

# Examining the Factors Influencing Consumer's Adoption of E-Payment Methods: The Era of Digital Accounting Technologies in the Saudi Arabian Context

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## Abstract

The rapid evolution of digital technologies has significantly transformed the landscape of financial transactions, with electronic payment methods emerging as a cornerstone of modern commerce. Electronic payment techniques help accounting by speeding up financial transactions, increasing efficiency, and improving accuracy. Drawing on the ideas of Theory of Planned Behavior (TPB), developed by Icek Ajzen (1991), this study aims to examine the multidimensional factors that influence consumer adoption of e-payment methods, shedding light on the dynamics that shape individuals' preferences and behaviors in the digital payment ecosystem in the Saudi Arabian context. It seeks to understand the role of convenience, security and trust, transaction speed, social influence, and compatibility in consumer adoption of e-payment methods. An online survey with a structured, self-administered questionnaire served as the foundation for this empirical investigation. The primary data were gathered from 210 respondents in Saudi Arabia using a convenient sampling method. A statistical package for the social sciences evaluated the gathered respondent data. Regression models and analysis of variance were employed to test the suggested hypotheses. The data were analyzed using reliability analyses, correlation analyses, and descriptive statistics. Given the continued significance of digital payment systems in the global economy, the study contributes to the existing literature in digital accounting and the future of financial transactions in the digital age and provide helpful information to support the ongoing development of e-payment ecosystems. The findings of the study provide valuable insights to financial institutions, industry experts, scholars, and policymakers.

**Keywords:** E-payment, Convenience, Security & Trust, Transaction Speed, Social Influence, Compatibility, Digital Accounting Techniques.

## Introduction

Consumers' adoption of electronic payment systems influences a plethora of elements that represent the delicate interplay of technological, social, economic, and psychological

components. Companies, consumers, and service providers must have a solid grasp of the intricate relationships between these factors to address customer concerns and encourage the widespread use of electronic payment systems. The emergence of electronic payment methods changed the way people interact with commerce in the fast-paced world of finance. In the three-player e-commerce cycle, electronic payment is an essential component for the client, the merchant, and the financial services providers, mainly banks (Whiteley, 1999).

Rather than being only a product of technological advancement, the acceptability of electronic payment methods is the outcome of a complex interplay between several elements that impact customers' attitudes, choices, and behaviors. One of the main factors is convenience, which includes the availability and ease of use of electronic payment options. The acceptability of e-payments is also significantly influenced by security and trust. The expanding e-payments sector highlights how important it is to enhance e-payments for all payment systems (Mohamad & Kassim, 2019). As the globe gets more digitally connected, protecting personal and financial data becomes increasingly important. Transaction speed is one of the most critical factors in deciding whether customers would adopt e-payment systems. In today's fast-paced environment, transaction processing speed can significantly impact the consumer experience. In the upcoming decades, mobile payment will emerge as a significant digital payment method among all these systems (Bezovski, 2016; Arshad Khan and Alhumoudi, 2022; Asif et al., 2023).

It is impossible to overestimate the significance of peer connections and social networks in addition to personal preferences. Research has indicated that social influence has a significant role in the uptake of many technologies, including electronic payment methods (Alhumoudi and Juayr, 2023). The final component of our research, compatibility, underlines the importance of seamless transitions across different technological platforms. This study delves into the complex dynamics that surround the adoption of electronic payment systems, focusing on the critical roles that convenience, trust and security, transaction speed, social impact, and compatibility play.

The present study also takes valuable insights from the theory of planned behaviour (TPB) and follows the significant reference of this study. Examining the factors influencing consumer adoption of e-payment methods, the Theory of Planned Behavior (TPB) provides a comprehensive framework for understanding the psychological processes underlying individuals' intentions and behaviors. The Theory of Planned Behavior (TPB), developed by Ajzen (1991), provides a framework for understanding and predicting human behavior. It suggests that there are three main factors: Attitude toward the behaviour, Subjective norms, and Perceived behavioural control that impact behavioural intention. In the era of digital accounting technologies, consumers' attitudes toward e-payment methods are crucial. Perceptions of convenience, security, and usability associated with digital payment systems shape attitude. Social influences play a significant role in consumers' decisions to adopt e-payment methods. Positive reinforcement from peers, family members, or influential figures endorsing e-payment methods can encourage adoption, while social stigma or scepticism may act as barriers. Consumers' perceptions of their ability to adopt and effectively use e-payment methods are central to the TPB. Perceived behavioral control encompasses factors such as technological proficiency, ease of access, security concerns, and compatibility with existing financial practices and accounting systems. By examining these factors through the lens of the Theory of Planned Behavior, researchers can gain insights into the drivers and barriers to consumer adoption of e-payment methods in the era of digital accounting technologies (Ajzen, 1991).

