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From Expectancy to Acceptance: The Impact of Performance and Effort Expectations on Mobile Commerce Intentions

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Abstract: Over the past few decades, there has been a significant advancement in the development of mobile commerce. This study examines the effect of performance expectancy, effort expectancy, and perceived trust on the acceptance of mobile commerce through intention. Convenience sampling was employed whereby 385 survey questionnaires were distributed to consumers residing in Malaysia's Klang Valley area who possess smartphones and engage in mobile commerce transactions. The study's hypotheses were determined using a two-phase structural equation modeling procedure. The results indicated that perceived trust, performance expectancy, and effort expectancy significantly impact the intention to utilize mobile commerce. Moreover, the acceptance of mobile commerce is significantly impacted by the intention of utilizing mobile commerce. The results also showed that perceived trust indirectly impacted the acceptance of mobile commerce through intention. However, these insights benefit mobile commerce providers and businesses seeking to improve the acceptance of mobile commerce transactions in Malaysia.

Keywords: Mobile Commerce, Adoption, Intention, Perceived Trust, UTAUT, Malaysia

Introduction

The worldwide adoption of mobile commerce continues to increase rapidly, primarily due to the younger demographic and advancement in mobile technology. Malaysian adults below 50 exhibit a significant and rising trend in utilizing their smartphones for online shopping. Additionally, there is an observed increase in mobile subscriptions and a global transition towards 5G networks (Chan et al., 2022). The steady and significant rise in smartphone usage

has greatly enhanced the popularity and success of mobile commerce applications. Mobile commerce apps have become indispensable in our daily lives as they allow us to conveniently manage our schedules for purchases and other important needs (Patel et al., 2020; Huang, 2023; Malaquias & Hwang, 2019). Forbes predicts that mobile commerce sales will reach a staggering 710 billion dollars by 2025, thanks to the widespread use of smartphones. In 2022, the number of consumers with 5G connections exceeded 1 billion. According to a recent poll conducted by GSMA Intelligence in 2023, the number of 5G connections is projected to surpass 2 billion by 2025.

Shortly, developing countries are expected to represent over 90% of the new smartphone connections. This is due to their fast-paced advancements in mobile services, as stated by Ashraf et al. (2021) and Patel et al. (2020). According to a 2023 poll conducted by MCMC, most Malaysians like utilizing their mobile phones to make transactions. As a result, mobile commerce apps serve as the main catalyst for the country's mobile e-commerce business. The exponential growth of the utilization ratio indicates the significance and transformative potential of mobile commerce apps in the future. Although individuals are predicted to utilize smartphones for online purchases, recent figures indicate a limited acceptance of mobile commerce (Yahaya et al., 2022).

The advent of user-friendly smartphone-compatible apps has led to a global revolution in business practices, aimed at increasing the acceptability rate of mobile commerce transactions among mobile commerce users (Siyal et al., 2021). Online shopping has evolved from a basic practice to a global phenomenon in information societies and the CUS, mostly due to the pioneering efforts of Amazon and Alibaba (Kao & L'Huillier, 2022). Academics have shown an interest in investigating the variables influencing customers' willingness to adopt mobile commerce. Additionally, individuals are interested in identifying attributes that can enhance consumer retention in mobile commerce activities (Pallant et al., 2022; Siyal et al., 2024). Like previous researchers, performance expectancy is a significant predictor of the desire to use mobile commerce (Barry & Jan, 2018; Liébana-Cabanillas et al., 2017). Customers choose mobile commerce services based on their perception of the services' utility. In addition, according to research by Barry et al. (2024a), perceived ease of use (equivalent to effort expectancy) is a key predictor of how mobile commerce will be adopted. Similarly, a study carried out in Jordan revealed similar results, indicating a positive correlation between effort expectancy and consumers' intention to adopt mobile commerce. However, current studies on the acceptance of mobile commerce have not demonstrated a clear correlation between effort expectancy and intention to use mobile commerce (Morosan & DeFranco, 2016; Oliveira et al., 2016). Hence, this study investigates the effect of performance expectancy, effort expectancy, and perceived trust on the acceptance of mobile commerce through intention.

Considering this, this study adds to the current discussion regarding the factors that lead to m-commerce acceptance by analysing the impact of effort expectancy, performance expectancy, and perceived trust on Malaysian consumers' intentions to embrace m-commerce activities. The following are the research questions that are used to assess the objectives: First, what is the impact of perceived trust, effort expectancy, and performance expectancy on consumers' intents to accept m-commerce services. Second, how does the acceptance of m-commerce depend on intention and perceived trust. Third, how does intention function as a mediator between acceptance of m-commerce and perceived trust.

The mobile commerce providers, telecom industry, application developers, and rapidly developing FinTech start-ups can all benefit from the study's findings. Furthermore, by giving government regulatory bodies better insight into mobile commerce activities and the factors influencing its acceptance, this study has important policy implications. The conclusion ends with several suggestions for the advancement of m-commerce as a means of providing a demographically diverse population with greater access to financial services.

