construct exceeds their cross-loadings on other constructs, as recommended by Hair et al. (2019).

Based on the foregoing, the structural model demonstrates satisfactory discriminant validity. Prior studies have suggested that the model's fit and predictive power can be assessed through various metrics, as shown in Table 4 (Benitez et al., 2020). First, R^2 values measure the extent to which predictor variables explain dependent variable variance (Hair et al., 2019). In this study, the R^2 values reflect the cumulative explanatory power of all independent variables included in the structural model. Table 4 reveals that the predictor variable explained a significant amount of variation in e-satisfaction and e-loyalty, with values of 0.870 and 0.839, respectively. In addition, the test conducted for $Q_2 (=1 - SSE/SSO)$ revealed values greater than zero, thereby suggesting that the proposed model has sufficient predictive capability, as the Q_2 score exceeds zero (Nguyen et al., 2023). Further, previous research conducted by Hair et al. (2019) has shown that SRMR values below 0.080 suggest a good model fit. As shown in Table 4, the SRMR is 0.050, indicating a sufficient data fit to the hypothesised model.

Hypothesis Testing

The findings in Table 5 reveal that customers' e-satisfaction is significantly influenced by their usage of EPMS ($\beta = 0.416$; $P < .001$), supporting H1. This indicates that facilitating the e-payment process along with providing convenient and secure electronic pay-

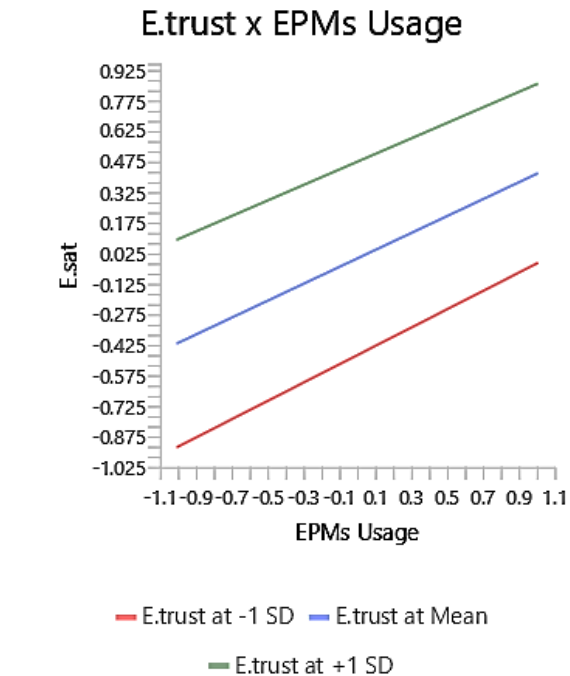


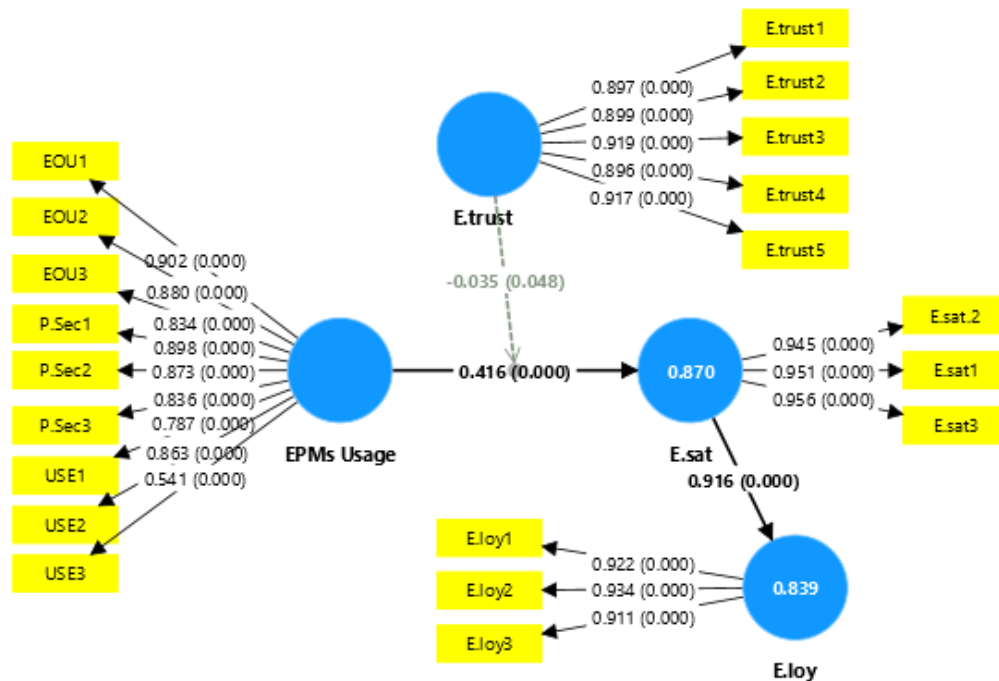
Figure 5 Simple Slope Analysis Sustainability Research Articles