### ***The Motivation behind the Study***

Given the advent of digital accounting technology, it is essential to study consumers' adoption of electronic payment systems. Consumer adoption is largely affected by various factors such as ease of use, security, and customer support. Academics and industry need this analysis to understand the changing digital finance environment, address socio-cultural issues, and make strategic decisions. Saudi Arabia is digitising many areas, including banking and accountancy. This transformation is pushing digital payment acceptance; thus, understanding customer preferences and behaviour is crucial. Consumers in Saudi Arabia and elsewhere are increasingly using electronic payment options. This transition is influenced by security, convenience, and digital technology. Integrating digital accounting and electronic payment methods brings new financial administration solutions. Understanding how consumers adjust to these technologies may help explain digital banking developments. Saudi Arabia's digital finance and accountancy sectors are advancing rapidly. Electronic payment mechanisms in digital accounting technology bring new opportunities and challenges. Policymakers and corporations must understand customer reactions to these advancements. E-payments can increase financial inclusion by making financial services more accessible to more people. The implications of this research extend to the creation of user-friendly and inclusive electronic payment systems.

### **Literature Review**

The perceived ease with which a customer may use the electronic payment system in e-commerce and online transactions is known as the "e-payment effort expectancy." The system also boasts simple criteria and does not require any specialized knowledge (Putri et al., 2019). Customers who utilize electronic payments are always concerned about financial risks, including the possibility of losing their money and the possibility of their personal information being compromised (Featherman et al., 2006). According to research by Mallat (2007), mobile payment methods are most practical for making minor online purchases of content, mobile games, and cinema tickets.

The convenience and simplicity of mobile payment usage are the primary driving forces behind its widespread acceptance by companies and consumers (Chang et al., 2009). An acceptable alternative may be selected for a specific type of transaction due to the availability of a range of electronic payment mechanisms, such as mobile payments, mediation services, and electronic money (Paunov & Vickery, 2006). Performance expectations, effort expectations, social influence, enabling conditions, and a price-saving mentality all impact the desire to use an electronic payment system (Al-Sabaawi et al., 2021).

Venkatesh et al. define social effect as the extent to which an individual perceives that significant others think the new system is appropriate for them to utilize. The research findings indicate that social impact, enabling conditions, hedonic incentives, compatibility, innovation, relative advantage, and observability all favorably affect customers' inclination to utilize mobile payments (Lin et al., 2020). According to Zhou et al (2010), social influence is the impact of a customer's immediate social network, including friends, family, leaders, and coworkers, on their intention to utilize a connected system.

The primary consideration that is to be considered one of the significant aspects of every online transaction is security (Tsiakis & Sthephanides, 2005). Mallat (2007) states that several variables influence customers' decision-making and readiness to utilize the newest technology while making payments, which in turn affects the adoption of mobile payment systems. From the standpoint of electronic payments, security comes in three ways:

transaction, system, and legal. Only when the system meets the customer's expectations for safety and security can an electronic payment be deemed secure and private (Baddeley, 2004). Sfenrianto et al. investigated the link between affect expectations and discovered that e-payment had a favorable influence. According to Alshannag et al. (2022), behavioral intention in the adoption of e-payment can be favorably influenced by social influence. SI has a beneficial impact on behavioral intention to use electronic payments (Mohamad & Kassim, 2019b).

The area of e-commerce is expanding due to the increased usage of its online payment services; nevertheless, the security and stability of various electronic payment systems will determine the industry's future growth and broad use (Aigbe & Akpojaro, 2014). "Compatibility" gauges how well a piece of technology works with a person's way of life and how they conduct financial transactions (Mallat et al., 2008; Babaee, 2009; Alhumoudi and Alhumoudi 2023). Among all these technologies, mobile payment will become a prominent digital payment mechanism in the future decades (Bezovski, 2016).

