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Consumer resistance to mobile banking services: do gender differences exist?

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Abstract.

Consumers still experience significant challenges that hinder the adoption of technological innovations. In this study, we draw on three theory-driven barriers to investigate variation in consumer resistance to mobile banking services. Data was collected from 252 consumers in Nigeria. Preliminary findings from the independent t-test suggest that no significant gender differences exist across usage, risk, and image barriers for our sample. We contribute to academic literature by exploring which barriers contribute to the gender gap that has been observed in mobile banking adoption.

Keywords: barriers, mobile banking, gender gap, innovation resistance theory

1 Introduction

Mobile banking services (MBs) are vital in promoting access to financial services. For instance, financial institutions such as banks encourage existing customers to access mobile platforms whereby, they can complete banking transactions and access other services without the need to travel to brick-and-mortar branch locations. Also, MBs can promote financial inclusion by providing an alternative platform for unbanked segments of the population to access otherwise out-of-reach financial services without having a bank account (Demirgüç-Kunt et al. 2018). Yet there are growing concerns that consumers exhibit resistance to the adoption of MBs and only a few studies (e.g. Laukkanen 2016) have attempted to shed insight into the differences in barriers exhibited across gender. Thus, this study aims to answer explore gender differences in consumer resistance to mobile banking services. We draw on three theory-driven barriers anchored on the innovation resistance theory (IRT). The next section summarizes previous research that has adopted IRT while sections 3 and 4 present the method and analysis, respectively. Section 5 concludes with concluding remarks and next steps.

2 Related Literature

There is a growing body of literature exploring consumer resistance as the cause of innovation failure. Numerous studies drawn on the innovation resistance (Ram 1987) as a theoretical lens to investigate consumer resistance to innovation-induced change. Ram's (1987) initial work was further developed by Ram and Sheth (1989) who argued that consumer resistance can be conceptualized into functional (that is, usage, value, and risk) and psychological (tradition and image) barriers. In this section, we preview relevant literature that have drawn on the innovation resistance theory. An illustration of these studies can be found in table 1 from which two observations are made. The first observation from the literature is that the range of innovation contexts has mostly been explored in developed country contexts. While these studies have offered valuable insights, more studies are needed from developing country contexts. Such studies, we would argue, will provide a more rounded understanding of consumer resistance for the academic literature. Second, most studies have focused on service innovations within the banking sector such as mobile wallet, internet banking (e.g. Laukkanen et al. 2009) and mobile wallet (Leong et al. 2020), mobile payment solutions (Kaur et al. 2020) and mobile banking (Chaouali and Souiden 2019). As seen from table 1, the literature on consumer resistance is growing and more research is needed to explicate demographic differences given these attributes affect the adoption of technological innovations.

For example, Laukkanen (2016) found that men are nearly twice as likely as women to adopt MBs, pointing to a gender gap in mobile banking adoption. Consequently, studies explaining the nature of barriers contributing to this gap may well provide valuable insight into the existing literature. In this research-in-progress paper, we present preliminary findings resulting from an examination of gender differences using the five theory-driven barriers based on the innovation resistance perspective. While studies have offered valuable insights on consumer resistance, the lack of research focusing on African countries is a gap in the literature given that financial exclusion remains a problem in Africa (Demirgüç-Kunt et al. 2018). Our study seeks to fill this gap by providing insights from the Sub-Saharan context. Consequently, the potential contribution offered by this study occurs at the intersection of research gaps observed in the consumer resistance literature based on the summary of existing studies.

3 Method

To examine gender differences in consumer resistance to mobile banking adoption, we chose a positivist approach using a questionnaire survey to collect data. The feedback received was used to improve the clarity of the survey questions. All questions in the first section were measured using a seven-point Likert scale, ranging from "strongly disagree" to "strongly agree". We also collected demographic details of gender, age, education level. The survey link was sent out to 366 respondents. In response, 252 completed the survey indicating a 69% response rate. With regard to demographic characteristics, 56% of respondents were male while 44% were female.