Literature Review

Mobile Commerce

Mobile commerce, also called m-commerce, refers to engaging in commercial activities within a wireless setting. Mollick et al. (2023) defined mobile commerce as integrating all mobile device transactions. In essence, use the relatively new wireless way of doing transactions. According to the most recent study report, mobile commerce refers to any transactions that involve the exchange of goods or rights and are undertaken utilizing mobile devices connected to a computer network (Barry et al., 2024a)

Unified Theory of Acceptance and Use of Technology (UTAUT)

Prior studies on consumer acceptance have primarily relied on established theories of technology acceptance, such as the Theory of Reasoned Action (TRA) (Jiang, 2009), Innovation Diffusion Theory (IDT) (Lu et al., 2011), Technology Acceptance Model (TAM) (Davis, 1989; Davis et al., 1992), Motivational Model (MM) (Davis et al., 1992), Theory of Planned Behaviour (TPB) (Schifter & Ajzen, 1985; Ajzen, 1991), Model of PC Utilisation (MPCU) (Thompson et al., 1991), Decomposed Theory of Planned Behaviour (DTPB) (Taylor & Todd, 1995), Innovation Diffusion Theory-IDT (Moore & Benbasat, 1991), and Socio-Cognitive Theory-SCT (Compeau & Higgins, 1995). The abbreviation TPB denotes the Theory of Planned Behaviour, as asserted by Ruiz-Mafe et al. (2013). The Technology Acceptance Model (TAM) is undeniably a commonly utilized framework in technological acceptability. However, it does have several drawbacks. The main drawback is the lack of guidance on effectively employing and incorporating mobile technology (López-Nicolás et al., 2008). In 2003, Venkatesh et al. formulated the UTAUT theory by incorporating eight widely recognized ideas in the current literature. Therefore, the researcher has selected the individual variable and UTAUT (Venkatesh et al., 2003) theory as the theoretical basis for the current research study.

UTAUT introduced four fundamental concepts: performance expectancy, effort expectancy, social influence, and facilitating conditions. These acquired structures influence the way customers adopt information technology (IT). The performance expectancy construct is strongly associated with perceived usefulness and relative advantage (formerly known by different terms). Nevertheless, facilitating conditions and social influence will not be included in this study as the primary focus is to investigate only the relationship between effort expectancy and ease of use and other factors such as perceived trust, intention, and acceptance of mobile commerce. However, the focus of the current study is the acceptance of mobile commerce. Prior research on user acceptance and utilization of mobile commerce has utilized the UTAUT model (Tannady, et al., 2024; Chand & Kumar, 2024; Dagnoush & Khalifa, 2021; Sair & Danish, 2018). Based on a thorough examination of prior research, we employed this model as the conceptual basis for our present study on the behavioral

intention to utilize and reception mobile commerce. Therefore, this study consider only technological factors to examine factors impacting the acceptance of mobile commerce among consumers in Malaysia. However, prior studies (Sair & Danish, 2018; Do Nam Hung et al, 2019) have also solely relied on the technological factors (performance expectancy and effort expectancy) of the UTAUT model the investigates factors affecting the acceptance of mobile commerce.

Hypotheses Development

Performance Expectancy

Venkatesh et al. (2003) defined performance expectancy as the degree to which an individual believes using the system will enhance their job performance. According to Venkatesh, Thong, and Xu (2012), performance expectancy is crucial in determining behavioral intention. In mobile commerce, the term used to describe user performance is "performance expectancy" (Dagnoush & Khalifa, 2021; Sair & Danish, 2018). Chand & Kumar (2024) found that favorable conditions in the Western region of Fiji notably influence the intention of m-payment users. Their research revealed that performance expectancy and facilitation conditions significantly influenced consumers' intentions to utilize mobile payment services. Therefore, based on the literature, we propose the following hypothesis:

H₁: Performance expectancy has a positive impact on the intention to adopt mobile commerce

Effort Expectancy

Effort expectancy refers to the ease of utilizing the system, as Venkatesh et al. (2003) defined. Venkatesh et al. (2012) state that effort anticipation is a crucial factor in determining behavioral intention. Effort expectancy refers to user-friendliness in mobile commerce (Sair & Danish, 2018). In addition, Tannady et al. (2024) defined effort expectancy as the extent to which users perceive the efficacy of utilizing mobile commerce. Chand and Kumar (2024) found that favorable conditions in the Western region of Fiji notably influence the intention of m-payment users. Therefore, based on the literature, we propose the following hypothesis:

H₂: Effort expectancy has a positive impact on the intention to adopt mobile commerce

