

# Factors Affecting Consumers' Perception of Electronic Payment in Saudi Arabia

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## Abstract

The recent growth and development of technologies has led to considerable improvement in internet technologies. Largely, electronic business services are fulfilling consumers requirements. Electronic payment (e-payment) systems are increasingly popular in Saudi Arabia, due to the widespread use of internet for shopping and banking services. Saudi Arabia has established a centralized online payment system with other online payment services to facilitate sending and/or receiving of services for individuals or corporations via electronic channels. This study has developed a conceptual model to examine the determinants of the significant factors that influence consumers' perception of e-payment in Saudi Arabia. The findings of a sample set of respondents (229) analyzed using multiple regression analysis indicate that benefit, ease of use, and self-efficacy influence Saudi consumers' perception of e-payment systems, while trust and security are not significantly associated with consumers' perception of e-payment.

**Keywords:** electronic payment, consumers' perception, trust, self-efficacy, ease of use, security .

## 1. Introduction

The evolution of the Internet has made electronic payment (e-payment) systems (EPS) a necessity for online transactions. Moreover, the consumer is now able to access the Internet, not only from their personal computers but also from advanced electronic devices such as mobile phones. On the other hand, e-commerce has made the financial need for e-payment to work more efficiently, which cannot be fulfilled by the traditional payment system. In Saudi Arabia, there are two general e-payment systems to enable a corporation or an individual to send and receive payments through electronic channels. The SADAD payment system is one of the primary structures. The Saudi Arabian Monetary Agency (SAMA) established the SADAD in 2004. The core mandate of the SADAD is to operate as the national Electronic Bill Presentment and Payment (EBPP) service provider. Currently, the SADAD facilitates financial transactions between individuals, commercial banks, and government, with the responsibility to develop new payment services and products. The SADAD has revolutionized the Saudi Arabian e-payment system as it enables e-commerce transactions from local and international vendors on a 24/7 basis. With the SADAD, consumers can pay for online shopping, pay utility bills, make payments for government services, pay university tuition fees, and discharge other obligations.

In addition, the e-payment system in Saudi Arabia has expanded and is trying to provide numerous payment options to meet the ever-growing industry needs, while incorporating Visa and Master credit cards. In addition, MADA—the second e-payment system in Saudi Arabia—operates through a network of global technical payment systems. The MADA connects all point-of-sale (POS) terminals and automated teller machines (ATMs) offered by local banks throughout the country to a central payment system which, in turn, routes the details of the transaction between the card issuer bank and the merchant bank. The MADA system also enables global and local acceptance through connecting with other payment systems such as GCC Net, MasterCard, VISA, and American Express providing MADA cardholders acceptance locally as well as globally. Moreover, SAMA announced that MADA would be used as internet purchase cards (sama.gov.sa & System., 2016) and it will be launched during the first quarter of 2018.

The purpose of an e-payment system is to benefit consumers in terms of convenience and lower transaction costs. Consumers can access and manage their transactions remotely via the web-based user interface as it is supported by the high setup of broadband services and penetration rate. In addition, internet use is growing in Saudi Arabia, with the number of Internet users reaching about 24.1 million (of the 28 million population) at the end of Q2:2017, or a population penetration of 76% (MCIT, 2017). Further, the number of smartphone users in Saudi Arabia grew to more than 65% in 2016 and this is helping to increase online buying using the internet. Buying via the internet reached a total of 12 million users in 2016, and the use of credit cards as the most preferred payment method (PayFort, 2017) was 29%. This evolution, in turn, has created considerable demand for the provision of internet and mobile banking services by telecommunications companies and banking institutions, respectively.