### Objective of the Study

The research aims to fulfil the following significant objectives:

1. To examine the role of convenience and compatibility of e-payment methods on consumer adoption.
2. To examine the role of transaction speed, security, and trust of e-payment methods on consumer adoption.
3. To examine the role of the social influence of e-payment methods on consumer adoption.

### The Conceptual Framework and Proposed Hypotheses

The study proposes the following conceptual framework

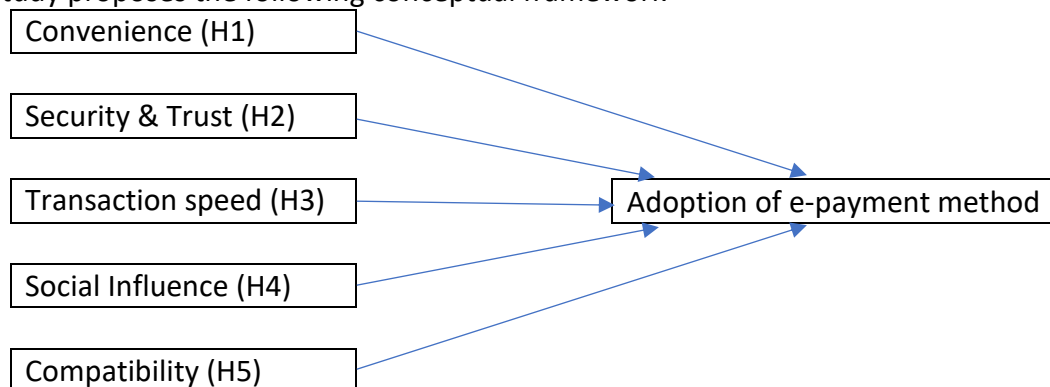


Figure 1: Conceptual Framework

Based on the objectives and conceptual framework of the study, the following hypotheses were formed:

- H1: Convenience as a factor influences consumer adoption of e-payment methods.*  
*H2: Security and trust as a factor influence consumer adoption of e-payment methods.*  
*H3: Transaction of speed as a factor influences consumer adoption of e-payment methods.*  
*H4: Social Influence as a factor influences consumer adoption of e-payment methods.*  
*H5: Compatibility as a factor influences consumer adoption of e-payment methods.*

## Methodology

### *Data Collection and Sampling*

This study is empirical and quantitative in the context of Saudi Arabia. The data was collected through an online survey using a structured questionnaire that contained 22 statement-based questions. The existing literature was extensively reviewed to design the questions for the questionnaire. The data collected from the respondents was done through a convenient random sampling method. Responses were measured using a five-point Likert scale, with five representing strongly agree and one representing strongly disagree. To ensure the quality and acceptability of the questionnaire, it was pre-tested with 25 respondents, and their feedback was incorporated into the final questionnaire. A total of 210 responses were used to analyze the data for this study. The informed consent was obtained, and the confidentiality of the respondents was ensured.

### *Data Analysis*

The collected data was analyzed using descriptive statistics, correlation analysis, ANOVA and regression analysis. The statistical package for social sciences (SPSS) was used to analyze the data for the study.

## Results

### **Descriptive Statistics**

The descriptive statistics of the variables are presented in Table 1. According to the mean values, compatibility, transaction speed, and convenience factors have a more substantial influence on the adoption of e-payment methods than security, trust, and social influence.

Table 1  
*Descriptive statistics of the variables*

	N	Minimum	Maximum	Mean	Std. Deviation
Convenience	210	2.33	5	3.552	0.646
Security and Trust	210	2.6	5	3.545	0.556
Transaction speed	210	1.75	5	3.356	0.801
Social Influence	210	2	5	3.117	0.837
Compatibility	210	3	5	3.675	0.497

### **Reliability Analysis**

The construct's internal consistency was measured using Cronbach's alpha, which is presented in Table 2. Cronbach's alpha coefficient must be given when employing Likert-type scales in research to determine internal consistency reliability (Gliem & Gliem, 2003). The analysis results show that the internal consistency of all the constructs was acceptable.