Perceived Trust

Trust in technology can be described as the degree to which a user is willing to rely on technology and its results (Mayer et al., 1995). Furthermore, "trust," frequently called "electronic trust," denotes the customer's justified dependence on information obtained from a website or application. The customer acquires the necessary assurance to engage in online business transactions consequently. According to Basdekidou & Papapanagos (2024), the belief is that a trustworthy and highly ethical business is characterized by qualities such as skill, honesty, fairness, and responsibility. Trust is a crucial factor in mobile commerce as consumers are less inclined to engage in transactions when they perceive a high level of risk and uncertainty (Liébana-Cabanillas et al., 2024). In addition, Gharaibeh (2024) found a significant relationship between perceived trust and intention to use mobile commerce among Jordanian users. Ansori & Nugroho (2024) revealed a significant relationship between

trust and continuance intention in mobile payment apps among Indonesian m-payments users. Sutrisno (2024) discovered that trust is a strong predictor of mobile commerce adoption among consumers in Semarang, Indonesia. This study examines the determinants of online reviews' credibility and their effect on customers' purchase intentions to understand better how consumers evaluate online reviews' trustworthiness. Thus, the researchers put forth the subsequent hypotheses:

H₃: Perceived trust has a positive impact on the acceptance of mobile commerce

H₄: Perceived trust has a positive impact on the intention to use mobile commerce

Behavioral Intention

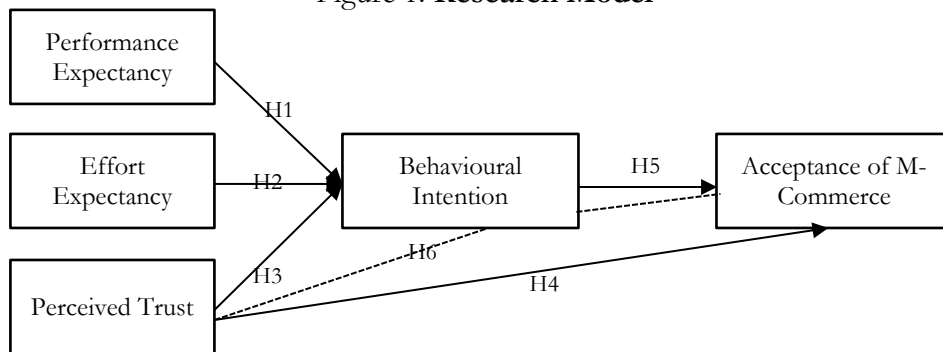
The success of technology adoption hinges on the user's intention and actual utilization. Despite the widespread desire to utilize technology, various factors may hinder individuals, including limited resources (financial, temporal, and technical proficiency) and unfavorable past encounters. Behavioural intention is a dependable predictor of customers' actions and adoption of new technologies (Zhang et al., 2012). The notion of behavioural intention is a pivotal component in the theories of the Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT), as posited by Davis (1989) and Venkatesh et al. (2003). In their study, Zarpou et al. (2012) define the variable behavioural intention as a consumer's perception of the practicality of engaging in mobile commerce. In contrast to previous studies that have primarily focused on behavioral intentions to use mobile commerce, the current study investigates consumers' acceptance of mobile commerce. This study aims to examine this aspect rather than repeating the existing research conducted by Nani and Lina (2022), Värzaru et al. (2021), Bui et al. (2020), Gharaibeh et al. (2020), Barry and Jan (2018), Sair & Danish (2018), and others. Consequently, drawing from these studies, the subsequent hypothesis is put forth.

H₅: The adoption of mobile commerce is influenced positively by the intention to engage in mobile commerce behaviors

Mediation Effect of Intention

Several researchers have investigated how intention acts as a mediator between trust and the acceptability of mobile commerce. Nguyen and Ha (2021) discovered that user adaptation completely influences the connection between trust and the intention to continue using mobile shopping. Sim et al. (2021) discovered that institutional processes moderate trust and the propensity to adopt mobile commerce. Alnoor et al. (2022) and Su et al. (2022) emphasized the significance of trust in social commerce and mobile food delivery apps. Alnoor et al. (2022) specifically underlined the role of UTAUT2 in mediating this relationship. Dawood et al. (2021) and Acheampong et al. (2021) examined the intermediary function of mobile perceived trust in the context of FinTech and mobile payment use intention, respectively. Chin et al. (2022) and Sleiman et al. (2021) highlighted the significant impact of perceived benefit and government surveillance on the intention to embrace mobile payment methods. These studies emphasize the important role of purpose in moderating the relationship between trust and the acceptability of mobile commerce.