These studies suggest that benefits, ease of use, security, trust, and self-efficacy are important factors influencing the perception of e-payment (Goh, 2017; Ming-Yen Teoh et al, 2013). To date, a few studies have tried

to study these factors in a single setting (Haque et al, 2009; Özkan et al, 2010). Although relevant, these studies were conducted outside of Saudi Arabia. Due to the intriguing developments of electronic payment that are currently taking place, it is interesting to examine these factors particularly in the Saudi setting, more so on the prediction that e-payment use will grow at a significant rate over the next few years.

The findings of this study will help to identify factors so that appropriate strategies can be developed to promote e-payment use among Saudi nationals. In addition, the results may contribute to banking institutions, online transaction facility providers, and software developer firms in understanding Saudi consumers' concerns when using e-payment systems. It provides insights, which will lead to wider e-payment acceptance and use, to the extent that e-payment ultimately becomes the preferred method for economic transactions in Saudi Arabia by authorizing Saudi Arabia's digital transformation, and encompassing the 2020 National Transformation Program and Vision 2030.

The paper is organized as follows. Section 2 presents a review of the literature and the research hypotheses. Section 3 describes the methodology. Section 4 deals with analysis and interpretation of the data collected. Section 5 discusses the results and the associated implications. Section 6 presents the study limitations, directions for future research, and concludes the study.

## **2. Literature and theoretical framework**

### *2.1 Electronic payment system*

The e-payment system is becoming essential for facilitating daily work. It is a financial commitment that includes both sellers and buyers facilitated by the use of electronic communication. According to (Briggs & Brooks, 2011; Tan, 2004) e-payment provides interconnectivity between individuals and organizations, encouraged by the inter-switch house and banks that enable financial exchange electronically. According to Adeoti & Osotimehin (2012), an e-payment system is an electronic method of making payment for goods or services bought in shopping malls, supermarkets, and online. Providing another perspective, Ogedebe and Jacob (2012) noticed that e-payment systems are a form of fund transfer made via the internet. E-payments are also considered as transactions associated with e-commerce, which involves making e-payment for buying and selling goods or services via the internet. It is also viewed as an electronic transfer of credit card direct, detail credit or electronic means other than making payment by cash or check.

In addition, e-payment systems consist of different forms. Some studies (Kaur & Pathak, 2015) have categorized e-payment systems into four groups: electronic cash systems, online credit card systems, smart card-based e-payment systems, and online check systems. Each category has features and weakness both for the merchants and consumers. Tan (2004) categorized e-payment transactions into three segments: retail e-payment, corporate e-payment, and wholesale e-payment. The retail e-payment segment involves three types of transactions: consumer-to-business (C2B), business-to-consumer (B2C), peer-to-peer (P2P), or consumer-to-consumer (C2C).

Adoption of e-payment systems has been studied worldwide, and many studies conclude that e-payment systems should be considered. Other studies (Tella & Olasina, 2014) examined the technology acceptance model (TAM) to predict users' continues use of the e-payment system. Some studies (Chin & Ahmad, 2015; Dehbini et al, 2015; Roy & Sinha, 2014; Yaokumah et al, 2016) focused on users' adoption, acceptance, and satisfaction with e-payment services. Only a few studies (Goh, 2017; Ming-Yen Teoh et al, 2013) considered consumer's perception of e-payment systems. This study focused more on consumers' perception of e-payment systems in Saudi Arabia.

### *2.2 Perception of e-payment*

According to some studies (Abrazhevich, 2001), consumers' perception of e-payment is highly dependent on users' attitudes and, therefore, has a significant impact on their acceptance. Further, Eastin (2002) confirms that consumers will adopt new services only if it has identifiable impact as they had the same experience before. Consumers' attitude toward the e-payment system is assessed in this study in terms of perception, as it is more efficient than traditional payment systems, can be easily used, and is more secure and trusted. Factors affecting e-payment will be presented in the following subsections.