Table 2  
*Reliability analysis of measurements*

Constructs	N	Number Of Items	Cronbach's Alpha	Internal Consistency
Adoption of e-payment method	210	4	0.727	Acceptable
Convenience	210	4	0.855	Good
Security and Trust	210	3	0.776	Acceptable
Transaction speed	210	4	0.814	Good
Social Influence	210	3	0.712	Acceptable
Compatibility	210	4	0.765	Acceptable

### Correlation Analysis

Table 3 indicates the correlation analysis data on the relationships between the dependent and independent variables. Pearson's correlation coefficient is commonly used to compare test outcomes (Beanland et al., 1999). According to the study's results, the independent and dependent variables were considerably correlated.

Table 3  
*Correlation analysis of the variables*

	AV CON	AV S&T	AV TS	AV SI	AV COM	AV AEM	p-value
AV CON	1						0.01
AV S&T	0.58393008	1					0.01
AV TS	0.351505651	0.450558609	1				0.01
AV SI	0.406870146	0.506269045	0.805991136	1			0.01
AV COM	0.286138124	0.400678824	0.279973957	0.269361231	1		0.01
AV AEM	0.503042444	0.550053658	0.101575725	0.224487142	0.79729809	1	0.01

### Regression Analysis

The study used stepwise regression approaches to evaluate the hypotheses generated based on the individual importance of the variables, and the findings are shown in Table 4. Regression analysis makes it easier to investigate and quantify the connections between variables. The five ANOVA multiple regression predictor models are displayed in Table 4. Regression analysis findings are summarized in Table 5, and regression model coefficients are displayed in Table 6. At the 0.05 level, all five factors have a substantial influence on the adoption of e-payment methods.

The regression findings demonstrated that the independent and dependent variables had a considerable collective influence ( $R^2 = 0.807$ ,  $F(5, 203) = 170.296$ ,  $p = .000$ ). Individual predictors were analyzed to determine the dependent-independent relationship. Referring to the regression models in Table 5, the "first variable" ( $R^2 = .253$ ,  $F(1, 207) = 70.127$ ,  $p = .000$ )

was a significant predictor, supporting hypothesis 1. Hypothesis 2 was accepted because the "second variable" ( $R^2 = .302$ ,  $F(1, 207) = 89.799$ ,  $p = .000$ ) was a significant predictor, hypothesis 3 was accepted because "third variable" ( $R^2 = .060$ ,  $F(1, 207) = 13.462$ ,  $p = .000$ ) was a significant predictor, hypothesis 4 was accepted because "fourth variable" ( $R^2 = .050$ ,  $F(1, 207) = 10.985$ ,  $p = .000$ ) was a significant predictor, and hypothesis 5 was also accepted because "fifth variable" ( $R^2 = .635$ ,  $F(1, 207) = 361.188$ ,  $p = .000$ ) was a significant predictor.

Table 6 shows that the last predictor, 'compatibility' has a highly significant effect on the adoption of e-payment ( $\beta = 0.739$ ,  $t = 19.004$ ,  $p < .05$ ), and social Influence has the lowest effect ( $\beta = 0.123$ ,  $t = 3.314$ ,  $p < .05$ ).

Table 4

*Variation analysis of the variables - ANOVA*

		ANOVA <sup>a</sup>				
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	11.230	1	11.230	70.127	.000 <sup>b</sup>
	Residual	33.147	208	0.160		
	Total	44.377	209			
2	Regression	13.427	1	13.427	89.799	.000 <sup>c</sup>
	Residual	30.950	208	0.150		
	Total	44.377	209			
3	Regression	2.702	1	2.702	13.462	.000 <sup>d</sup>
	Residual	41.675	208	0.201		
	Total	44.377	209			
4	Regression	2.236	1	2.236	10.985	.000 <sup>e</sup>
	Residual	42.140	208	0.204		
	Total	44.377	209			
5	Regression	28.209	1	28.209	361.188	.000 <sup>f</sup>
	Residual	16.167	208	0.078		
	Total	44.377	209			

a. Dependent Variable: Adoption of e-payment method

b. Predictors: (Constant), Convenience;

c. Predictors: (Constant), Security & Trust;

d. Predictors: (Constant), Transaction speed;

e. Predictors: (Constant), Social Influence;

f. Predictors: (Constant), Compatibility.