ment options could increase customers' satisfaction with the e-payment services provided. In addition, customers' e-satisfaction shows a significant positive influence on their e-loyalty ($\beta = 0.916$; $P < .001$), confirming H2. This finding suggests that customers who feel comfortable and satisfied while using EPMS are more likely to continue using them in the future. Additionally, customers' e-trust had a weak but statistically significant moderating effect on the relationship between EPMS usage and e-satisfaction ($\beta = -0.035$; $P < .001$). Figure 5 displays the simple slope analysis to clarify how the nature of the interaction between

Table 5 Path Coefficients

	Standardised coefficients	Standard deviation (STDEV)	T statistics (O/STDEV)	Confidence intervals		P values
				2.5%	97.5%	
E.sat -> E.loy	0.916	0.019	47.720	0.872	0.947	0.000
EPMS Usage -> E.sat	0.416	0.088	4.723	0.267	0.611	0.000
E.trust x EPMS Usage -> E.sat	-0.035	0.017	1.976	-0.068	0.002	0.048

Source Authors' own compilation. Notation(s): TP = total publications, TC = total citations.

Figure 6 The Structural Model¹¹

usage of EPMS and customers' e-satisfaction is affected by their e-trust levels. Results of the structural model are summarised in Figure 6.

Discussion

The results of this study demonstrate a positive and significant impact of EPMS usage on customers' e-satisfaction ($estimate = 0.416$; $P < 0.001$), supporting Hypothesis 1. This indicates that the high level of practical features of EPMS, such as ease of use, usefulness and perceived security, leads to a high level of customers' e-satisfaction. This finding supports previous studies suggesting that ease of use is one of the key antecedents of customer satisfaction with EPMS (Abed & Alkadi, 2024; Dharmawan et al., 2024). Abed and Alkadi (2024) examined fintech users in Saudi Arabia and highlighted that user-friendly applications increase satisfaction and continued use. User friendly interfaces and minimum technical complexity make e-payment solutions more appealing by making them easy to use, leading to increased adoption rates and enhanced customer satisfaction.

Moreover, the results align with previous research confirming that perceived security is a critical attribute of EPMS that greatly influences satisfaction (Karim et al., 2022; Alkadi & Abed, 2023). For instance, Karim et al. (2022) studied hospitality customers in Bangladesh using fintech payment services and found that enhanced security promotes customer loyalty through improved experience and attitude. To explain, Alqahtani and Albahar (2022) highlighted that implementing effective encryption, fraud protection, and transparent data protection standards fosters user trust and increases satisfaction among Saudi marketplace consumers. Furthermore, usefulness is a crucial determinant of EPMS usage that increases customers' e-satisfaction (Ngo & Nguyen, 2024). Abed and Alkadi (2023) confirmed that the increased efficiency and creative benefits of EPMS, such as time-saving transactions and loyalty points, can stimulate customer adoption and enhance e-satisfaction.

Additionally, the current study demonstrates a positive and significant effect of customers' e-satisfaction with EPMS on their e-loyalty (*estimate* = 0.916;

$P < 0.001$), supporting Hypothesis 2. This means that a high level of customers' e-satisfaction leads to a high level of their e-loyalty. When customers feel satisfied with seamless service from EPMS, they become loyal and less influenced by competitors' offers. This finding is consistent with previous studies (e.g. Syahidah & Fikry Aransyah, 2023; Rodríguez et al., 2020).

Moreover, the results of testing Hypothesis 3 revealed that the moderating role of customers' e-trust in the correlation between usage of EPMS and customers' e-satisfaction is statistically significant ($estimate = -0.035$; $P < 0.05$). To explain, the negative coefficient of e-trust means that when customers have a high level of e-trust in EPMS, the relationship between the usage of EPMS and customers' e-satisfaction will be weaker. This implies that when customers feel confident regarding EPMS, they may overlook other functional factors like usefulness, usability and security. This result aligns with previous studies that highlighted the critical role of e-trust in the success of online businesses and services, as it serves as the foundation for establishing and maintaining strong relationships between customers and online service providers (Pan & Chiou, 2011). Sahadewa et al. (2023) studied customers of Grab company in Denpasar, Indonesia, showing that e-trust significantly affects their e-loyalty. On the other hand, when customers have low levels of e-trust in EPMS, the relationship between the usage of EPMS and customers' e-satisfaction becomes stronger. This implies that when trust is low, customers focus more on the usefulness, usability and security of EPMS as these factors play an essential role in shaping their e-satisfaction (Ngo & Nguyen, 2024).