### *2.3 Benefits*

Some studies (Chou et al, 2004) identify benefits as the important driver for e-payment system approval and use. Accordingly, when users are involved in online transactions, they enjoy the benefit of low cost as they only need to pay a nominal fee for the service used to their respective banks (Gerrard & Barton Cunningham, 2003; San Martín et al, 2012; San-Martin & López-Catalán, 2013). Besides providing users with an appropriate payment method, which includes consumers' ability to do, store, and transfer currency value over online payment systems, (Chakravorti, 2003), other essential e-payment advantages include time and cost savings. However, whether or not e-payment leads savings on cost and time remains a question. Some studies (Kim et al, 2010) debate that e-payment adoption may be costly in terms of spending time to learn how to use the internet and the new technology. To identify whether benefits are a critical determinant of user's perception of the e-payment system in Saudi Arabia,

we propose the following hypothesis.

**H1. There is a significant effect of the benefits on consumers' perception of e-payment in Saudi Arabia.**

#### *2.4 Ease of use*

Different studies have shown that technology will be perceived as more useful if it is easier to handle and use (Legris et al, 2003; Wang & Li, 2012). Gerrard, Barton, and Cunningham (2003) state that the ability to meet consumers' needs through innovation and using diverse features provided by a bank's website such as provision of interactive calculators of a loan, mortgage, and exchange rate conversion may attract both users and non-users to the bank's app or website. Besides content, graphics, quality of design, colors, and the ability to portray a good image could enhance navigation in a bank's website (Pikkarainen et al, 2004). A few studies (Abrazhevich, 2001) suggest that efficient design of the system, from the consumer standpoint, is significant to attract user's acceptance of e-payment systems. In short, characteristics such as content, bank image, design and management, and speed, lead to perceived ease of use and, therefore, influence consumer's perceptions of e-payment systems. The following hypothesis is proposed:

**H2. There is a significant effect of ease of use on consumers' perception of e-payment in Saudi Arabia.**

#### *2.5 Security*

Broadly, security is a set of programs and procedures to guarantee privacy and integrity of information and verify the source of information (Tsiakis & Sthephanides, 2005). In the internet context, security is a perception related to payment and mechanisms for storing and transmitting the information (Lim et al, 2006). Security can be classified into three areas: system, legal, and transaction. For this reason, e-payment can only be deemed as confidential when all phases of the transaction process are able to satisfy users' needs. Some studies (Flavián & Guinaliú, 2006) posit that to guarantee confidentiality, integrity, and authentication, basic security techniques such as digital signature, encryption, and checksum algorithms are used. They also find that security obstacles in online banking may affect the adoption of e-payment systems. Moreover, users increasingly want to control the data collected and the purpose of processing their data (Kobsa, 2002). Thus, for these reasons, security could affect users' decision to use e-payment systems (Abrazhevich, 2001). To confirm the effects of security on e-payment in Saudi Arabia, the following hypothesis is proposed:

**H3. There is a significant effect of consumers' perception of security on e-payment in Saudi Arabia.**

#### *2.6 Trust*

Trust in a financial transaction is defined as a function of the degree of risk, and trust significantly reduces perceived risk, which leads to positive adoption of the e-payment platforms (Yousafzai et al, 2003). Prior studies have found that trust significantly influences consumers' intention to adopt online banking and in engaging in e-commerce transactions (Gefen, 2000; Wang et al, 2003). In fact, trust has long been the motivation for transactions that provide consumers with anticipation of a satisfied buyer-seller relationship during the exchange (Peña & Khamitov, 2004). For these reasons, many studies endorse that trust is essential for understanding user behavior in economic exchanges, as it impacts consumers' perception of e-payment (Chou et al, 2004; Lim et al, 2006; Tsiakis & Sthephanides, 2005). As trustworthiness is essential to the success of e-payment systems (Abrazhevich, 2001), the following hypothesis ensues:

**H4. There is a significant effect of trust on consumers' perception of e-payment in Saudi Arabia.**

#### *2.7 Self-efficacy*

Self-efficacy clarifies the person's belief and understanding to perform a task, based on his or her own capability and skills (Dory et al, 2009). In fact, some studies (Bandura, 1997) suggest that peoples' belief in their capabilities will increase their ability to successfully complete tasks. Self-efficacy is defined as consumer's belief and understanding of their capability to complete tasks using new technology (Oh, 2016), and it has a positive influence on the perceived intention to use information systems (Luarn & Lin, 2005). Accordingly, users with higher levels of self-efficacy experienced different kinds of function and communication media, while users with lower self-efficacy may be limited to fewer operations (Li et al, 2012).