H₆: Intention mediates between perceived trust and acceptance of mobile commerce

Figure 1. **Research Model**

Methods

The study employed convenience sampling, distributing 400 survey questionnaires to Malaysian consumers who are using smartphones and conducting mobile commerce across the Klang Valley area in Malaysia. A 5-point Likert scale for the questionnaire items ranged from 1 strongly disagree to 5 strongly agree. According to Hair et al. (2010), the researchers found the 400 questionnaires supplied to college students sufficient for data analysis. All data screening protocols are diligently followed before doing the main analysis in this study. After the data screening process, the statistical package for social sciences (SPSS) application was utilized to conduct a comprehensive analysis, encompassing reliability analysis, descriptive analysis, factor analysis, and structural equation modeling. The measurement model is assessed for convergent and discriminant validity and goodness-of-fit using the AMOS software for structural analysis. The structural model is subsequently executed to validate the model and confirm the premise of the investigation.

Findings

The study utilized the Analysis of Momentum Structure (AMOS-SEM) and Statistical Package for Social Science (SPSS) software for data analysis (Hair et al., 2010). In addition, factor analysis, descriptive analysis, and reliability analysis were conducted. A two-stage structural equation modeling technique establishes the measurement model and the structural model of the study. The study's hypotheses were ultimately established (Hair et al., 2010). The analysis utilized Cronbach's alpha coefficient to determine the reliability values for the constructs: PT = 0.780, PE = 0.833, EE = 0.918, BI = 0.942, and AMC = 0.915. In addition, the overall reliability was adequate, with a Cronbach's α coefficient of 0.945.

Demographic Characteristics of the Respondents

Out of the 400 questionnaires that were distributed, only 390 were received. The data collected yielded 385 legitimate responses, with 211 (55%) females and 174 (45%) males. Most of the respondents, specifically 135 individuals (35.1%), fell within the age range of 18-23, while 130 individuals (33.8%) were in the age range of 24-29. Out of all the responses, only 73 (19%), 35 (9.1%), and 12 (3.1%) were from individuals aged 30-35, 36-40, and 41 and above, respectively. Out of the responses, just 45 individuals (11.7%) were married, while the majority, 340 individuals (88.3%), were single. The survey included 351 (91.2%) participants from Malaysia and just 34 (8.8%) participants from other countries. In terms of their educational background, 175 individuals (45.5%) were enrolled as Undergraduate

students, followed by 95 individuals (24.7%) as Master students, and 58 individuals (15.1%) as Diploma students. Only 57 PhD students were present, accounting for 14.8%. The demographic profile of the respondent is presented in Table 1 below.

Table 1. **Demographics profile of the respondents**

Demographic Variables		Research Sample (n = 385)	
		Frequency	Percentage (%)
Gender	Male	174	45.0
	Female	211	55.0
Age	18 - 23	135	35.1
	24 - 29	130	33.8
	30 - 35	73	19.0
	36 - 40	35	9.1
	41 - Above	12	3.1
Nationality	Malaysian	351	91.2
	Non-Malaysian	34	8.8
Marital Status	Single	340	88.3
	Married	45	11.7
Level of Education	Diploma	58	15.1
	Bachelor	175	45.5
	Master	95	24.5
	PhD	57	14.8

Source: Author's computation

KMO and Bartlett's test of Sphericity

The unidimensionality of the scales was assessed by doing the KMO and Bartlett's Tests of Sphericity (see Table 2). The p-values for the five sample groups in the sphericity tests were below 0.001. Moreover, a confirmation of 0.915 was obtained, indicating the appropriateness of the samples.

Table 2. **KMO and Bartlett's Tests**

KMO and Bartlett's Test		
KMO Sampling Adequacy Measurement		0.915
Sphericity Test	Approx. Ch-Square	8249.246
	Degree of Freedom	380
	Significance	0.000

Source: Author's computation

Exploratory Factor Analysis

The factors loadings from the factor analysis result (Table 3) were used to confirm that each survey item was correctly assigned to the proper component. The findings suggest that seven factors explained 77.163% of the variability in the survey items. Any items with factor loadings below the recommended 0.5 (Hair et al., 2010) were excluded from the data analysis.

Additionally, as determined by exploratory factor analysis, Cronbach's alpha for each component is above the minimum value of 0.7, as Hair et al. (2010) advised.

Table 3. **Reliability of Scale**

Variables	Items	Loadings	Cronbach's α	CR	AVE
Effort Expectancy Mean = 4.084 SD = 1.023	EF1	0.727	0.908	0.91	0.669
	EF2	0.784			
	EF3	0.804			
	EF4	0.766			
	EF5	0.711			
Acceptance of Mobile Commerce Mean = 3.977 SD = 1.110	AC1	0.777	0.905	0.903	0.702
	AC2	0.807			
	AC3	0.855			
	AC4	0.84			
Behavioural Intention Mean = 4.027 SD = 1.033	INT1	0.728	0.932	0.933	0.778
	INT2	0.661			
	INT3	0.736			
	INT4	0.755			
Perceived Trust Mean = 2.814 SD = 1.209	PT1	0.831	0.77	0.779	0.543
	PT2	0.751			
	PT3	0.883			

Source: Author's computation

Convergent and Discriminant Validity

The researchers estimated each construct's average variance extracted (AVE) to assess convergent validity. They ensured that the AVE value for each construct was above 0.5, as presented in Table 4 (Cheung et al., 2023). To evaluate the discriminant validity, the square root of the average variance extracted (AVE) was calculated and then compared to the inter-construct correlations. The findings presented in Table 3 confirm the discriminant validity, as indicated by the square root of the Average Variance Extracted (AVE) of the constructs being higher than the correlations between each construct and other constructs (Cheung et al., 2023).