Table 1. Related literature

Citation	Objective	Country and Innovation context	Main findings
Laukkanen (2016)	To investigate predictors of consumer adoption/rejection decisions in internet and mobile banking services	Finland, mobile and internet banking services	Value barrier is the strongest inhibitor of innovation adoption and usage intention for mobile and Internet banking services. The usage barrier is not an issue influencing consumer adoption/rejection decisions in the Internet and mobile banking.
Chen, P. T., and Kuo, S. C. (2017).	To enhance effective management of enterprise social media platforms by exploring the nature and source of user resistance toward enterprise social media	Taiwan, enterprise social media platforms	The study identifies the functional and psychological barriers affecting knowledge sharing on enterprise social media and how they might be overcome
Talwar et al. (2020)	Study examines the barriers to positive purchase intentions toward online travel agencies (OTA)	India, online travel agencies	The value barrier is the strongest inhibitor of purchase intentions. Risk barriers on the other hand, positively predict purchase intentions towards OTAs. Young and old OTA users differ in the association between barriers and purchase intentions.
Laukkanen et al. (2009)	To investigate how customers experiencing different kinds of resistance to Internet banking perceive the information and guidance offered by the service provider	Finland, internet banking services	Customers reporting both functional and psychological resistance to Internet banking are more dissatisfied with the information and guidance offered by the service provider compared to those with only psychological resistance or no resistance to the innovation.
Kaur et al. (2020)	To study the different consumer barriers toward the intentions to use and recommend mobile payment systems	India, mobile payment solutions	Usage, value, and risk barriers negatively associated with user intentions. Tradition and image barriers not significantly associated with user intentions. Risk, tradition, and image barriers not associated with intentions to recommend.
Leong et al. (2020)	Examines the inhibitors of m-wallet innovation adoption	Malaysia, mobile wallet	Usage, risk, value & tradition barriers have positive effects on m-wallet resistance.

Table 1. contd.

Citation	Objective	Country and Innovation context	Main findings
Ma and Lee (2019)	Investigates the barriers underlying the adoption of MOOCs in the context of a developing country	China, Massive Open Online Courses, focus groups	The main barriers to the adoption of MOOCs are usage barriers, value barriers, and tradition barriers.
Lian and Yen (2014)	To provide a better understanding of the drivers and barriers affecting older consumers' intention to shop online	Taiwan, Online shopping among older adults	The major factors driving older adults toward online shopping are performance expectation and social influence. The major barriers that keep older adults away from shopping online include value and tradition.
Lian and Yen (2013)	The study attempts to understand why consumers rarely shop online for experience goods. Experience goods as a product or service with quality information that cannot be easily observed and determined before its purchase and use.	Taiwan, online shopping	Major barriers for people who refuse to shop 'experience goods' online include value and tradition. Rejecters have the highest barriers, followed by opponents and then postponers.
Laukkanen et al. (2007)	To investigate innovation resistance among mature consumers in the mobile banking context	Finland, mobile banking services	Value barrier is the most intense barrier to mobile banking adoption among both mature and younger consumers. Aging appears to be related especially to the risk and image barriers
Chaouali and Souiden (2019)	Study investigates mobile banking resistance among elder individuals	France, mobile banking services	Tradition and image barriers affect usage, value, and risk barriers. In turn, all barriers influence resistance behavior. Furthermore, cognitive age was found to moderate these relationships.
Laukkanen et al. (2008)	To identify and understand innovation resistance among three groups of internet banking non-adopters	Finland, internet banking services	Significant differences were identified between the groups explored. The resistance of the rejectors is much more intense and diverse than that of the opponents, while the postponers show only slight resistance

4 Analysis and Results

The data was analyzed using IBM SPSS 24 software. As a research-in-progress paper, we report only preliminary findings based on the factor analysis and the independent samples t-test. Based on exploratory factor analysis using the principal component method with varimax rotation, three variables (usage, image, and risk barriers) from the original variable list were fitted into the factor model after five rotations. The other two (tradition and value barriers) both had very low Cronbach Alphas, and were thus dropped from the further analysis. Table 2 shows the factor loadings and Cronbach Alphas of the survey items and variables, respectively.