In the context of e-payment, self-efficacy refers to the judgment of a user's ability to use the system. It is an important determinant of consumer's perception of e-payment systems. However, as there is a need to consider the self-efficacy factor, specifically to study whether or not it influences e-payment adoption in Saudi Arabia, the following hypothesis is proposed.

**H5. There is a significant influence of self-efficacy on consumers' perception of e-payment in Saudi Arabia.**

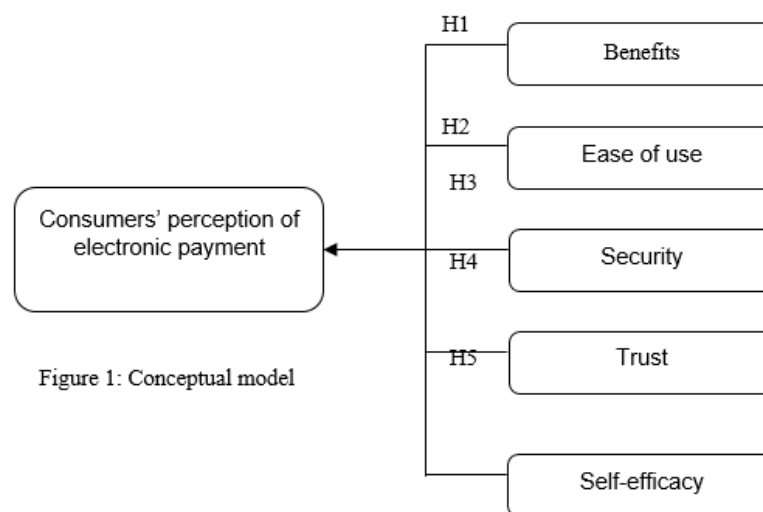


Figure 1: Conceptual model

### 3. Methodology

This study adopts a quantitative approach for analyzing questionnaire data. The self-administered questionnaire is used as an appropriate data collection instrument. The questionnaire comprised of two sections: section A included the questions to collect demographic information (Table 1). While section B covered the 5-point Likert scale measurement, from “strongly agree” (5) to “strongly disagree” (1), which included 20 statements determining six dimensions adopted from previous researchers. These dimensions included perceptions of benefit, ease of use, security, trust, and self-efficacy. The items were adapted in section B from different studies, i.e., security and trust was from Kim et al., 2010, while other dimensions were adopted from Ming-Yen Teoh et al, 2013.

To avoid any bias in the results and to target the appropriate audience, the questionnaire was translated into the Arabic language. The population was defined as “Saudi citizens,” whether they use e-payment system or not. Therefore, respondents were questioned on demographic information to know if they use e-payment systems and were requested to fill the survey form. Moreover, survey questions implemented were chosen from previous researches, indicating that other researchers had piloted the questions. The questionnaire was distributed through online tools. The total number of collected questionnaires was 229. The findings of the questionnaire were analyzed using the Statistical Package for the Social Sciences (SPSS) program.

### 4. Analysis and data interpretation

#### 4.1 Data analysis and results

##### 4.1.1 Sampling method and demographic data

This study targeted 229 respondents based on the convenience sampling technique.

