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Digital Payments and Financial Wellbeing of the Rural Poor: The Moderating Role of Age and Gender

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ABSTRACT

This study aimed to evaluate the financial wellbeing experiences of digital payment systems in Ghana, an emerging economy, using a case study with special emphasis on gender and age. Quantitative data were obtained from customers and mobile money agents operating in two poor rural districts. The study established a significant positive connection between security and satisfaction, ease of use and satisfaction, and convenience and satisfaction in relation to digital payment systems in emerging markets. Also, customer satisfaction mediates trust and the digital payment experience of the poor. The findings also revealed that customer experience of digital payment systems differs based on gender and age categories. Males appeared to value ease of use rather than great customer experience, whereas females valued security over great customer experience. Great customer experience leads to stronger trust levels among female users than males. Also, younger users were more concerned with issues of convenience, while older customers placed a higher premium on security.

KEYWORDS

Digital payment; financial wellbeing; Ghana; rural poor

Introduction

The digital revolution has come to stay, a phenomenon that continues to permeates the socio-economic life of people globally irrespective of race, religion, gender, education, or economic status. The digitalized lifestyle connects digitally savvy individuals via computers and smart mobile phones to seamlessly satisfy their personal e-aspirations, aiding smart service delivery for productive outcomes (Dzogbenuku and Kumi 2018; Linkov et al. 2018). Evangelista, Guerrieri, and Meliciani (2014) define digitalization “as a growing connectivity and networking of digital technologies that enhance communication, service delivery, trade among people and organizations”, thus creating opportunities and ameliorating the challenges associated with livelihoods.

Additionally, the digital revolution is promoting financial services delivery globally, a development that is championed by fintech and digital financial service organizations (McMillan 2015; Lara-Rubio, Villarejo-Ramos, and Liébana-

Cabanillas 2020; Pazarbasioglu et al. 2020). Thus, facilitating the development of innovative financial systems and services like mobile payment, smart digital transfer, lending, saving, and insurance financial services. Mobile payments mainly benefit the unbanked population (Cai et al. 2016; Dapp and Hoffmann 2015). About one-third of the world’s adults still lack access to a basic bank account, even though access to a bank account is critical as it allows people to receive and send payments. Moreover, only a fifth of adults in developing economies access to formal financial institutions such as banks, compared to more than half of adults in high-income OECD economies. Also, others in this market depend on informal methods to save, which are riskier and more costly, often leading to abuse, leading to poor attitudes toward financial services and savings. With regards to micro, small and medium-sized enterprises (MSMEs), it is estimated that millions of formal and informal in developing economies are worth USD \$8.1 trillion

(Pazarbasioglu et al. 2020) are also challenged when it comes to financial inclusion

Digital infrastructure remains essential for efficient digital financial service delivery globally. It also thrives on a smoothly functioning information communication technology (ICT) network and supported by a reliable power supply. An efficient digital payment system is also driven by wide coverage, quality, and easy access to cheap customer data from state institutions (Pazarbasioglu et al. 2020). Similarly, service providers depend on service prerequisites such as verification or due diligence validation to authenticate customer data. Unfortunately, in developing countries, even though such processes benefit all stakeholder groups, including customers, access to such critical customer information is held by bureaucratic state authorities, which negatively affects smooth digital payments. Essential documents like personal identification, land records, demographic information, income, tax and education records, as well as employment history are difficult to obtain in most developing economies which affect smooth financial intermediation. These factors among other negatively affect digital payment systems in most developing economies.

The digital revolution has influenced policy-makers at the state, corporate and local levels, including individuals, to aspire for digital sustainability, to improve living standards in line with the world's sustainable development goals (SDGs). However, the poor defined as the marginalized are socially excluded from accessing quality market opportunities. They are classified as the bottom of the pyramid (BoP) (Prahalad 2006) and are estimated to be over four billion people with a staggering annual purchasing power of about US\$6 trillion (Kumar 2020). Aisaiti et al. (2019), citing Prahalad (2010), argue that BoP customers individually earn less than US\$1,500 annually. However, this segment of the global society constitutes a significant target for multinationals to target for sales, profit, and business sustainability.

