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# Mobile Wallet Continuance Adoption intention: An Empirical Study in Cameroon

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**Abstract.** The mobile payment literature has grown significantly in recent years. It has the power to improve transaction agility, as it also provides financial inclusion of the people, especially in emerging economies. One of the primary modality is the mobile wallet (m-wallet). The literature concerning m-wallet is in its initial stage; most of the studies are concerning the adoption stage. In this study, we investigated the behavior intention of the users in continuance intention in Cameroon. We proposed a model in which satisfaction and perceived trust are antecedents of the continuance intention. We used the Partial Least Squares Structural Equation Modeling (PLS-SEM) to analyze the proposed model. The results showed that the satisfaction exerts a strong influence on continuance intention, and perceived trust performs a mediation effect in the relationship between satisfaction and continuance intention.

**Keywords:** Mobile wallet, adoption, Cameroon, trust, continuance intention.

## 1 Introduction

Recently, electronic payment modalities increased considerably [1]–[3]. One of the primary justification for this considerable advance is regarding the proliferation of mobile devices (smartphones, tablets, wearables, among others). It can be seen that the different approach that enables payments and other transactions, like mobile payments, digital wallets, and mobile wallets, can improve the financial inclusion of the users, especially in emerging economies [4]. In this regard, a mobile wallet is a modality that the users can utilize their devices to perform payments and other transactions [5]–[7].

In this context, several studies approached the initial stage of the user's behavior intention to adopt a mobile wallet [6], [8]–[13]. However, the literature examining the continuance intention to use mobile wallets is scarce [14]. Few studies explored this related-subject, for instance, in mobile payment [15]. This study proposes to fill this knowledge gap in the literature by investigating the mobile wallet continuance intention to use in an emerging representative economy, namely Cameroon. In this study, we examine more precisely to research questions: 1) How is the influence of the satisfaction on mobile wallet continuance intention? 2) How can perceived trust impact the mobile wallet continuance intention? To answer these questions, we developed a

conceptual model supported by previous studies on technology acceptance models, mobile wallets, and payment literature. We used the Partial Least Squares Structural Equation Modeling (PLS-SEM) to analyze the proposed model. The results showed that satisfaction exerts a strong influence on both perceived trust and continuance intention. Besides, perceived trust showed a significant impact on continuance intention, as well as a mediation effect in the relationship between satisfaction and continuance intention.

This paper is organized as follows. In Section 2, we present the theoretical background and research model. Section 3 provides the methodology approach, followed by the results and discussion in Section 4. Finally, Section 5 highlights the conclusions, implications, and future research directions.

## 2 Theoretical Background and Research Model

Mobile wallet (m-wallet) refers basically to a transaction modality in which the users can utilize their devices to perform the payments and other transactions [5]–[7]. Also, simply, a mobile wallet is a digital wallet, in that a preload of money can be used to perform transactions by using different channels [10]. That is, not only smartphones can be used, but also other devices like wearables. According to Türkmen and Değerli (2015), “*Mobile wallets are digital wallets which are accessed through mobile devices, in that sense m-wallet app has the ability to communicate with the bank and retailer system, based on hardware and software infrastructures enabling secure storage, processing and communication of the data provided by the wallet holder, the wallet issuer and the application/service providers*” [16, p. 380].

The literature concerning m-wallet has gained momentum in recent years [6], [8], [13], [17]. With m-wallet, the users can perform different types of payments and transactions [16], using mainly Near Field Communications (NFC) and other technologies [7], [18], [19]. Also, the mobile payment forms [20]–[22] can leverage the financial inclusion, especially in emerging economies [8], [10], [13], [15], [19], [23]. However, one of the main constraints in the m-wallet continuance intention worldwide can be explained by the user’s satisfaction and trust. Continuance intention refers to the users maintaining the intention of the actual usage of a particular technology [24]. In other words, continuance intention refers to the post-stage adoption of technology and its intention to continue using it [25].

The literature dealing with the m-wallet diffusion stages has been explored mainly in the stage of the intention to adopt [6]–[10], [12], [13]. The continuance intention stage was examined in mobile technologies [15], [25], mainly to perform payments. In our study, we argue that the satisfaction of the users with m-wallet predicts continuance intention and perceived trust, which in turn predicts continuance intention. Satisfaction construct refers to users’ previously use of technology in terms of the impact and impressions [24]; Perceived trust is defined as “a psychological state comprising the intention to accept vulnerability based on positive expectations of the intentions or behaviours of another” [26, p. 395].

Regarding satisfaction, a study about the use of mobile payment in South Africa found that satisfaction and trust exerted a substantial effect on continuance intention [15]. Also, a recent work provided evidence that satisfaction was positively correlated with continuance intention in mobile phone context [25]. Moreover, the literature already highlighted that satisfaction influences mobile wallet adoption and recommendation in the Indian market positively [13].

Also, prior studies found that perceived trust positively influences behavioral intention in mobile wallet adoption [8]. Besides, recently, [10] also showed the positive effect of trust on mobile wallet adoption in India. In this vein, [7] reported that beyond trust exerts a positive influence on mobile wallet intention to use in a developed country, trust mediates the informal learning on the intention to use. Besides, it could be seen that that trust represents a reliable driver towards mobile wallet adoption [9].