Table 1: Demographic data of the sample

Variables	Frequency	%	
Gender	Male	61	26.6
	Female	168	73.4
	Total	229	100.0
Age	Below 20	30	13.1
	21–25	65	28.4
	26–30	41	17.9
	31–35	29	12.7
	36–40	17	7.4
	41–45	14	6.1
	46–50	16	7.0
	50 and above	17	7.4
	Total	229	100.0
Education level	High school or less	37	16.2
	Diploma	8	3.5
	Bachelor degree	151	65.9
	Postgraduate degree	33	14.4
	Total	229	100.0
Monthly income	Less than 5,000 SR	100	43.7
	5,001 SR–10,000 SR	49	21.4
	10,001 SR–20,000 SR	61	26.6
	More than 20,000 SR	19	8.3
	Total	229	100.0
Use of e-payment system	Yes	196	85.6
	No	33	14.4
	Total	229	100.0
Frequency of using e-payment	Daily	28	12.2
	At least once a week	53	23.1
	At least once a month	113	49.3
	Never	35	15.3
	Total	229	100.0

Table 1 reveals that most of the respondents are females at 73.4%, while males represent 26.6% of the sample. The respondents in the 21–25 years age group represent around 28%, 17.9% of the respondents were in the 26–30 years category, 13.1% of the respondents were aged below 20 years, and the respondents in the 31–35 years category represent 12.9%. Apparently, respondents who hold a bachelor’s degree represent 65.9%; respondents who completed high school or less represent around 16%, and those holding a diploma were 3.5 %. Further, Table 1 shows that the percentage of respondents with monthly income of less than 5,000 SR was approximately 43%, whereas about 27% had a monthly income of 10,001 SR–20,000 SR, 21% of the respondents reported a monthly income of 5,001 SR–10,000 SR, and only 8.3% have a monthly income of more than 20,000 SR. It can be seen that most of the respondents use e-payment systems (86%). About 49% of the respondents use an e-payment system at least once a month, 23% of them use e-payment systems at least once a week, about 12% use the e-payment system daily, and 15% do not use an e-payment system.

#### 4.1.2 Response bias

To ensure that our data was free from any response bias, we compared with known values for the population method. The response data were divided into two parts ( $n=229/2=114.5$ ); the first group had 114 samples and the second group comprised of 115 samples.

Table 2: Group statistics of consumers’ perception of e-payment system

	Group	N	Mean	Std. Deviation	Std. Error Mean
Consumers’ perception of the e-payment system	1	114	4.07	0.72	0.07
	2	115	4.16	0.77	0.07

Table 2 indicates that the mean for the first 114 responses was 4.07 and 4.16 for the second group. This shows that respondents from both groups were free from data bias, as also confirmed by the test.

Table 3: Independent samples of the t-test

	Levene's Test for Equality of Variances		t-test for Equality of Means				
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Equal variances assumed	0.07	0.80	-0.90	227	0.37	-0.09	0.10
Equal variances not assumed			-0.90	226.31	0.37	-0.09	0.10

It can be seen from the Table 3 that there are no significant differences between the two groups in consumers' perception of the e-payment system. Therefore, the data are free from response bias.

#### 4.2 Descriptive statistics

Once the dataset was found to be free from missing elements and outliers, the descriptive statistics for all items were performed and results presented in Table 4. The mean, median, standard deviations, variance, and range descriptive statistics of the items are listed in this table. Besides, the mean scores of the items to measure the growing adoption of e-payment, which cleared that all independents factors evaluated by more than 2.50 out of five-point scale. The results showed the importance of those factors in the contest of e-payment and seemed to be consistent with users' perception of e-payment in Saudi Arabia.