Table 2. Measurement items of study

Variables	Items	Factor loadings	α - value	Source(s)
Usage barrier*	UB 1 - In my opinion, mobile banking services are easy to use	0.872	0.856	Laukkanen (2016)
	UB2 - In my opinion, the use of mobile banking services is convenient	0.849		
	UB 3 - In my opinion, mobile banking services are fast to use	0.867		
	UB 4 - In my opinion, progress in mobile banking services is clear	0.886		
	UB 5 - The use of changing PIN codes in mobile banking services is convenient	0.544		
Risk barrier	RB1 - I fear that while I am using mobile banking services, the connection will be lost.	0.780	0.744	
	RB2 - I fear that while I am using a mobile banking service, I might tap out the information of the bill wrongly	0.861		
	RB3 - I fear that the list of Pin codes may be lost and end up in the wrong hands.	0.781		
Image barrier	IB1 - In my opinion, new technology is often too complicated to be useful.	0.896	0.752	
	IB2 - I have such an image that mobile banking services are difficult to use.	0.857		

Note: * Items were reversed before analysis | IB: image barriers; RB: risk barriers; UB: usage barriers

As seen from the table, the Cronbach Alphas as vary between 0.744 and 0.951, indicating acceptable reliability levels (Hair et al. 2016). The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (KMO = 0.840) and Bartlett's test of sphericity ($p < 0.001$) confirmed that the factor analysis was appropriate. The factors identified represent 72.1 percent of the variance of the variables. Next, we examine if there are gender differences to usage, risk, and image barriers. The results are shown in Table 3.

Table 3. Results of independent sample t-test

Items	Mean (SD)		Total	F-value	Sig.
	Male	Female			
UB 1 - In my opinion, mobile banking services are easy to use	5.89 (1.27)	5.84 (1.21)	5.87 (1.23)	0.302	0.750
UB2 - In my opinion, the use of mobile banking services is convenient	5.96 (1.24)	5.64 (1.04)	5.95 (1.13)	1.922	0.881
UB 3 - In my opinion, mobile banking services are fast to use	5.86 (1.30)	5.79 (1.27)	5.82 (1.28)	0.272	0.693
UB 4 - In my opinion, progress in mobile banking services is clear	5.88 (1.15)	5.79 (1.24)	5.83 (1.20)	0.373	0.556
UB 5 - The use of changing PIN codes in mobile banking services is convenient	5.18 (1.54)	5.20 (1.38)	5.19 (1.45)	0.263	0.908
RB1 - I fear that while I am using mobile banking services, the connection will be lost.	5.21 (1.62)	5.23 (1.62)	5.22 (1.62)	0.007	0.945
RB2 - I fear that while I am using a mobile banking service, I might tap out the information of the bill wrongly	5.01 (1.56)	5.34 (1.60)	5.19 (1.59)	0.451	0.105
RB3 - I fear that the list of Pin codes may be lost and end up in the wrong hands.	4.77 (1.76)	5.04 (1.63)	4.92 (1.69)	1.753	0.212
IB1 - In my opinion, new technology is often too complicated to be useful.	3.18 (1.80)	3.14 (1.72)	3.15 (1.76)	0.671	0.848
IB2 - I have such an image that mobile banking services are difficult to use.	2.71 (1.76)	2.58 (1.50)	2.64 (1.62)	3.761	0.510

Note: IB: image barriers; RB: risk barriers; UB: usage barriers

As seen from table 3, the results indicate that usage barriers received the highest mean compared to risk and image barriers. This means that users were most concerned by the complexity of the use of mobile banking services. The t-test results also show no statistically significant difference between men and women across survey items.

5 Concluding remarks and next steps

The gender gap in the adoption of mobile banking services has been observed in previous studies (Laukkanen 2016). This paper aims to build on the work of Laukkanen (2016) by exploring which barriers explain the gender gap in mobile banking adoption. Preliminary t-test results based on our sample suggest that usage, image, and

risk barriers do not contribute to gender differences observed in consumer resistance to mobile banking services. One possible explanation may however lie in the relatively young demographic of our sample - 92% less than 40 years and 80% between 18 – 35 years old. It is likely that our finding could be assigned to a distinct prior experience with technology that has been ascribed to younger users in extant technology adoption research (Kaba and Touré, 2014). Hence, we do not entirely eliminate the possibility that gender differences may exist among older users of mobile banking services. Going forward, further analysis will be conducted to explore the demographic differences. We are also planning to expand our analysis to include more variables – both moderating and dependent variables.

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