Gupta and Pirsch (2014) suggest that research of BoP indicates the profitability of marketing to the poor for businesses that can venture into this unique segment as they can generate substantial

revenue. But marketers targeting BoP consumers could harm them by adopting exploitative marketing practices. It is contended that the poor do not only try to meet their basic needs but likewise spend a part of their income on aspirational goods (Gupta and Srivastav 2016). Despite these limitations, in recent times, adventurous multinational corporations (MNC) have progressively entered most BoP markets because of globalization and market liberalization (Randrianasolo 2018).

Digitalization, by its nature, obstructs and enhances the livelihoods of the educated, less educated, the rich, and the underprivileged due to its ubiquitous presence, convenience, and cost advantage. It allows the poor in the developing world to leverage the internet to access smarter digitized services via their mobile phones for communication, financial transactions using electronic wallets, thus banking the unbanked conveniently (Kumar, Nim, and Sharma 2019). Dewan and Chen (2005), claim that digital payment services allow the internet to serve users across mobile platforms. Liébana-Cabanillas, Ramos de Luna, and Montoro-Ríos (2017) believes that payment platforms empower users to initiate and authorize financial transactions. For example, it is estimated that demand for mobile phones will grow from US\$30bn in 2016 to US\$240bn in 2021 globally to support digital wallets in emerging markets (Patel and Doan 2016; Liébana-Cabanillas, Muñoz-Leiva, and Sánchez-Fernández 2018; Gomber, Koch, and Siering 2017).

Nevertheless, across sub-Saharan Africa, 340 million adults remain unbanked, a condition attributable to limited banking access, financial illiteracy, lack of documentation required by banks, among other things (Klapper and Singer 2017; Klapper et al. 2019). Financial inclusion remains a challenge for attaining Goal One of the SDGs (United Nations 2016). Sheth, Sinha, and Shah (2016) maintain that this segment of the world is predominately characterized by poor social infrastructure, agrarian rural economy, a burgeoning youthful population, including a growing middle-income class. However, Sheth, Sinha, and Shah (2016) concludes that irrespective of the developmental challenges of sub-Saharan Africa, its market holds potential for

daring multinationals to implement creative marketing strategies for a competitive edge. They indicate that success in this market depends on innovative marketing strategies because of the new digital behavior found among its youth. Consequently, firms operating in this market must utilize sustainable digital innovations by offering valuable transformative services to their customers. Transformative service research (TSR) often drives service to improve customer wellbeing and value outcomes, which are driven by future-oriented leadership behavior. Transformative service research (Rosenbaum and Sherrington 2011; Anderson et al. 2013; Dean and Indrianti 2020) investigates how astute service delivery affects consumer-societal wellbeing. TSR is a service research that focuses on creating, inspiring and improving societal wellbeing, a development oriented study that contributes to stakeholder wellbeing, thus improving the lives of consumers, employees, families, communities, and the ecosystems (Rosenbaum and Sherrington 2011; Anderson et al. 2013; Ostrom et al. 2010; Dean and Indrianti 2020). TSR explores service challenges that positively affect the socio-economic lives of minority groups.

Mick (2006) perceives it as the application of basic marketing techniques aimed at improving living standards. Presently, TSR embraces digital adoption, service innovation, and delivery processes to improve the wellbeing of poor clients (Corus and Saatcioglu 2015; Ostrom et al. 2015; Reynoso, Valdés, and Cabrera 2015). For example, digital financial products (Ashraf 2009) must be accessible and affordable to the poor for financial inclusion goals to be attained. Likewise, a digitized financial service bridges the financial inclusion gap in sub-Saharan Africa (Donovan 2012), a phenomenon that keeps attracting leading academics to investigate its impact on users. Ngugi, Pelowski, and Ogembo (2010) posit that the unbanked can now access financial services in this contemporary digital age via mobile phones to improve their livelihoods and general wellbeing. Wellbeing is a multi-faceted concept that affects people's physical, economic and emotional lives (McColl-Kennedy et al. 2017; Guyader and Piscicelli 2019).