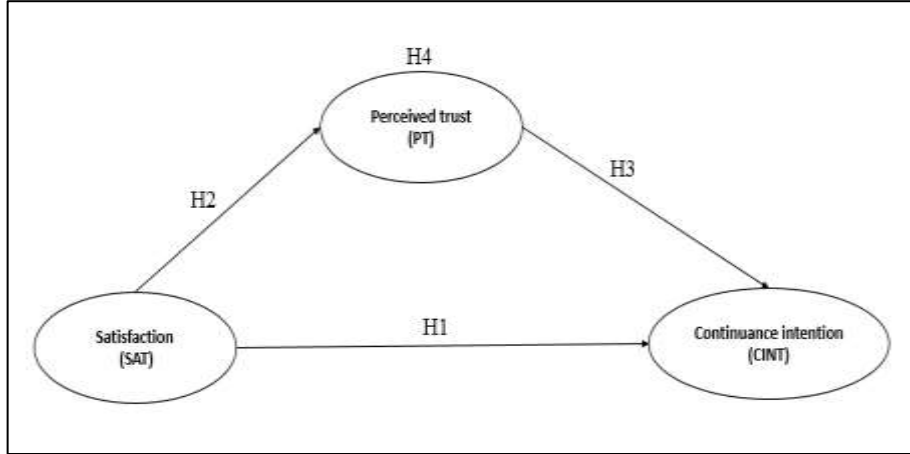
Moreover, [12] revealed that perceived trust mediates the relationship between perceived usefulness and intention to use a mobile wallet. More recently, the literature on mobile payments found that in the Indian context, the satisfaction on mobile payments usage could be enhanced by factors related to trust, usefulness, credibility, cost, among others [27]. Also, it is interesting to note that the mood is an influential variable towards mobile payment adoption [28]. Besides, the quality perception, as well as customer relationship and trust, represents critical dimensions of mobile payment service [22]. Regarding the continuance intention on mobile wallet adoption, both satisfaction and trust were highlighted as good predictors of continuance intention in the Indian context [14]. Therefore, we point out the following hypotheses, highlighted in Fig. 1.

**H1:** *Satisfaction (SAT) has a positive effect on continuance intention to use (CINT).*

**H2:** *Satisfaction (SAT) has a positive effect on perceived trust (PT).*

**H3:** *Perceived trust (PT) has a positive effect on continuance intention to use (CINT).*

**H4:** *Perceived trust (PT) mediates the effect of Satisfaction (SAT) on continuance intention to use (CINT).*



**Fig. 1.** Research Model.

### 3 Methodology

In this study, we used a survey web-based questionnaire [29], [30] applied in Cameroon. The questionnaire was developed using constructs from previous validated literature. Continuance intention was adapted from Amoroso and Lim (2017) [25]; Wang (2012) [31]. Perceived trust from Kalinic et al. (2019) [32]; Qasim and Abu-Shanab (2016) [33]; Singh and Sinha (2020) [12]. Finally, satisfaction was adapted from Amoroso and Lim (2017) [25]; Singh et al. (2020) [13]. We measured the items of the constructs by using a 7-point Likert scale, ranging from Strongly Disagree (1) to Strongly Agree (7) [8], [32], [34]. Table 1 shows the demographic profile of the respondents, and Table 2 highlights the descriptive statistics.

**Table 1.** Demographic Profile.

Gender/Age	n=621	%
Gender		
Male	407	65.5
Female	214	34.5
Age		
18-25	383	61.7
26-33	154	24.8
34-41	46	7.4
42-49	21	3.4
50+	17	2.7

**Table 2.** Descriptive Statistics (n=621).

Items	Mean	Median	Min	Max	SD
PT1	4.652	5.000	1.000	7.000	1.727
PT2	4.643	5.000	1.000	7.000	1.674
PT3	4.704	5.000	1.000	7.000	1.695
PT4	4.631	5.000	1.000	7.000	1.760
CINT1	5.422	6.000	1.000	7.000	1.552
CINT2	5.155	6.000	1.000	7.000	1.585
CINT3	5.306	6.000	1.000	7.000	1.554
SAT1	5.167	6.000	1.000	7.000	1.519
SAT2	5.122	6.000	1.000	7.000	1.524
SAT3	4.963	5.000	1.000	7.000	1.623

## 4 Results and Discussion

### 4.1 Measurement Model

We measured our model using PLS-SEM, more specifically, SmartPLS 3.0 [35]. PLS-SEM approach has been used successfully in vast technology adoption literature [10], [36], [37]. We assess the reliability and validity of the model by employing the Cronbach's Alpha, Composite Reliability, Average Variance Extracted (AVE), and the loadings (Table 3). All results were in line with the literature threshold; that is, Cronbach's Alpha and Composite Reliability were higher than the 0.70 [38], [39], ensuring the reliability of the questionnaire. Also, the convergent validity results were assessed by the loadings, which were higher than 0.70 thresholds [38], [40], and by the Average Variance Extracted (AVE), in which the results outperformed the cut-off 0.50 [40]. Besides, we evaluated the discriminant validity by employing the Fornell-Lacker criterion. It means that we ascertain if the constructs differ from each other. By utilizing the correlation considering the inter-construct, in Table 4, we point out the results of the discriminant validity of the model. Due to the values in the diagonal (bold) outperformed the others, it indicates the discriminant validity.