Table 4. **Construct Validity and Reliability**

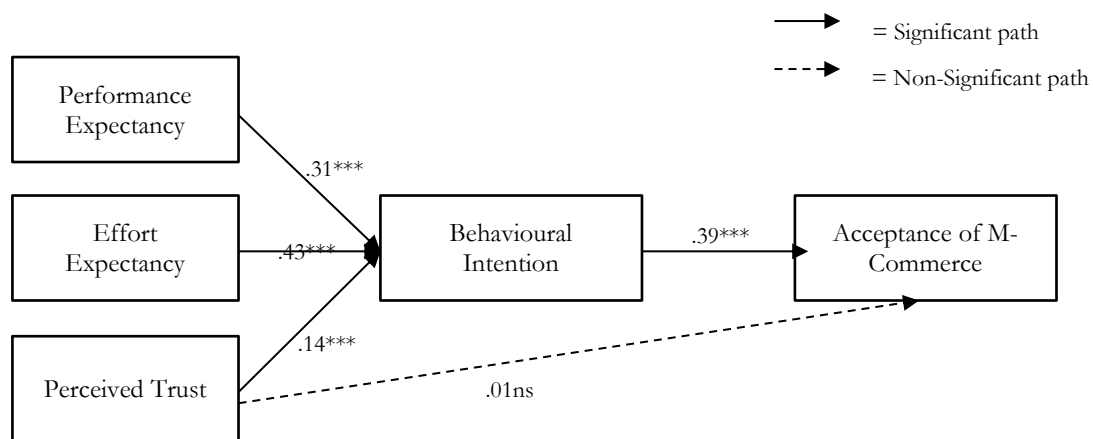
	CR	AVE	MSV	ASV	1	2	3	4	5
PE	0.820	0.537	0.476	0.266	0.732				
EE	0.910	0.669	0.542	0.317	0.637	0.818			
PT	0.779	0.543	0.030	0.007	-0.020	0.075	0.737		
INT	0.933	0.778	0.542	0.344	0.690	0.736	0.172	0.882	
ACC	0.903	0.702	0.361	0.202	0.371	0.601	0.091	0.569	0.838

Source: Author's computation

Confirmatory Factor Analysis

The confirmatory factor analysis results for the measurement model show that the RMSEA index is 0.064, below the threshold of 0.08. The DF value is 329, the Chi-square (χ^2) value is 842.396, and the Normed Chi-square (χ^2/DF) value is 2.560, which is below the threshold of 5.0. Additionally, the CFI, GFI, TLI, and IFI values are 0.937, 0.932, 0.927, and 0.937 respectively, all exceeding the threshold of 0.90. These findings are consistent with previous studies by Barry et al. (2024a), Barry et al. (2024b), Bentler & Bonett (1980), Hu & Bentler (1999), and Tucker & Lewis (1973). This data indicates that it is appropriate to assess the suitability of the structural model. However, the measurement variables of the structural model are presented in the appendix (see Appendix 1)

Figure 2. **Factors Affecting the Acceptance of Mobile Commerce**



Hypotheses Testing

The hypotheses were validated utilizing AMOS software. The findings indicate that the RMSEA index is below the threshold of 0.08 (0.065), the DF is 332, the Chi-square (χ^2) is 869.720, the Normed Chi-square (χ^2/DF) is below the threshold of 5.0 (2.620), and the CFI, GFI, TLI, and IFI have values of 0.934, 0.928, 0.924, and 0.934, respectively, all exceeding the threshold of 0.90. Based on the findings of the structural model, the predicted model demonstrates superior performance in terms of fit indices and factor loadings. The result of the hypothesis test for the structural model is deemed adequate. The result of the hypothesis is presented in Table 5 below.