Table 4: Descriptive statistics for all items

Items	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
<b>Benefits</b>							
It saves me time and cost of using an e-payment system	229	4.0	1.0	5.0	2.288	1.43	2.04
An e-payment system is convenient for me	229	4.0	1.0	5.0	2.170	1.36	1.85
The billing and transaction process is accurately handled	229	4.0	1.0	5.0	2.590	1.30	1.70
Speed of e-payment system flow is faster than the traditional payment system	229	4.0	1.0	5.0	2.240	1.36	1.86
I find that it is easier to conduct my financial transactions	229	4.0	1.0	5.0	2.183	1.37	1.87
<b>Ease of use</b>							
The structure and content of the website are easy to understand	229	4.0	1.0	5.0	3.751	0.96	0.92
Learning to use an e-payment is easy	229	4.0	1.0	5.0	4.096	0.94	0.89
<b>Security</b>							
I am concerned about my security when using an e-payment system	229	3.0	2.0	5.0	3.734	1.26	1.59
Matters of security have significant influence on me in using an e-payment system	229	3.0	2.0	5.0	4.314	1.09	1.18
<b>Trust</b>							
I trust the ability of an e-payment system to protect my privacy	229	4.0	1.0	5.0	2.017	1.19	1.42
Confidential information is delivered safely to consumers	229	4.0	1.0	5.0	3.498	0.95	0.90
I trust the e-payment system will not lead to transaction fraud	229	4.0	1.0	5.0	3.345	1.00	1.01
I feel the risk associated with e-payment system is low	229	4.0	1.0	5.0	3.358	1.04	1.08
<b>Self-efficacy</b>							
Comments of other people will influence my intention to use an e-payment system	229	4.0	1.0	5.0	3.358	1.09	1.19
I will use an e-payment system when my friends introduce it to me	229	4.0	1.0	5.0	3.965	1.03	1.05
<b>Consumers' perception of e-payment system</b>							
An e-payment system is better than traditional payment channels	229	4.0	1.0	5.0	3.965	1.03	1.05
An e-payment system is much more efficient than traditional payment channels	229	4.0	1.0	5.0	3.996	0.99	0.99
I will choose the trusted e-payment system to make transactions	229	4.0	1.0	5.0	4.410	0.78	0.61
I feel that a user-friendly e-payment system will influence me to adopt the system	229	4.0	1.0	5.0	4.096	0.97	0.95

#### 4.3 Validity, reliability and KMO analysis

To satisfy validity analysis and prior to dissemination, one researcher in the field reviewed the questionnaire, and four students pursuing a master's course at King Saud University piloted the questionnaire. In addition, the internal consistency of the questionnaire was measured from the correlation coefficients between each item of the domains of the questionnaire and the total degree of the domain itself. Table 5 shows that all terms of the questionnaire contribute to overall reliability, and when examining all correlation coefficients between the terms of the questionnaire and the total area as well as the total degrees eliminated against the degree of term at the level of

0.05.

Table 5: Validity and internal consistency of the tool (n=229)

Item	Correlation coefficient	Item	Correlation coefficient
Benefits		Trust	
1	0.787*	1	0.733*
2	0.760*	2	0.742*
3	0.536*	3	0.751*
4	0.622*	4	0.579*
5	0.722*	Self-efficacy	
Ease of use		1	0.393*
1	0.686*	2	0.393*
2	0.686*	Consumers' perception	
Security		1	0.691*
1	0.433*	2	0.675*
2	0.433*	3	0.626*
		4	0.423*

\* Statistically significant at the level of 0.05

Constructive validity was used in Table 6 to show that the value of validity for all items of the tool was (0.916) for the sample (n=229), indicating that the tool has a high degree of validity and reliability. Furthermore, validity is the square root of the reliability coefficient. Thus, the validity and reliability of the study tool is verified, establishing that it is fully reliable, ensuring veracity and relevance in analyzing the results and answering the study questions. Moreover, as shown in Table 6, the reliability tool is verified by using the Cronbach's Alpha Coefficient method. The results demonstrate that the reliability tool is good, reaching (0.839) for the sample (n=229), which indicates the reliability and relevance of the tool of field application. Reliability and validity of the scale in its final form has been verified, establishing that it is applicable on the main sample, and this makes it entirely reliable with integrity and relevance of the scale in collecting the data necessary for answering the study questions.