The world's SDGs make a clarion call for world leaders to work together to reduce the extreme disparity in living standards between the rich and the poor (De Caria 2017). Wellbeing connotes value, a value that affects the wellbeing of customers (Grönroos and Gummerus 2014). TSR positively affects customers' wellbeing (Blocker and Barrios 2015). However, the extent to which TRS contributes to improving the lives of poor consumers is a point of contention. Black and Gallan (2015) operationalize it to include "good health, quality of life, and wellbeing", drawing on the works of Anderson et al. (2013).

However, despite the exponential demand for mobile money in developing economies, particularly sub-Saharan Africa, the academic inquiry of the concept remains scanty and inconclusive. For example, there have been studies in Ghana on mobile money and smallholder farmers (Peprah, Oteng, and Sebu 2020), mobile money and user continued intention (Mensah, Chuanyong, and Zeng 2020), mobile money and health care (Bukaru & Koomson, 2020), mobile money and small-medium enterprise growth (Asamoah, Takieddine, and Amedofu 2020) are indicative of the continuous user acceptance of mobile money as a leading financial service intervention. To aid rapid financial inclusion, mobile money was introduced into Ghana in 2009 by MTN, a South African multinational company, to bank the unbanked majority.

According to Ghana Interbank Payment and Settlement Systems (GhIPSS), the nation's digital payment system saw an 81% rise in transaction volumes in the first quarter of 2020 due to the increased popularity of mobile money as a financial service. Its usage has grown from Ghc 18,042,241 in 2012 to a remarkable Ghc 312,926,881 as of the first quarter of 2018, with active accounts growing from 354,343 to 11,248,758 (Bank of Ghana, 2018). The Bank of Ghana describes mobile money as electronic cash supported by equivalent amount notes and coins stored utilizing the Subscriber Identification Module (SIM) in a cellphone as an identifier. Mobile money is delivered by Telco's, which keep electronic account SIMs for their users. Thus, telecommunication companies are bridging the financial service gap by offering financial

products and services. It is therefore worth asking the following questions:

RQ1. Does a digital payment system affect the financial wellbeing of the rural poor?

RQ2. Does gender and age moderate the relationship between digital payment usage and the financial wellbeing of the rural poor?

This paper, therefore, seeks to assess how digital payment systems contribute to improving the financial wellbeing of rural folks while determining the moderating roles of the gender and age of users. This study from an emerging market perspective in the midst of the coronavirus (Covid-19) pandemic, which has limited personal contacts, will offer significant insights for financial service institutions seeking to serve their customers through digital platforms. Poor customers, who are mainly found in poor rural communities (Anderson et al., 2010) and lack socio-economic infrastructure, will be better served with inclusive financial products that are exclusively designed and targeted at them (Jebarajakirthy and Lobo 2015). Again, inclusive financial products will fulfill the financial needs of the poor in BoP markets (Pitta et al. 2008). Thus, digital financial inclusion is essential for improving the financial wellbeing of the poor in the long term to reduce extreme poverty among vulnerable rural groups to attain Goal One of the SDGs.

Theoretical and literature review

Classical theories of human adoption, the Theory of Reasoned Action (TRA) (Ajzen and Fishbein 1980), and Theory of Planned Behavior (TPB) (Ajzen 1991) have been extensively used to investigate human behavior across sectors in many countries. These theories are considered appropriate for investigating how digital payment systems are connected to the financial wellbeing of the rural poor. de Luna et al. (2019) argues that TRA and TPB demonstrate human intentions to adopt innovative products; thus, highlighting user attitudes and subjective behavior. Also, the technology adoption model (TAM) and the unified theory of acceptance and use of technology

(UTAUT) remain a great tool for investigating technology acceptance worldwide.

