Determinants of mobile money adoption: Evidence from urban Philippines

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Abstract

This paper aims to investigate factors that drive behavioral intention to adopt mobile money services in Metro Manila, the largest urban region in the Philippines where active mobile and internet users are present. Mobile money is viewed as an enabler for financial inclusion by providing access to financial services to the unbanked and is hinted as a catalyst for financial inclusion in developing economies because of its ability to reach millions of financially excluded within a relatively short space of time. With mobile connections that exceed the country's population, there is a huge potential to utilize mobile technology and internet to connect unbanked Filipinos to the formal financial system. Multiple regression analysis was used to estimate the determinants of behavioral intention to adopt mobile money using an adapted model. Results show that among the variables, perceived usefulness, facilitating conditions, perceived risk, and perceived financial cost are significant determinants of mobile money adoption. Findings underscore the importance of customer awareness about the potential benefits of using mobile money, and the need to strengthen communications on how it provides additional value and greater convenience in performing financial transactions.

Key Words: mobile money adoption, financial inclusion, behavioral intention

Introduction

Philippines has been cited in several studies as the first country to launch mobile money as early as 2003 (Tobbin, 2011; Bampoe, 2015). Nearly two decades after its introduction, limited scholarly works have been done related to mobile money acceptance, adoption, and its use. Studies and reports from practitioners seem to dominate this phenomenon of interest.

Mobile money is a form of electronic money (e-money) not connected with a bank account or traditional banking system that can be used or transferred using a mobile device. An essential element that distinguishes mobile money from mobile banking, mobile payment, and mobile money transfer is the idea of banking the unbanked. Tobbin (2011) proposed a definition that includes the unique feature of mobile money to deliver a wide range of financial services to the unbanked using mobile device. Mobile money services include (1) person-to-person (P2P) transfer of funds that includes both local and international remittances, (2) person-to-business (P2B) payments for payment of goods and services, and (3) mobile banking functions that include payments for bills, loans, and select government transactions, and deposit and/or withdrawal of funds (Donner, 2008). Recent additions to mobile money services are micro-insurance, micro-

credit, and investments. Thus, making mobile money one of the most interesting innovations in financial services as it combines mobile phones and internet to perform a wide range of financial transactions. Mobile money can turn a mobile device into a business tool that either complements or substitutes banks, ATMs and credit cards (Ventakesh, Morris, Davis, & Davis, 2003).

Mobile money is viewed as an enabler for financial inclusion by providing access to financial services to the unbanked. It is hinted as a catalyst for financial inclusion in developing economies because of its ability to reach millions who were earlier (financially) excluded within a relatively short space of time and helping millions to perform financial transactions in a relatively cheap, reliable and secure way (Mutsonziwa & Maposa, 2016). Mobile money platforms are of interest to the base of the pyramid (BoP) community because of the potential to connect millions of poor and "unbanked" people to the formal financial system (Balasubramanian & Drake, 2016). Global Financial Inclusion Database shows that a significant decrease of the unbanked population in several countries from 2011 to 2014 can be attributed to mobile money. It is believed that increasing financial inclusion leads to an improvement in the lives of people from the low-income groups. Financial inclusion is considered as a critical element that makes growth inclusive as access to finance can enable economic agents to participate in productive activities, cope with unexpected short-term shocks, and make longer-term consumption and investment decisions (Park & Mercado, 2015).

Financial inclusion as envisioned by The Center for Financial Inclusion is "a state in which all people who can use them have access to a suite of quality financial services, provided at affordable prices, in a convenient manner, and with dignity for the clients." However, about 2 billion adults in the world have no formal account. Thus, sending money to the family by a remote worker is quite expensive for financially excluded people (Carro & Sanchez, 2017). In a study conducted in the Philippines in the year 2009, about Php195.00 is spent to send and receive a remittance of Php2,000.00 through remittance center while about Php25.00 is spent to send and receive a remittance of the same amount using mobile money service. Thus, both the sender and the receiver can collectively save about Php170.00 if each of them will spend Php2.50 for SMS fee and cash out fee equivalent to 1% of the remittance amount (Alampay & Bala, 2009).