Table 6: Constructive validity and reliability of the questionnaire

Area	No. of terms	Validity	Cronbach's Alpha Coefficient
Benefits	5	0.927	0.860
Ease of use	2	0.902	0.813
Security	2	0.777	0.604
Trust	4	0.925	0.855
Self-efficacy	2	0.751	0.563
Consumers' perception	4	0.887	0.787
<b>Total</b>	<b>21</b>	<b>0.916</b>	<b>0.839</b>

The Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) is 0.89, which falls in the range of being high, so this gives greater confidence that factor analysis is appropriate for this data. Also, it can be seen from Table 7 that Bartlett's measure is found to be highly significant as the value *p* was extremely small (0.000). Data were multivariate standard data and each factor has sufficient covariation at the correlation matrix.

Table 7: Kaiser-Meyer-Olkin measure of sampling adequacy and Bartlett's test of sphericity

Kaiser-Meyer-Olkin measure of sampling adequacy		0.89
Bartlett's test of sphericity	Approx. Chi-Square	2081.13
	df	171
	Sig.	0.00

Table 8: Correlations between the different constructs

Constructs	Benefits	Ease of use	Security	Trust	Self-efficacy	Consumers' perception of e-payment system
Benefits	1					
Ease of use	-0.575**	1				
Security	0.100	-0.136*	1			
Trust	-0.072	0.238**	-0.147*	1		
Self-efficacy	-0.414**	0.356**	0.071	0.151*	1	
Consumers' perception of e-payment system	-0.598**	0.579**	-0.048	0.152*	0.668**	1

Note: \*\* denotes that correlation is significant at the 0.01 level (2-tailed). \* denotes that correlation is significant

at the 0.05 level (2-tailed).

It can be observed from the Table (8) that there are significant correlations between benefits and ease of use, trust, self-efficacy, and consumers' perception of the e-payment system. Obviously, it can be seen that the correlation between security and consumers' perception of an e-payment system was not significant.

### 5. Results and discussion

This study shows how the market is continually growing and the Saudi citizen is willing to use e-payment systems, to the extent that e-payment ultimately becomes a preferred medium for economic transactions in Saudi Arabia, thereby authorizing Saudi's digital transformation in line with 2020 National Transformation Program and Vision 2030.

The results identified different factors that affect consumers' perception of the e-payment system in Saudi Arabia. However, the findings are consistent with the results of previous research studies relative to the e-payment system (Dehbini et al, 2015; Goh, 2017; Ming-Yen Teoh et al, 2013). A multiple linear regression is used to test the hypothesized relationship between the constructs. Table 9 shows the multiple regression results between all the independent variables and the dependent variable. A multiple regression analysis is used, given the study objective and hypotheses.

Table 9: Multiple regression results between independent variables and consumers' perception of e-payment

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
Consumers' perception of e-payment system	(Constant)	2.066	0.335		6.176	0.000**
	Benefits	-0.171	0.037	-0.247	-4.664	0.000**
	Ease of use	0.226	0.045	0.267	5.059	0.000**
	Security	-0.015	0.031	-0.021	-0.486	0.628
	Trust	-0.005	0.066	-0.003	-0.074	0.941
	Self-efficacy	0.445	0.044	0.473	10.113	0.000**
<b>F= 72.46, p-value= 0.000 and R<sup>2</sup>=0.79</b>						

Note: \*, \*\*correlation significant at 0.05 and 0.01 levels, respectively (two-tailed)

With the R<sup>2</sup> value showing 79% of variances, benefits, ease of use, and self-efficacy are significantly associated with consumers' perception of e-payment. As such, H1, H2, and H5 are accepted. However, security and trust are not significantly associated with consumers' perception of e-payment. Therefore, H3 and H4 are not accepted.