Factors of TAM, including perceived usefulness, perceived ease of use, perceived behavioral control, perceived risk, and security, and perceived enjoyment immensely contribute to the continuous usage of technological brands (Farah, Hasni, and Abbas 2018; Hajiheydari and Ashkani 2018; Al Khasawneh, Hujran, and Abdrabb; Kumar, Israel, and Malik 2018), which ultimately affects user satisfaction and financial wellbeing. The UTAUT model was created through a review and combination of eight dominant theories and models, which are Theory of Reasoned Action (TRA), Technology Acceptance Model (TAM), Motivational Model, Theory of Planned Behavior (TPB), and a combination of TBP or TAM, the Model of PC Utilization, Innovation Diffusion Theory (IDT), and Social Cognitive Theory (SCT). These theories and models have been extensively and effectively used by many studies of technology or innovation adoption and its diffusion in different fields, for instance, information systems, marketing, social psychology, and management (Williams, Rana, and Dwivedi).

An extensive literature review by Patil, Dwivedi, and Rana (2017) on digital payment adoption indicated that performance expectancy or perceived usefulness is the most significant determinant of consumers' behavioral intention to utilize mobile payments followed by perceived ease of use (PEOU). Also, they found that perceived risk was a key inhibitor to the adoption of mobile payments. They concluded that most studies utilized the TAM model and its extension to consumer adoption to mobile payment, followed by UTAUT.

The world is moving toward a cashless society, but consumers in many developing countries are slower in the transition toward digital payment use. An empirical study of Indian consumers (an emerging market) using UTAUT (Patil et al., 2020) indicated that performance expectancy, intention to use, and redress of grievance are significant positive predictors of consumer use behavior toward mobile payment. The results of another study in the USA and Spain (developed economies), according to Flavian, Guinaliu, and Lu (2020), demonstrated that mindfulness,

perceived ease of use, perceived usefulness, subjective norms, and attitudes significantly affect mobile payment usage intentions.

Financial inclusion

Financial inclusion comprises how individuals and households access and utilize a range of financial services (Senyo and Osabutey 2020; Demirgüç-Kunt and Singer 2017; Demirgüç-Kunt et al. 2015). It is a fundamental right that improves the living standards and wellbeing of people (Mende et al. 2020). The wellbeing of consumers is inseparably linked to their financial inclusion status. Financial inclusion advocates that the working-class should have access to quality financial services at affordable rates and in a dignified manner (Accion International and Center for Financial Inclusion 2009; Mende et al. 2020). Financial inclusion positively affects customers benefiting from financial services as it gives them an opportunity to save, invest in education, and absorb critical financial emergencies to ameliorate income inequality and bolster economic growth (Demirgüç-Kunt et al., 2018; Mende et al. 2020).

The Global Development report by the World Bank (2014) on financial inclusion estimated that 2.5 billion unbanked adults worldwide were confronted with difficult obstacles, including long travel distance and cost, as well as a lack of the right documents to access banks (Datta and Singh 2019). It concluded that 20% of this population comprised poor women and rural folks who had no bank accounts. Currently, mobile money extends financial access to the 'unbanked' population (Munyegera and Matsumoto 2016). For example, more than 60% of Sub-Saharan Africans live in rural communities without access to commercial banks as banks consider such areas as unprofitable (Lashitew, van Tulder, and Liasse 2019). The unbanked, especially women and the youth, become more productive when they save, invest, secure credit, and procure insurance against unforeseen financial emergencies or threats. Today, digital payments in sub-Saharan Africa allow even the vulnerable poor to earn around a threshold of \$2.00 daily to afford digital products like mobile phones (Spadae;

Berdou et al. 2015; Salecker, Ahmadov, and Karimli 2020). Mobile money pushed by the Fintech ecosystem promotes financial intermediation; hence, it is described as the "maker and killer" of all telecom applications (Liébana-Cabanillas, Sánchez-Fernández, and Muñoz-Leiva 2014).