Table 5. **Hypotheses testing**

Hypotheses	Paths	β	Critical Ratio	P	Supported
H1	INT <---- PE	0.310	4.765	***	YES
H2	INT <---- EE	0.431	7.216	***	YES
H3	INT <--- PT	0.139	3.736	***	YES
H4	AMC <--- PT	0.012	0.305	0.76	NO
H5	AMC <---- INT	0.386	7.341	***	YES

Note: *** indicates significance level < 0.001

Source: Author’s computation

Results

Table 5 demonstrates that the effect of performance expectancy on intention is 0.31. With a significance threshold of 0.05, the results demonstrated statistical significance ($\beta = 0.31, p < 0.001$). Hence, the level of performance expectancy greatly impacts the intention to utilize mobile commerce. Thus, Hypothesis 1 is supported. Hypothesis 2 indicates that the level of effort expectancy has a significant influence of 0.43 on the intention. This outcome is predictable. With a significance threshold of 0.05, the results demonstrated statistical significance ($\beta = 0.43, p < 0.001$). Hence, the level of effort expectancy strongly affects the intention to adopt mobile commerce. Consequently, Hypothesis 2 is supported. The correlation coefficient between perceived trust and intention is 0.14. The results were statistically significant with a significance threshold of 0.05 ($\beta = 0.14, p < 0.001$). Hence, the perception of trust substantially impacts the intention to utilize mobile commerce. As a result, Hypothesis 3 is subsequently approved. Hypothesis 4 indicates that the impact of perceived trust on the acceptability of mobile commerce is 0.01 regarding this association. At a significance level of 0.05, the data indicated a lack of statistical significance ($\beta = 0.01, p < 0.076$). Hence, the perception of trust does not exert a noteworthy impact on the adoption of mobile commerce. Therefore, Hypothesis 4 is not supported. Hypothesis 5 indicates that intention's impact on mobile commerce adoption is 0.4, aligning with Hypothesis 5. With a significance threshold of 0.05, the results exhibited statistical significance ($\beta = 0.4, p < 0.001$). Hence, the intention to utilize mobile commerce substantially impacts the adoption of mobile commerce. Consequently, Hypothesis 5 was subsequently supported. Finally, Table 6 below demonstrates the mediation effect of intention in the relationship between perceived trust and the acceptance of mobile commerce. The results of the indirect effect indicate that intention acts as a full mediator ($\beta = 0.053, p < 0.001$). Therefore, Hypothesis 6 is supported.

Mediation Effect

This study examined how a clear goal influences the connections between perceived trust and acceptance of mobile commerce. The results from 2000 samples of bootstrapping and 95% confidence interval analysis indicate that intention fully mediates the relationship between perceived trust and acceptance of mobile commerce ($\beta = 0.053, p < 0.001$). The result of the mediation is presented in Table 6 below.

Table 6. Mediation Effect of Intention

Path	Total Effect	Direct Effect	Indirect Effect	Result
PT ---> INT ---> AMC	0.066	0.012	0.053***	Full Mediation

Source: Author's computation

Discussions

This study examined the acceptance of mobile commerce among consumers, using UTAUT as a theoretical framework. The results indicated that consumers agreed with and recognized the potential of mobile commerce. In this paper, the researchers conducted a study to examine the impact of consumers' perceptions of trust on their willingness to accept mobile commerce, a novel area of research. The findings align with hypothesis H5, which proposes that consumers' intention to accept mobile commerce impacts their acceptance. By

comprehending this, one can adapt experiences and activities to cater to the requirements of consumers, thereby improving their proficiency in carrying out mobile commerce activities.

Another noteworthy discovery is the validation of the influence of performance expectancy (H1), effort expectancy (H2), and perceived trust (H3) on consumers' intention to utilize mobile commerce. These findings provide insights into the relationship between consumers' perception of mobile commerce and their intention to use it, allowing us to gain a deeper understanding of this topic.

The findings from Table 5 revealed that performance expectancy has a significant impact on the intention to use mobile commerce. This finding aligns with Barry et al. (2024b) and Barry and Jan (2018) who found that perceived usefulness (performance expectancy) has a significant impact on the intention to use mobile commerce among Malaysian consumers. When consumers perceived mobile commerce as useful, they will most likely use it (Barry et al., 2024b). Barry and Jan (2018) further revealed that perceived usefulness is the strongest determinant of the intention to use mobile commerce. In contrast, the result contradicts Barry et al (2024a) and Restianto et al. (2024) who revealed that perceived usefulness does not predict intention to use mobile commerce.

The findings also revealed that effort expectancy has a significant influence on the intention to use mobile commerce among consumers in Malaysia. This result aligns with Barry et al. (2024a), Barry et al. (2024b), Liu et al. (2022), and Barry et al. (2024c). When consumers discover that mobile commerce is easy to use, they will engage in it (Barry et al., 2024a). So long as mobile commerce platforms are easy to use consumers will most likely use them (Barry et al., 2024b). perceived ease of use strongly predicts the intention to use mobile commerce (Liu et al., 2022). In contrast, the results contradict Mahaputra & Mahaputra (2023) who found no significant relationship between effort expectancy and intention to use mobile commerce.

The finding from Table 5 showed that perceived trust has a significant impact on the intention to use mobile commerce. The results align with Widiar et al. (2023), Chin et al. (2022) and Kumar et al. (2023) who all discovered that perceived trust significantly impacts the intention to use mobile commerce. This indicates that when consumers trust mobile commerce, they will have a favourable intention to use it. In addition, when consumers believe that their financial information is secure, they will most likely trust the providers and will have a favourable intention. As a result, they will engage in mobile commerce activities.