Although benefit is considered from fewer items in terms of mean scoring, it has a significant effect on consumers' perception of e-payment. Some studies (Ming-Yen Teoh et al, 2013) supported this finding and considered benefit as the significant driver of e-payment adoption. Respondents also find the online payment system more convenient to conduct financial transactions. Contrary to some studies (Kim et al, 2010), respondents indicate that the structure transaction process, a user-friendly interface, and speed in e-payment helps them to save time and cost.

Likewise, ease of use has a significant effect on consumers' adoption of the e-payment system, with (t = 10.113, p ≤ 0.445) H2 supported. The results are similar (Abrazhevich, 2001) when respondents find the structure and channels of e-payment easy to understand, learn, and adopt. On the other hand, e-payment providers facilitate the use of channels by providing clear transaction steps to accomplish the payment process. In fact, the majority of e-payment providers in Saudi Arabia have introduced a tutorial instructing their consumers on using and completing online transactions.

However, the multiple regression results show that security is not supported even if it is found to be an important factor in the mean scoring. This is reverse of the results of the prior study (Luarn & Lin, 2005). Saudi citizens do not perceive security as an important factor. These findings can be explained and show that Saudi consumers now acknowledge that many financial institutions and banks are more robust in terms of security and privacy, and they have the ability to prevent fraud and warn the user before it happens. For these reasons, users are now more confident of the e-payment system. However, the mean score for the security factor is high, and a significant correlation between security and perception of e-payment may indicate the need for more study to conduct security issues.

Likewise, trust does not have much significance for consumers of e-payment systems; even its score is high in means and correlation measurements. Some studies (Kim et al, 2010; Ming-Yen Teoh et al, 2013) reported similar results, indicating that trust has no effect or relationship with online transactions. This clarifies that users are confident about security issues and about how providers implement efficient processes to prevent fraud in online transactions. Further, all of this is supported by scoring high mean measures on each trust item. Since, SAMA had introduced a privacy Act for Banking and financial institutions in Saudi Arabia to restore confidence



and to clarify privacy issues and use of information collected from users (Authority, 2017), providers are responsible for developing these policy regulations to ensure that privacy is organized and implemented. In fact, consumers' perception of privacy risk on e-payments is low.

Self-efficacy is the most crucial feature among all the related factors and it has a significant impact on consumers' perception of e-payment ( $t = 10.113$ ,  $p \leq 0.445$ ), thereby H5 is supported. This outcome is supported by some studies (Goh, 2017; Ming-Yen Teoh et al, 2013) as most of the respondents have a good experience with e-payment and this has motivated them to adopt it. Furthermore, positive comments from family, friends, and others who used e-payment are effective and influence users' perception. Based on peer comments, the self-evaluation by the consumer with their capability, enable them to use online payment systems.

## 6. Conclusion

This study examined consumer's perception of e-payment system in Saudi Arabia. The results show the growing use of e-payment systems and provide strategic guidelines to providers for more enhancements of the services provided in such efficient ways. Different factors such as benefit, ease of use, and self-efficacy have supported the study. However, issues of security and trust did not have a significant impact on consumers' perception of e-payment, although the results show high correlation.

### 6.1 Limitations and future research

There are a few limitations to this study; the sample size is considered small regarding the population so that generalizability issues may rise. The issue of variance associated with variables needs to be considered; thus, developing other factors and conducting findings using measures such as the structural-equation modeling may be appropriate.

There is need to implement this study to a larger sample size as well as different geographical areas across Saudi Arabia, to enhance accuracy and generalizability. Furthermore, there is a need to consider other factors and models as a possibility to study the adoption of e-payment among Saudi citizens more accurately. Therefore, to enhance a country's economy, there is a need to promote and foster the infrastructure of e-payment systems for providers and their competitors. Moreover, developing and placing results that are more efficient and highlighting them can contribute to Saudi Arabia's digital transformation, in line with the National Transformation Program 2020 and Vision 2030.

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