Customer perceived financial self-efficacy mirrors the user's ability to make sound financial decisions. Indeed, self-efficacy beliefs, consistent with Bandura (1991), are "people's beliefs about their capabilities to exercise control over their own level of functioning and over events that affect their lives" (p. 257). Hence, the stronger an individual's financial confidence, the higher their ability and likelihood of them experiencing positive future financial outcomes (Netemeyer et al. 2017; Bruggen et al., 2017). Again, perceived financial self-efficacy remains an incentive for having control over one's attainment of proposed long-term financial goals (Chowdhry and Dholakia 2017). Thus, financially savvy, skilled individuals are likely to engage in decisions to secure their financial prospects. Financial self-efficacy positively influences diverse financial behaviors and outcomes (e.g., saving, wealth accumulation, trading profit volatility, financial satisfaction, credit market participation, portfolio allocation, and prudent financial management practices (Asebedo and Payne 2018; Farrell, Fry, and Risse 2016; Asebedo et al. 2019).

Financial wellbeing

Wellbeing is a complex concept that span across various source of human phenomenon (Arslan, Yıldırım, and Albertova 2021; Yıldırım, Alshehri, and Aziz 2019) including financial wellbeing. Simply, it is a state of happiness, healthiness or comfort. Customer subjective wellbeing highlights customer delight and positive experience manifesting through the cognitive and affective reactions toward objects. Ostrom, Mathras and Anderson (2014) highlight eight critical service benefits of transformative service research (TSR) which affect consumer wellbeing. These include co-creation ability, employment wellbeing, social support, financial access, service literacy, service design, and service systems to aid user experience

and wellbeing. These characteristics have the propensity to affect the wellbeing of the rural poor. TSR positively affect the vulnerable segment of society, mostly found in rural communities because it impacts their wellbeing (Arnold and Valentin 2013). A person's financial wellbeing (FWB) is the ultimate financial literacy outcome, which manifests through financial attitude (Philippas and Avdoulas 2020). A healthy financial attitude engenders better financial wellbeing. In effect, growing awareness of FWB has implications for individuals, societies, and organizations (Brüggen et al. 2017). Conversely, the absence of FWB may result in financial stress, leading to psychological and emotional challenges (Alsemgeest 2015). FWB improves living standards, therefore, reducing extreme poverty (Anderson & Ostrom, 2015).

FWB depicts the financial life of people, which is manifested through satisfying customers' basic financial needs. Consumer perceived FWB further extends to current customer perception of financial security as it considers customers' ability to manage financial resources efficiently in the short and long term. Allgood and Walstad (2016) argue that customer FWB entails sound financial knowledge, financial product acceptance and use, and willingness to influence financial plans (Gerardi, Goette, and Meier 2010). Also, FWB determines customers' willingness to take investment risks to accumulate funds for future use and wealth creation; as a result, attaining positive outcomes while avoiding negative consequences (Adams and Rau 2011; Ajzen 1991). High financial literacy and good financial behavior impact the future wellbeing of individuals, families, and communities (Philippas and Avdoulas 2020).

Service convenience and perceived ease of use

Service convenience is consumers' perception of minimized period and effort used procure a service (Berry, Seiders, and Grewal 2002; Yang and Yao 2021). Service convenience presently constitutes all accessible 24-hour services that delight customers beyond traditional brick and mortar services. With regard to service marketing, service convenience is essential, particularly in assessing service delivery outcomes, including satisfaction (Benoit, Klose, and

Ettinger 2017; Wong 2020), service evaluations (Tuzovic and Kuppelwieser 2016), perceived value (Zainuddin, Previte, and Russell-Bennett 2011), service quality (Nguyen, DeWitt, and Russell-Bennett 2012) and loyalty (Rahman 2014). However, a customer might exhibit diverse attributes of service convenience, depending on the service benefit.