Based on the first-ever large-sample quantitative assessment of the expansion of mobile money conducted by Groupe Speciale Mobile Association (GSMA) in partnership with Harvard Business School professor, Shawn Cole, and the Director of DFS Lab at Caribou Digital, Jake Kendall, success of mobile money services in developing countries is greater compared with developed countries. In addition to having an enabling regulation, their analysis provides common factors associated with success of mobile money services such as (1) greater probability that mobile money service would grow considerably in countries with high levels of population density; (2) greater success of mobile money in developing countries or countries with low per capita GDP; and (3) greater success in countries with medium levels of account ownership. Philippines has an estimated population density of 337 persons per square kilometer based on the 2015 Philippine Statistics Authority (PSA) data. Based on World Bank rankings, it is currently 37th in terms of population density, 60th in terms of per capita GDP, and per capita GDP ranking that is lower than African countries where mobile money services were successfully deployed. Hence, it is noteworthy to undertake a study on mobile money services adoption in the Philippine context.

Similar studies conducted recently also support the argument by Alampay, et al. (2009) that mobile phone banking and other technologies substantially reduce the costs that banks and microfinance institutions (MFIs) charge in providing financial services to low-income populations. With much lower costs and more convenient services, formal financial services delivered through innovative means such as mobile money become more attractive to poor people than the informal financial services which are costlier and less secured (CGAP, 2009). Since mobile money can substantially reduce remittance fees, it is considered as one of the tools to further financial inclusion in areas without formal financial institutions.

2014 Global Findex database defines account ownership or being financially included as having an account either at a financial institution or through a mobile money provider. The first type includes accounts with a bank or any other formal institution such as credit union, cooperative, or microfinance institution. The second type includes bank-led or telecommunications-led and mobile phone-based financial services. The typical approach of mobile money service in the Philippines is telecommunications-centric and non-bank approach where a telecommunications company (telco) has a subsidiary that operates the mobile money business.

Top reasons cited in the literature for lack of access to financial services include cost of opening and maintaining an account, travel distance to access points, lack of proper identification documents, and amount of paperwork involved in opening an account. These problems can be addressed by non-traditional financial services such as mobile money because subscribers are not required to travel and set-up an account in a brick-and-mortar branch before they can use the service for payments and certain transactions. Verification of identity or KYC (know-your-customer) process is only required for money transfers.

Based on the latest BSP financial inclusion dashboard, there are about 119.1 million mobile connections and 113% sim penetration rate in the Philippines. However, there are only 11.4 million registered mobile money subscriptions and only 7.0 million among registered are active. Mobile money is viewed as a game-changer and an enabler for financial inclusion by providing access to financial services in unbanked areas. It plays a role in 11 of the 17 United Nations Sustainable Development Goals (SDGs). The best evidence of mobile money benefits on financial inclusion comes from Kenya in Sub-Saharan Africa where it has lifted an estimated 2% of the population out of extreme poverty. It has improved the welfare of people by having a positive impact on household income and helped them escape extreme poverty. Further, over 180,000 women were able to expand their work-related choices and move from farming to business. It was found that households with access to mobile money were better able than those without access to manage negative shocks such as job loss, death of livestock, or problems with harvests. These claims are supported by another study that mobile money users were often able to fully absorb the shocks because they received more remittances and lost less to transaction costs (Suri & Jack, 2011). These findings addressed SDG 1 which aims to end poverty and SDG 5 which aims to achieve gender equality.

Problem Statement

The deployment of mobile money services in developing economies has mixed responses because consumers' reactions vary from one market to another. Philippines was among the first to launch mobile money in 2000 and rolled out the services in 2003. However, 2017 data from BSP shows that less than 10% of the population has adopted mobile money as there are about 11.4 million registered e-money account and around 7 million among registered are active. These data prove that the country's adoption rate is not comparable with other emerging economies with an adoption rate that exceeds 40% of the population such as Kenya. Compared with Kenya, Philippines has considerable domestic and international remittance flows and has more remittance centers. BSP data as of the first quarter of 2018 shows that there are 16,582 pawnshops in the country, and 2017 Overseas Filipino Workers (OFWs) remittances reached USD28.1 billion through non-mobile money transfer offerings. With the current mobile money adoption rate of less than 10% in the country, BSP seems far from its target that by the year 2020 predominantly traditional transactions will be substituted by largely digital financial transactions through its cash-lite program or less cash program. Therefore, this study aims to identify specific factors that influence customers' intention to adopt mobile money services in Urban Philippines. Knowing these factors may help explain the low adoption rate of mobile money in the country.