Surprisingly, the findings revealed that perceived trust has no significant impact on the acceptance of mobile commerce among Malaysian mobile commerce users. This result contradicts Handarkho (2023) and Kumar et al. (2023) who found a significant relationship between perceived trust and the acceptance of mobile commerce. This may be understood that when it comes to acceptance of mobile commerce consumers don't consider much the trust factor. As a result, trust is not a pre-requisite of mobile commerce acceptance among users. Therefore, mobile commerce providers should focus on other factors that predict the acceptance of mobile commerce to improve its adoption in Malaysia.

The findings also revealed that intention has a significant impact on the adoption of mobile commerce. This result aligns with Barry et al. (2024a), Lee et al. (2023), and Barry and Jan (2018). A favourable intention leads to acceptance of mobile commerce activities from the

users (Barry et al., 2024a). When consumers have a favourable intention towards mobile commerce providers, they will most likely accept to engage in mobile commerce activities with the providers (Barry and Jan, 2018). Intention is the strongest factor of acceptance of mobile commerce (Lee et al., 2023). This indicates that intention is a pre-requisite of mobile commerce acceptance.

Table 6 displays the finding of the mediation. Indicating that intention mediates the relationship between perceived trust and acceptance of mobile commerce. Hence, the results showed that intention plays a full mediator role between perceived trust and acceptance of mobile commerce. This result aligns with Alnoor et al. (2022), Su et al. (2022), and Nguyen and Ha (2021) who all discovered that intention plays a mediation role between perceived trust and acceptance. Barry and Jan (2018) also revealed that intention plays a full mediation role between perceived security and actual use of mobile commerce. In addition, Ahmed & Barry (2023) also discovered intention playing a mediator role.

Theoretical Contribution

The study's theoretical significance stems from its emphasis on acceptance of mobile commerce in Malaysia, a developing nation with significant potential in this industry. The factors impacting the acceptance of mobile commerce that have been identified here can provide other countries looking to assist and encourage the expansion of mobile commerce in their digital economies with a useful framework for reference.

Due to variations in the complexity of mobile commerce acceptance, previous research extended the unified theory of acceptance and use of technology yielded mixed results. While some research did not discover similar results, others have demonstrated that performance expectancy, effort expectancy, and perceived trust were statistically significant. According to this study, whether consumers accept mobile commerce depends on how simple and useful, and trustworthy they believe it to be. Thus, it emphasises the significance of a particular technological component of the theory of acceptance and use of technology.

Finally, a significant and positive impact of performance expectancy, effort expectancy and perceived trust on the intention to use mobile commerce is a key conclusion of this study. Previous research has examined the impact of performance expectancy and effort expectancy without regard to the theory of acceptance and use of technology model. Additionally, intention shown a significant impact the acceptance of mobile commerce. To facilitate future research on mobile commerce platforms, the study makes use of an extended model that incorporates perceived trust from the theory of acceptance and use of technology

Managerial Implications

The intention of consumers to utilize mobile commerce will be enhanced if mobile commerce suppliers enhance their technology, such as websites or applications, to be dependable, beneficial, and user-friendly. The reason for this is the strong association between the perception of trust, the expectation of performance, and the expectation of effort, on the intention to utilize mobile commerce. To enhance the acceptance of mobile commerce among consumers, mobile commerce providers should employ a set of strategic marketing decisions and integration methods.

To enhance the acceptance of mobile commerce, developers of mobile commerce apps or websites should organize seminars or training sessions to familiarize consumers with mobile commerce's features and usage procedures. This is important because intention greatly impacts the acceptance of mobile commerce. Additionally, it is imperative to establish a robust support system to address any issues or inquiries that consumers may encounter when utilizing mobile commerce. Mobile commerce providers must prioritize optimizing their websites or application interfaces to be user-friendly and intuitive, facilitating seamless interaction with technology for consumers. Additionally, they must engage with consumers, addressing concerns regarding confidentiality and data protection, and reinforcing the security and privacy protocols in place during their mobile commerce usage. Put simply, they must guarantee consumers that their financial information is safeguarded when engaging in any mobile commerce activity. Consequently, this will foster the participation of consumers in mobile commerce and promote the growth of the mobile commerce sector in Malaysia, thereby making a substantial contribution to the Malaysian economy.