Davis (1989) and Davis, Bagozzi, and Warshaw (1989) posit that tech-oriented firms develop simple and user-friendly products to encourage adoption through ease of use because technology can be intimidating. Ease of use of technology remains a decisive factor in assessing customer satisfaction in the technology adoption space (Liébana-Cabanillas, Muñoz-Leiva, and Sánchez-Fernández 2015b; Robertson et al. 2016; Liébana-Cabanillas, Muñoz-Leiva, and Sánchez-Fernández 2018). Perceived ease of use ensures the usability of technology devices (Venkatesh and Davis 2000). In the case of digital payment systems (Dahlberg, Guo, and Ondrus 2015; Baptista and Oliveira 2016), two critical variables from Davis's TAM model for service relevance and reliability are fundamental predictors of user attitude and intention to utilize technology. Kim, Mirusmonov, and Lee (2010) believe that mobile payment systems encourage perceived ease of use and perceived usefulness. Furthermore, customers predisposed to perceived service technology consider services such as trouble-free and less complex to use (Robertson et al. 2016) as important. Senyo and Osabutey (2020) study found that hedonic motivation (fun to use, entertaining and enjoyable) influences mobile money adoption (a digital payment system). Per the foregoing discussion, the following hypotheses have been framed:

H1: The convenience of digital payment systems has a positive effect on the financial wellbeing of rural folks.

H2: The perceived ease of use of digital payment systems has a positive effect on the financial wellbeing of rural folks.

Perceived risk

The risk construct has been recognized by researchers in recent times (Bruwer & Cohen, 2019; Sánchez-Cañizares et al. 2020). The perception of risk is a sense of potential danger. Perceived risk (Damghanian, Zarei, and

Siahsarani Kojuri (2016) affects and discourages customer attitudes, such as product adoption, which influence the utilization of technological innovations. Kaur and Arora (2020) highlight critical perceived risk factors, such as the risk of losing personal control, system failure, and displaying operational challenges to others as essential factors of adoption. Littler and Melanthiou (2006) identify six key features that influence consumer perceived risk, which are financial, performance, time, social, psychological, and security, which largely affect technology adoption as regards future consumer decisions.

Other researchers of perceived risk have also consistently highlighted factors such as time, financial, performance, social, security, privacy risk, and psychological welfare (Featherman and Pavlou 2003; Hanafizadeh and Khedmatgozar 2012). Perceived self-service risk demonstrates how cost weighs against benefits in value perceptions (Sweeney, Soutar, and Johnson 1999; Kleijnen, De Ruyter, and Wetzels 2007). Users, particularly those from vulnerable classes, stand the risk of losing money in the digital mobile environment, possibly due to its failure or scams. It has been argued that consumers who become sensitive when making financial decisions are likely to fear losing money and valuable information (Kleijnen, De Ruyter, and Wetzels 2007). Hence, the following hypothesis has been formulated:

H3: The perceived risks involved in the use of digital payment systems have a negative influence on the financial wellbeing of rural folks.

Privacy and security

Privacy and security are not mutually exclusive fears but simultaneously affect each other during transactions because privacy cannot be compromised without breaching security (Pavlou, Liang, and Xue 2007; Bansal and Zahedi 2014; Balapour, Nikkhah, and Sabherwal 2020). Kim (2008) posits that security and privacy concerns assess customers' level of trust, particularly when making online decisions. Debreceeny et al. (2003) contend that privacy protects personal data security, thereby insulating customers against fraud and financial loss. These assertions can be attributed to the safety of mobile payment systems

and their continuous usage. Casaló, Flavián, and Guinalíu (2007) posit that privacy is a legal requirement and good practice for personal data handling. Personal security guarantees privacy. Kim and Benbasat (2006) conclude that privacy is critical for customers in all online transactions, hedging against loss of sensitive data. Customers expect some degree of protection for funds and personal information from service operators. Based on this, the following hypothesis has been formulated:

H4: Improved privacy and security of mobile payment systems have a positive effect on the financial wellbeing of rural folks.