Research Objectives

This paper intends to further investigate the key factors that influence consumer's intention to adopt mobile money services by using key determinants from technology acceptance model (TAM) and unified theory of acceptance and use of technology (UTAUT).

Significance of the Study

The results of this study could further explain some important issues related to customer intentions towards mobile money services in the Philippines. The findings of this paper may assist mobile money operators to customize mobile money products and services to further enhance mobile money user experience.

Scope and Limitations

This study is focused on mobile money services adoption factors such as perceived usefulness, perceived ease of use, facilitating conditions, perceived risk, attractiveness of alternatives, and perceived financial cost. Survey respondents of this study are limited to a certain demographic population of employed and educated in an urban region because the surveys were done in a seminar hall of a professional organization and in a university. Metro Manila is chosen as a research locale based on FinAccess surveys microlevel data between 2006 and 2009 that indicate frequent mobile money users, specifically M-PESA in Kenya, are more likely urban, educated, and well-off (Mbiti & Weil, 2011). While it is highly likely that a large group of active mobile and internet users is from Metro Manila, it may still be unintelligible to generalize from the results of this study.

Framework

Previous studies on adoption and diffusion of innovations like mobile money were explored and examined using innovation diffusion theory (IDT), technology acceptance model (TAM), and unified theory of acceptance and use of technology (UTAUT) because of theoretical foundations they provide for factors that either encourage or impede the acceptance and use of a technology.

Innovation diffusion theory (IDT) or also known as diffusion of innovations theory (DoI) was introduced by Rogers in 1983 and has been used in previous studies to describe the acceptance of information systems, and to understand new product adoption and diffusion. IDT argues that potential users make decisions to adopt or reject an innovation based on beliefs that they form about the innovation (Agarwal, 2000). IDT describes the adoption of innovation patterns and explains its dynamics. It suggests that the initial adoption of technology begins with innovators and early adopters. IDT also assists to predict if an invention will succeed and how it will succeed. Metropolitan areas are deemed appropriate for studies related to innovations because it is a place where its potential and early adapters have considerable options to use the innovation.

Technology acceptance model (TAM) is an information systems model initially proposed by Davis in 1986. TAM was further developed in 1989 and has been used in various studies that explore factors that affect an individual's use of new technology. TAM is a widely used, validated and replicated theoretical model in predicting future consumer behavior. TAM suggests that perceived usefulness and perceived ease of use by individuals affect their behavioral intention to adopt or use a system. The slow uptake of mobile money service in the Philippines compared to other developing economies implies a difference in technology adoption behavior. Further, the acceptance of mobile devices to store value and the acceptance of electronic money as a means of exchange depend on consumers' behavioral intention towards the adoption of mobile money. Being an adaptation of Fishbein and Ajzen's theory of reasoned action (TRA), TAM is deemed relevant for the conceptual framework of this study because TRA argues that behavior has a direct influence on behavioral intention.

UTAUT is a unified model developed by Ventakesh et al. (2003) and has four determinants of intention and usage: facilitating conditions, social influence, performance expectancy, and effort expectancy. UTAUT is considered a powerful technology acceptance theory that explains consumer intention to use an information system and subsequent consumer usage behavior as it consolidates different models that include TAM and IDT.

Neuman (2006) claims that surveys are appropriate for research questions about self-reported beliefs or behaviors, and therefore ask respondents about their beliefs, opinions, characteristics, and behaviors associated with a phenomenon. The survey questionnaire used in this paper is adopted from a study by Mukherjee in 2015. It was developed through an exploratory survey conducted with industry experts in addition to a comprehensive survey of existing literature. The following specific variables were identified to examine what factors influence the intention to adopt mobile money services in Metro Manila:

Perceived usefulness. Defined as the degree to which a person believes that using a particular system would enhance his or her job performance (Davis, 1989). Davis argues that the

intention to adopt technology is based on behavioral intention which is determined by two beliefs: perceived usefulness and perceived ease of use.

Perceived ease of use. Defined by Davis (1989) as the degree to which a person believes that using a particular system would be free from effort. A new system is likely to be adopted if it requires lesser effort to operate. When a system is complex its use takes a while to be adopted (Rogers, 2003). Perceived ease of use is a key determinant of consumer behavioral intention (Venkatesh et al., 2003).

Facilitating conditions. This refers to the degree to which an individual believes that an organizational and technical infrastructure exists to support technology use (Ventakesh et al., 2003). In this study, this means that mobile money is widely accepted by various merchants to pay for goods and services, pay bills, deposit or withdraw funds, and perform money transfers with ease.