Policymakers in Malaysia, including The Malaysian Communication and Multimedia Commission (MCMC), should enact effective policies for telecommunication industries to ensure high-quality internet connections. This will empower mobile commerce providers to deliver excellent services, encouraging consumers to engage in mobile commerce activities. To enhance the acceptance of mobile commerce among consumers in Malaysia, mobile commerce providers must also have strong collaborations with website and app designers, smartphone manufacturers, and telecommunication companies to enhance the acceptance of mobile commerce in Malaysia which will improve the Malaysian digital economy

Conclusion

This study presents findings on the level of adoption of mobile commerce among consumers. The primary determinant of acceptability in mobile commerce among consumers is their intention to use it. Performance expectancy, effort expectancy, and perceived trust also impact consumers' intention to utilize mobile commerce. Conversely, it was found that perceived trust, performance expectancy, and effort expectancy greatly impacted the intention to engage in mobile commerce. The study's research reveals that the connection between perceived trust and acceptance of mobile commerce is influenced by intention. Specifically, the impact of intention to utilize mobile commerce acts as a mediator in this relationship between perceived trust and acceptance of mobile commerce. Nevertheless, the connection between favorable conditions and the adoption of mobile commerce does not display any mediation effect by purpose.

The following offers a thorough suggestion for future researchers. This research, like any other study, is subject to limits in terms of the study's execution and substance, mostly owing to personnel, materials, and time constraints. Hence, the fundamental framework of this research is the model itself, or the expansion derived from the model. As a result, the existing collection of factors includes an additional variable called performance expectancy, effort expectancy, perceived trust, and intention. All the factors are unidimensional, and the outcomes are more conceptual. Currently, performance expectancy may be categorized into four distinct groups: work performance, convenience, entertainment value, and social influence, with the last being further separated into the impact on colleagues and classmates. This will enable the creation of more complete acceptance models and specific suggestions for the acceptability of mobile commerce among consumers.

Future studies can explore several factors influencing users' acceptance of mobile shopping. This study only examines consumers who possess smartphones and engage in individual mobile commerce. This study examines the behavior of smartphone consumers by analyzing the purpose of mobile commerce, performance expectancy, effort expectancy, perceived trust, and intention. Future research may incorporate alternative study approaches considering perceived cost, individual inventiveness, privacy, and security factors. In the future, studies may additionally conduct cross-national comparisons of students to determine their degree of receptiveness toward mobile commerce. Subsequent research could explore the framework employed in this study within a different setting to ascertain the extent to which consumers embrace novel technologies, such as e-payment or social commerce.

Another key limitation of this study is that it does not include facilitating conditions and social influence on the present study as the study focus solely on the technological aspect of the theory of acceptance and use of technology thereby considering only performance and effort expectancy. Thus, future studies may incorporate these two variables to investigate the factors influencing the acceptance of mobile commerce. Therefore, given the novelty of mobile commerce, further research is necessary to illustrate its influence on the extent of the consumption process. Additional research is required to ascertain the efficacy and utilization of mobile commerce among consumers and to generate insights to enhance its adoption among consumers in Malaysia.

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Appendix 1: The Measurement of the Variables of the Structural Model

Construct	Items	Item Measure	L	M	SD	CR
Perceived Trust	PT1	Mobile commerce is trustworthy.	0.74	2.86	1.155	0.779
	PT2	I trust mobile commerce in helping me on my transactions	0.63	2.90	1.263	
	PT3	Overall, Mobile commerce is trustworthy.	0.83	2.68	1.211	
Performance Expectancy	PE1	I find mobile commerce useful in my daily transactions.	0.68	3.78	1.110	0.820
	PE2	Using mobile commerce increases my chances of gaining more knowledge and skills.	0.82	3.53	1.190	
	PE3	Using mobile commerce helps me gain knowledge and skills faster.	0.84	3.76	1.093	
	PE4	Using mobile commerce increases my productivity in gaining knowledge and skills in mobile shopping.	0.76	3.91	1.075	
Effort Expectancy	EE1	Learning to use mobile commerce is easy for me.	0.72	4.14	1.025	0.910
	EE2	My interaction with mobile commerce is clear understandable.	0.86	4.09	0.977	
	EE3	I find mobile commerce easy to use.	0.83	3.98	1.084	
	EE4	I easily become proficient in using mobile commerce.	0.83	4.07	1.019	
	EE5	Mobile commerce is rigid and flexible for me.	0.84	4.14	1.012	
Intention	INT1	Given the chance, I intend to use mobile commerce.	0.82	4.10	1.070	0.933
	INT2	I intend to continue using mobile commerce.	0.88	3.94	1.029	
	INT3	I intend to use mobile commerce in the future	0.90	4.02	1.018	
	INT4	I intend to use mobile commerce everyday	0.92	4.05	1.017	
Acceptance of M-commerce	ACC1	I use mobile commerce for shopping.	0.78	3.90	1.129	0.903
	ACC2	I use mobile commerce whenever I want to.	0.86	4.00	1.085	
	ACC3	I use mobile commerce for my daily purchases	0.62	4.01	1.132	
	ACC4	Overall, I use mobile commerce for my daily transactions.	0.65	4.00	1.097	

Notes:

L = Loadings

M = Mean

SD = Standard deviation

CR = Composite Reliability