Table 5  
*Regression Model Summary<sup>b</sup>*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F Change	Significance F
1	0.503 <sup>a</sup>	0.253	0.249	0.400	70.127	.000
2	0.550	0.302	0.299	0.386	89.799	.000
3	0.246	0.060	0.056	0.448	13.462	.000
4	0.224	0.050	0.045	0.452	10.985	.000
5	0.797	0.635	0.633	0.279	361.188	.000

a. Predictors: (Constant), Convenience, Security and trust, Transaction speed, Social Influence, and Compatibility.

b. Dependent Variable: Adoption of e-payment method

Coefficients<sup>a</sup>

Table 6  
*Coefficients Regression Models 1, 2, 3, 4 and 5*

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.566	0.125		4.508	.000
Convenience	0.179	0.027	0.359	8.374	.000
Security and Trust	0.191	0.035	0.456	9.476	.000
Transaction speed	-0.230	0.030	0.174	3.669	.000
Social Influence	0.075	0.030	0.123	3.314	.000
Compatibility	0.657	0.031	0.739	19.004	.000

a. Dependent Variable: Adoption of e-payment method

## Discussions

The findings of the empirical research conducted for this study demonstrated that adoption of e-payment methods is significantly influenced by convenience, security and trust, transaction speed, social influence and compatibility factors. The ease of use of e-payment technology has a considerable impact on their acceptance. Consumers are more likely to embrace strategies that give a hassle-free experience and are readily integrated into their daily routines. One of the main obstacles to the acceptance of e-payments is security concerns. Users might feel more confident in e-payment companies that make investments in encryption, safe authentication procedures, and open information regarding security measures.

Faster transaction speeds positively impact on the uptake of e-payments. Techniques that facilitate speedy and effective interactions become more prevalent in a society where people appreciate immediacy. Users develop trust in dependable e-payment systems. Customers want to know that their transactions will be completed correctly, quickly, and without any hiccups. The flexibility of e-payment systems is increased by compatibility with a wide range of platforms and devices. Techniques that function flawlessly on PCs, tablets, and smartphones give consumers flexibility and increase adoption rates.



**Beneficiaries, Utility and Effectiveness of the Study**

Electronic payment system research in Saudi Arabia benefits financial institutions, businesses, academia, and consumers. Policymakers can use the study's findings to create secure and efficient electronic payment platforms and practices. Understanding customer preferences can help improve financial inclusion and reduce currency transfers. Financial institutions and payment service providers can use the findings to create customer-friendly electronic payment systems. Organisations can use the study to enter new markets and engage clients, taking electronic payment preferences into account. Enhancing the online transaction experience can boost customer loyalty and satisfaction by helping them understand adoption determinants. The findings may stimulate more research and contribute to the academic discussion on financial technologies and digital transformation. The study's awareness efforts may improve customers' financial literacy and help them evaluate digital financial services.

In the digital accounting era in Saudi Arabia, studying consumer adoption of electronic payment methods would benefit academia, society, economics, and policymakers. The study's findings may aid strategic decision-making, financial inclusion, innovation, and regional digital financial ecosystem development. The increasing digital transformation in financial services, notably in Saudi Arabia and the Middle East, makes it crucial to understand customer behaviour surrounding electronic payment usage. This research supports economic digitalization trends and encourages compliance. E-payment techniques make financial services more accessible, improving financial inclusion. Promotion, support and development of digital payment infrastructures promote improved operational efficiency, eliminate currency dependence, and audit financial activities. The present study advances academic understanding of distinct digital finance consumer behaviour. The research findings make a significant contribution to stimulating favourable effects on technological advancements, business strategies, and consumer experiences within Saudi Arabia's dynamic digital economy.

**Conclusion, Limitations and Future Scope**

The empirical results obtained in the present study concluded that consumers' adoption of e-payment methods is significantly influenced by specific factors such as Convenience (ease of use, accessibility), Security and Trust (perceived safety of transactions), Transaction Speed (quick processing times), Social Influence (peer recommendations, societal norms), and Compatibility (integration with existing systems). All in all, the combination of these elements results in an enhanced user experience, which increases the acceptance and use of electronic payment methods. To successfully negotiate the complicated environment of customer preferences and promote the broad use of digital payment solutions, providers must be able to strike an appropriate balance between these factors.

One of the study's significant limitations is that it is based on some significant selective factors of the adoption of e-payment methods. Apart from this, the study is not based on any particular e-payment method, and all types of e-payment methods were considered while designing the hypothesis. Future studies should investigate these factors along with other factors further to inform the development of user-centric and effective e-payment systems.

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