Implications, Limitations and Suggestions for Future Research

Theoretical Implications

Theoretically, the current study enriches the existing literature on fintech services by focusing on the usage of EPMS in the context of tourism and hospitality industries in the MENA region. First, the study's findings demonstrate the direct impact of EPMS usage on customers' e-satisfaction and how this influences their e-loyalty, specifically during their travel experiences. The findings revealed significant positive correlations

between these variables, which contributes to the understanding of how functional factors related to the usage of EPMS such as ease of use, usefulness, and perceived security affect customers' e-satisfaction. Also, the study highlights the importance of customers' e-satisfaction in fostering their e-loyalty. Second, this study examines the moderating role of customers' e-trust in the relationship between EPMS usage and customers' e-satisfaction to introduce a unique contribution in comparison to previous studies. The results of the moderating role of customers' e-trust clarified that this is an important factor for shaping their e-satisfaction. However, other factors related to EPMS usage (ease of use, usefulness, perceived security) should be considered for enhancing customers' e-satisfaction.

Finally, the study findings support the integration of TAM and ECM, which were used to develop the conceptual model for testing the study hypotheses. Moreover, introducing e-trust as a moderator in the relationship between EPMS usage and customers' e-satisfaction represents a significant extension. This extension expands the ECM by exploring the role of e-trust in the direction of the relation between EPMS usage and customers' satisfaction instead of investigating the direct effect of e-trust on e-satisfaction, as seen in previous studies.

Practical Implications

Managerially, the study findings offer actionable implications for fintech companies collaborating with tourism and hospitality enterprises to enhance customers' experiences with EPMS in the MENA region, leading to enhancing customers' e-satisfaction, e-loyalty and e-trust. First, fintech companies in the MENA region should focus on enhancing the usefulness of EPMS through offering customers a variety of electronic payment methods, like credit cards, electronic wallets, and mobile payments. This flexibility enables customers to select EPMS that meet their different needs. Additionally, fintech companies can consider customers' preferences and spending behaviours by offering tailored services for them such as targeted promotions and discounts. Other features that could enhance the usefulness of EPMS in-

clude implementing a reward system linked to EPMS usage which offers tangible benefits for customers, such as early check-in, late check-out, free room upgrade, bonus loyalty points, a complimentary dinner, discounts for spa treatments, cashback on financial transactions, free tickets to tourist destinations, and discounts on subsequent trips. Second, designing user-friendly interfaces of EPMS along with providing clear instructions is essential to streamline financial transactions. Additionally, ensuring that the e-payment procedures are straightforward and uncomplicated throughout all phases, from selecting services to completing payments, is critical for enhancing users' experience. Third, the perceived security of EPMS can be enhanced through the implementation of security measures such as encryption, data-protection protocols, and fraud-prevention mechanisms to minimise potential risks and identity theft associated with the use of EPMS. Finally, fintech companies in the MENA region should focus on enhancing the trust of users by offering continuing customer support and effective solutions for any technical issues in the payment process. These implications are grounded in the study context and sample, while their relevance in other settings may vary depending on contextual conditions.

Limitations and Directions for Future Research

The current study has a set of limitations that provide new opportunities for future research within the fintech literature. This study investigates the moderating influence of e-trust on EPMS usage and customers' e-satisfaction. Further research could extend this by exploring other moderating or mediating variables such as the quality of electronic services, technological convenience, perceived security, or financial incentives such as discounts and promotions. Moreover, this study focused on three main elements of EPMS: ease of use, usefulness, and perceived security. Hence, future scholars could broaden their studies to investigate other dimensions of EPMS usage such as privacy, technical support, social influence, perceived value, competitiveness and perceived risks. Future studies could also examine whether customers' personality traits or cultural differences influence the usage of EPMS, and how these differences impact their satisfac-

tion and loyalty. Further, the current study employs non-probability sampling techniques, which may limit the representativeness of the sample and the generalisability of results. Thus, future research should incorporate representative probability-based sampling techniques to enhance the generalisability of results. Finally, the current study employed cross-sectional survey data to test the hypotheses. Future research should adopt alternative methodological approaches, such as longitudinal designs and experimental studies with control groups, to allow for stronger causal inferences and improved generalisability of the findings.

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