Perceived risk. Identified as a barrier to the usage of any system and was hypothesized to impact the intention to use mobile money negatively (Mallat, 2007). There are six types of perceived risk: financial, privacy, physical, performance, social, and time-loss (Jacoby & Kaplan, 1972). Further, dimensions of perceived risk may vary by product (or service) class (Featherman & Pavlou, 2003). The adopted questionnaire used in this paper is focused on financial risk and privacy risk.

Attractiveness of alternatives. This refers to the perception of how effective the alternatives were in comparison with a service. Innovation is described by Rogers (2003) as an idea, practice, or object that is perceived as new by an individual or another unit of adoption. Rogers (2003) projected characteristics of an innovation that impacts behavioral intention of customers that include relative advantage which he described as the degree to which an innovation is perceived to be better than its predecessor. Consumer acceptance of innovation often includes a decision to choose between maintaining the status quo and deviating from the status quo. Thus, in a qualitative study that explored consumer adoption by Mallat mobile payment was compared with conventional forms of payments such as cash, debit cards, and credit cards. Generally, credible alternatives are expected to have a negative impact on behavioral intention to adopt mobile money.

Perceived financial cost. This refers to the extent to which a person believes that using mobile financial services will cost a certain amount of money. Perception about cost was especially important for consumers in developing countries because services may be perceived as useful but the cost might act as a prohibitive factor to adopt the services (Mukherjee, 2015). Luarn and Lin (2005) empirically identified perceived financial cost as a negative effect on behavioral intention to use mobile banking. Further, perceived financial cost was listed as an important predictor of m-payments usage (Zmijewska, Lawrence, & Steele, 2004).

Behavioral intention. Defined as a cognitive decision-making process to perform a behavior or action (Das & Pal, 2011). It is considered a direct determinant of a prospective user's technology or system usage and a necessary precursor to the actual behavior (Fishbein & Ajzen, 1975). In the context of this study, behavioral intention is a four-item construct that is measured using a five-point Likert scale.

Six independent variables and one dependent variable were assessed using a 27-item questionnaire. These 27 items were coded into seven different variables to represent six independent variables and one dependent variable.

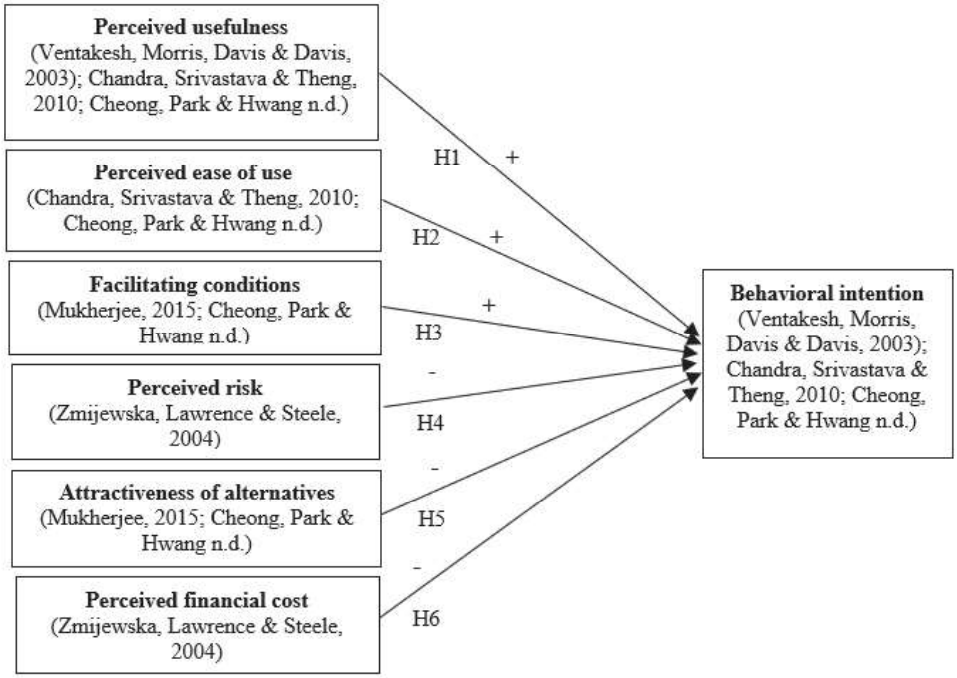

Figure 1. Conceptual framework

Hypotheses

The following hypotheses were tested empirically:

H1: Perceived usefulness has positive impact on behavioral intention to use mobile money

H2: Perceived ease of use has positive impact on behavioral intention to use mobile money

H3: The presence of facilitating conditions has positive impact on behavioral intention to use mobile money

H4: Perceived risk has negative impact on behavioral intention to use mobile money

H5: Attractiveness of alternatives has negative impact on behavioral intention to use mobile money

H6: High perceived financial cost has negative impact on behavioral intention to use mobile money

Methodology

Substantial proportion of money transfers took place in urban areas and centers of commerce. It is typical for a breadwinner to live and work in Manila or another urban center, and regularly send money back to family in another province (GSMA, 2016). This practice contributed to a large domestic remittance market and growth of remittance agents in the country. This study is set in Metro Manila, a region where there is a large group of active mobile and internet users who are more likely at ease with technology and more adaptive to modernization. Previous study shows that the likelihood of owning an account is higher among urban, educated, employed, richer, older, and married individuals while gender does not exhibit a statistically significant association with account ownership (Allen, Demirguc-Kunt, Klapper, Martinez, 2016). Further, technology use is more prevalent in urban areas than those in provincial areas.

In addition to previous studies cited in the scope and limitations section, it is common in the Philippines that some household members work in urban areas and send remittances to family members in rural areas. In a study conducted by GSMA in Tanzania, typical mobile money users are migrant workers sending money home, parents sending money to their children, young adults supporting their parents, spouses supporting their family, and family members sending gifts. Thus, the demand for mobile financial services in urban areas appears to be one of the drivers for adoption. For these reasons, Metro Manila is chosen as the research locale.

Individual-level data were collected through utilizing a survey questionnaire adapted from a previous study conducted in India. Neuman (2006) suggest that surveys are appropriate for research questions about self-reported beliefs or behaviors. Thus, cross-sectional survey may be done when examining respondents' beliefs, opinions, and behavior related to a phenomenon. Based on the minimum sample size required in typical marketing research as cited by Wong (2013) when six arrows pointing at a latent variable in the model, minimum sample size is 75. Conventional marketing research study would have a significance level of 5%, statistical power of 80%, and minimum R-squared values of 0.25. The minimum sample size required using this parameter from suggested guidelines by Marcoulides and Saunders (2006) depends on the maximum number of arrows pointing at a latent variable as specified in the structural equation model. Given that this study investigates six independent variables pointing to one dependent variable were used in this study, the sample size must be at least 75.

The survey instrument used in the study was designed using inputs from literature to ensure construct validity. Five-point Likert scale was used to capture answers of the respondents on a scale from 1 to 5 (from Strongly Disagree to Strongly Agree).

Multiple regression analysis is used to estimate the determinants of behavioral intention to adopt mobile money services. Jamovi statistical software was utilized for regression, normality tests and collinearity statistics while SMART-PLS was used for validity tests. Using an adapted questionnaire from a previous study by Mukherjee in 2015, six relevant predictor variables of behavioral intention were identified. A model that attempts to explain how these variables influence intention to adopt mobile money emanated from theories in a comprehensive literature review.

To ensure the validity of questions, a pretest of the questionnaire was conducted prior to the distribution of paper and online surveys for data gathering from people currently staying, studying or working in Metro Manila. The questionnaire was distributed to potential mobile money users who may or may have not adopted the services so far. Google forms was used for online survey while printed version of the questionnaire was administered in a training center for professionals. Online and paper surveys were consolidated to ensure consistency. After incomplete responses were rejected, 171 valid responses were used for data analysis. Cronbach's alpha was applied to ensure scale reliability.

Philippines has commonalities with other countries that successfully rolled out mobile money where some household members work in urban areas and send remittances to their family members who live in rural areas. Two-thirds of the Filipino population lives in a handful of urbanized areas. Though money flows in both directions between urban and rural areas, it is typical for a breadwinner to live and work in Manila (or another urban center), and regularly send money back to family in another province (CGAP, 2016). Further, students who study in urban areas receive financial support from rural areas.