**Table 3.** Constructs Reliability and Validity.

Construct	Items	Loadings	CA	CR	AVE
Continuance intention (CINT)	CINT1	0.917	0.911	0.944	0.849
	CINT2	0.914			
	CINT3	0.933			
Perceived trust (PT)	PT1	0.899	0.942	0.958	0.851
	PT2	0.935			
	PT3	0.937			
	PT4	0.919			
	SAT1	0.919			

Satisfaction	SAT2	0.910
(SAT)	SAT3	0.908

Note: CA = Cronbach's Alpha; CR= Composite Reliability; AVE = Average Variance Extracted.

**Table 4.** Discriminant Validity.

	CINT	PT	SAT
CINT	<b>0.921</b>		
PT	0.580	<b>0.923</b>	
SAT	0.723	0.618	<b>0.913</b>

## 4.2 Hypotheses Testing Results and Structural Model

The hypotheses of the model were measured using SmartPLS 3 [35]. Table 5 highlights the results of the hypotheses. Regarding hypothesis 1, the results of the path ( $\beta = 0.591$ ,  $p = 0.000$ ) strongly support the positive effect that satisfaction produces on mobile wallet continuance intention. Also, the results of the H2 ( $\beta = 0.620$ ,  $p = 0.000$ ) confirm the strong positive impact of the satisfaction on perceived trust. Moreover, the H3 showed a significant positive effect ( $\beta = 0.215$ ,  $p = 0.000$ ) of the perceived trust on mobile wallet continuance intention. Thus, these results (H1 and H3) were in line with previous studies regarding continuance intention behavior [14], [15], [25]. It is also interesting to note that while the literature reported trust as a predictor of satisfaction [14], [41], we identified and confirmed that satisfaction predicts perceived trust (H2). Moreover, Table 6 points out the mediation effect that perceived trust exerts on the relationship between satisfaction and continuance intention (H4). Finally, Table 7 displays the R square results. That is, the results of the model presented good prediction, in which it explains 55.0% of the variation in mobile wallet continuance intention between Cameroonian users. Also, the satisfaction explained 38.2% in the variance of perceived trust.

**Table 5.** Path Coefficients.

Hypothesis	Path	$\beta$ Coefficient	SD	$t$ statistics	$p$ values
H1	SAT -> CINT	0.591	0.048	12.272	0.000
H2	SAT -> PT	0.620	0.030	20.432	0.000
H3	PT -> CINT	0.215	0.049	4.427	0.000

**Table 6.** Path Coefficients for the Mediation.

Hypothesis	Path	$\beta$ Coefficient	SD	$t$ statistics	$p$ values
H4	SAT -> PT -> CINT	0.110	0.043	2.596	0.010

**Table 7.** R Square Results.

Construct	R Square	R Square Adjusted
CINT	0.551	0.550
PT	0.382	0.381

Our results align with the extent of the related-literature on the technology continuance intention approach [14]. For instance, we found a strong positive effect of the satisfaction of the mobile wallet, with continuance adoption intention. Our study confirms that satisfaction predicts m-wallet continuance intention in the context of Cameroon. Besides, it is essential to note that in our study, we found that trust predicts the continuance intention of m-wallet and mediates the relationship between satisfaction and continuance intention to use.

## 5 Conclusion, Implications, and Future Research Directions

In this work, we investigated the continuance intention behavior of mobile wallet users in Cameroon. It can be seen that the mobile wallet can improve financial inclusion, especially in emerging economies. We proposed a conceptual model, in which satisfaction was the antecedent variable of the perceived trust and continuance intention. Also, we investigate a mediation effect of the perceived trust on the relationship between satisfaction and continuance intention. Our study makes several significant implications and contributions. Since the literature regarding mobile wallet continuance intention is scarce [14], we provided advances to the literature of information systems, and, more specifically, in the research dedicated to technology adoption models. Thus, we found that satisfaction exerts a strong positive effect on both perceived trust and continuance intention. Besides, we found that the relationship between satisfaction and continuance intention to m-wallet usage can be mediated by perceived trust. Future studies can use our model as a start point to investigate the mobile wallet continuance intention in other countries. Besides, our results emphasize that managers need to pay attention to the features that impact on user's satisfaction, as also offer mechanisms to ensure the trust in the transactions. As future studies, as highlighted previously, our model can be expanded to a robust model. Also, studies that can compare the mobile wallet continuance intention in developed and emerging economies seems an influential agenda. Furthermore, studies relating to other cutting-edge technologies like blockchain to investigate the perceived trust in continuance intention also is a persuasive topic. As the main limitation, we report that because the literature is in the infancy stage, the comparison of the results was limited, as also, the survey has been applied in only one country.



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