Results

The respondents include 59 males and 112 females. 70 out of 171 respondents are mobile money users while 101 are non-users. 8 respondents were 20 years old and below, 73 people from 21 to 30 age group, 53 people from 31 to 40, 21 people from 41 to 50, and 8 people from 51 to 60, and 2 respondents from above 60 years old, while 6 respondents did not reveal their age. In terms of highest educational attainment, 128 respondents have completed college, 35 have at least reached postgraduate level, 4 have some college, 2 have completed high school, and 2 have some high school. 128 respondents are employed, 26 are self-employed, 9 are students, 5 are unemployed and currently job searching, and 3 are unemployed and doing housework.

Table 1
Construct Reliability and Validity

	Cronbach's alpha	Composite Reliability	Ave Variance Extracted
Attractiveness of alternatives	0.839	0.925	0.861
Behavioral intention	0.924	0.946	0.814
Facilitating conditions	0.840	0.893	0.676
Perceived ease of use	0.919	0.942	0.803
Perceived financial cost	0.925	0.952	0.869
Perceived risk	0.916	0.941	0.799
Perceived usefulness	0.936	0.954	0.839

All constructs are valid measures of their respective constructs on their parameter estimation and statistical significance when composite reliability (CR) values for items scoring are >0.8 (Hair, 2018). The average variance extracted (AVE) are >0.5 justifying the validity of the construct used in the measurement. Items with an outer loading less than 0.7 were removed from

items to be used to measure Attractiveness to Alternatives. Generally, indicators with outer loadings between 0.40 and 0.70 should be considered for removal from the scale only when deleting the indicator leads to an increase in the composite reliability (Bagozzi, Yi, & Philipps, 1991; Hair, Sarstedt, Ringle, & Mena, 2012). Variance Inflation Factors (VIFs) were calculated to detect the presence of multicollinearity between predictors. Collinearity statistics show that variance inflation factors (VIFs) of independent variables range from 1.08 to 2.10, far below the threshold value of 10. All predictors in the regression model with VIFs less than 10 imply that there is no violation of multicolinearity assumption. Further, Shapiro-Wilk tests were conducted to determine whether the distributions of variables were significantly different from normality based on an alpha of 0.05. Perceived usefulness ($W = 0.83$, $p < .001$), Perceived ease of use ($W = 0.86$, $p < .001$), Perceived risk ($W = 0.96$, $p < .001$), Facilitating conditions ($W = 0.96$, $p < .001$), Attractiveness of alternatives ($W = 0.86$, $p < .001$), Perceived financial cost ($W = 0.93$, $p < .001$), and Behavioral intention ($W = 0.97$, $p < .001$). The assumption of normality was assessed by plotting the quantiles of the model residuals against the quantiles of a Chi-square distribution, also called a Q-Q scatterplot (DeCarlo, 1997). For the assumption of normality to be met, the quantiles of the residuals must not strongly deviate from the theoretical quantiles. Strong deviations could indicate that the parameter estimates are unreliable.

Multiple linear regression analysis was conducted to assess whether the selected independent variables significantly predicted consumer intention to adopt mobile money. Regression results are presented in Table 2.

Table 2
Regression results summary – Behavioral intention as dependent variable

Predictor	*B*	*SE*	CI	β	*t*	*p*
(Intercept)	-0.25	2.40	[-4.99, 4.49]	0.00	-0.10	.917
Perceived usefulness	0.47	0.13	[0.21, 0.72]	0.29	3.66	< .001***
Perceived ease of use	0.03	0.12	[-0.21, 0.27]	0.02	0.25	.807
Facilitating conditions	0.55	0.08	[0.39, 0.71]	0.44	6.84	< .001***
Perceived risk	-0.18	0.06	[-0.30, -0.07]	-0.18	-3.14	.002***
Attractiveness of alternatives	-0.15	0.10	[-0.35, 0.05]	-0.08	-1.50	.137
Perceived financial cost	0.20	0.07	[0.07, 0.33]	0.17	2.97	.003***

Note: The asterisks indicate that the variable is significant at the levels of 1%, 5% and 10% respectively i.e. ***p < 0.01; **p < 0.05; *p < 0.1.

Results show that among the variables, perceived usefulness, facilitating conditions, perceived risk, and perceived financial cost are significant determinants of intention to adopt mobile money services. The results of the linear regression model were significant, $F(6,164) = 30.00$, $p < .001$, $R^2 = 0.52$, indicating that approximately 52% of the variance in behavioral intention to adopt mobile money can be explained by perceived usefulness, perceived ease of use, perceived risk, facilitating conditions, attractiveness of alternatives, and perceived financial cost.

Perceived usefulness is significant and has positive impact on behavioral intention (H1), $B = 0.47$, $t(164) = 3.66$, $p < .001$. The perception that mobile money services add value and more

likely to enhance the convenience of sending and receiving money, making payments, and other benefits of using the service.

The presence of facilitating conditions was found to be a significant determinant of intention to use mobile money services among respondents and impacted behavioral intention positively (H3), $B = 0.55$, $t(164) = 6.84$, $p < .001$. This confirmed the previous findings of Mukherjee (2015). Mobile money infrastructure, network effect, extensive service network, and ecosystem would encourage people to use the service (Mukherjee, 2015).

Existing research suggests that perceived risk has a negative impact on intention to adopt mobile money (H4). Results indicate that perceived risk significantly predicts behavioral intention. Thus, H4 is supported. Perceived risk negatively impacts behavioral intention and is significant with $B = -0.18$, $t(164) = -3.14$, $p = .002$.

Perceived financial cost was also found to be significant predictor of behavioral intention, $B = 0.20$, $t(164) = 2.97$, $p = .003$. However, with 0.20 coefficient, it does not support the hypothesis that it impacts behavioral intention negatively (H6). Based on existing literature, the negative impact of perceived financial cost on intention could represent the price sensitivity of users and potential users or their reluctance to pay for mobile money service as an alternative to cash transactions. Perception of cost, risk, low perceived relative advantage, and complexity were the main reasons behind the reluctance to use of mobile banking (Cruz, Neto, Muñoz-Gallego, & Laukkanen, 2010).

Perceived ease of use (PEOU) is expected to influence behavioral intention to adopt mobile money (H2). In a study conducted in Kenya, PEOU is a significant contributor to the use of international mobile money remittance and this is probably driven by already existing user experience of mobile money given its huge success in Kenya (Correia, Ngare, Sindiga, & Otwoma, 2017). Results of this study does not conform with a priori that PEOU affect behavioral intention, $B = 0.03$, $t(164) = 0.25$, $p = .807$. This may be due to the group of respondents who participated in the survey. More than 95% of the participants have at least completed college who are likely at ease and knowledgeable with innovations like mobile money. Thus, respondents seemingly believe that they can use mobile money without the need to exert much effort. Further, the results of a study aimed to understand the characteristics of mobile money users showed that early adopters of technology are younger, novelty seekers, and more likely to have good employment and opinion leadership than late adopters (Tobbin & Adjei, 2012). The demographics of the group of research participants surveyed are similar to the findings of Tobbin and Adjei (2012).

Based on existing literature, attractiveness of alternatives has negative impact on behavioral intention (H5). However, the results of this study do not conform with existing literature. Attractiveness of alternatives did not significantly predict behavioral intention, $B = -0.15$, $t(164) = -1.50$, $p = .137$. Based on this sample, a one-unit increase in attractiveness of alternatives does not have a significant effect on behavioral intention.

Conclusion and Recommendations

Findings highlight the need to strengthen communications on how mobile money services provide additional value and greater convenience in remittance transactions, making/receiving payments for goods and services. Perceived usefulness, being one of the significant predictors of behavioral intention, suggests the importance of customer awareness about the potential benefits of using mobile money. Thus, effective marketing communication is important in making the service to be perceived as useful. Further, facilitating conditions also came out as one of the determinants of intention to use mobile money. Thus, expanding service network and acceptance of mobile money by more merchants would likely increase adoption. Further, mobile money operators may consider expanding distribution strategy to have more convenient locations where subscribers may perform cash in/cash out transactions. Perceived financial cost, being a significant variable, may be addressed by service providers by making subscribers consider the overall benefits of using mobile money.

Areas for Future Research

Given that the respondents of this study are limited to a certain demographic population of employed and educated in Metro Manila, it will be interesting to validate potential factors that drive mobile money adoption of residents from other regions in the Philippines in future studies, especially in rural areas. Findings of this study may also differ from findings of studies conducted in other countries because of the difference in sample sizes and social class of respondents. A study that includes a broader demographic profile of respondents may be conducted in the future. Given that this paper used cross-sectional data collected from respondents in a snapshot, responses may be influenced by individual conditions during data gathering. These conditions may also provide significant differences in the findings of this paper. A longitudinal study with better-defined population and sample size that compares the findings of this study with an up to date survey may also be conducted in the future.

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