Service trust

Trust remains a complex, multidisciplinary theory noted as a strategic asset for individuals (Castaldo, Premazzi, and Zerbini 2010; Isaeva, Gruenewald, and Saunders 2020) and is essential for corporate success (Dietz and Gillespie 2011). Trust is fundamental in all relationships for their longevity. In service delivery, trust plays a vital role in relation to assessing service quality. Moreover, service trust denotes long-held beliefs by customers relating to service integrity, service benevolence, service capability, and service predictability (Gefen, Karahanna, and Straub 2003). Therefore, fostering stronger customer trust remains a viable strategic choice for tackling customer attraction and retention challenges, especially for firms operating in competitive markets.

Furthermore, trust contributes greatly to the attainment of a greater competitive advantage (Aşçı 2020). Other critical factors include the service provider's reputation, believability, and honesty. Robertson et al. (2016) argue that service satisfaction significantly drives customer trust. Consequently, we propose a fifth hypothesis as:

H5: The financial wellbeing of rural folks has a positive influence on trust for digital payment systems.

Gender, age, and digital payment systems gender

Liebana-Cabanillas, Muñoz-Leiva and Sánchez-Fernández (2013) and Wickens and Miller (2020) suggest that gender concerns and digital financial

payments are phenomena that researchers investigate scientifically. Dong and Zhang report that gender perceptions influence the adoption of technology. Also, gender differences have been widely identified to influence the effective adoption of mobile-based technologies (Faqih and Jaradat 2015; Glavee-Geo, Shaikh, and Karjaluoto 2017). However, gender and product usage present mixed outcomes regarding men and women's intent for brand usage (Choi et al. 2010).

The digital financial service literature reveals how gender discrimination leads to inequality in financial behavior, thereby discouraging or prohibiting women and the youth's easy adoption of digital financial services. Consequently, hindering their access to basic financial services from formal and informal financial service providers (Ammar and Ahmed 2016; Kim et al. 2018). In fact, studying the moderating effect of gender attitude and e-commerce, Wynn (2009) discloses that behavioral differences regarding online transactions among gender groups are widespread (Liebana-Cabanillas et al. 2012). Conventionally, men are more inclined to use technology than women because men have a greater propensity to make planned purchases of hardware products. Conversely, Okazaki (2007) contends that women have shown a higher propensity of depending on trust to adopt digital services because they have often shown more positive attitudes than men (Okazaki 2007); consequently, their intent to adopt digital financial services will be higher based on trust (Kim et al. 2018). Nevertheless, men are more prone to adopt digital technology, whereas women are more security conscious. Thus, the authors hypothesize that

H6a: The positive effect of ease of use of digital payment systems on financial wellbeing will be stronger for males than female users.

H6b: The positive effect of security of digital payment systems on financial wellbeing will be stronger for females than male users.

Age

Also, to attain the goals of this study, the researchers set out to understand age as a variable and an antecedent to technology and model

adoption (TAM, TRA, and UTAUT). The age of customers or users influence consumer behavior and usage (Liébana-Cabanillas et al. 2012; Okazaki and Mendez 2013; Liébana-Cabanillas, Sánchez-Fernández, and Muñoz-Leiva 2014). Different studies have identified mixed moderating effects for the age variable on technology adoption. Some studies observed a positive association between consumers' age and their tendency to buy products online (Stafford, Turan, and Raisinghani 2004), while some demonstrated negative consequences (Joines, Scherer, and Scheufele 2003) or no relationships (Dabholkar, Bobbitt, and Lee 2003). Phang et al. (2006) suggest that age is a crucial factor in technology acceptance. Furthermore, young customers are least impacted by acceptance challenges, which differs from older generations.

Other researchers like Liébana-Cabanillas, Sánchez-Fernández, and Muñoz-Leiva (2014) have established that age is a constant factor that impacts consumer attitude and behavior in relation to digital technology (Phang et al. 2006; Weijters et al. 2007), the usage of the internet (Niemelä-Nyrhinen 2007), technologies in the retail sector (Ruiz Molina, Gil Saura, and Calderon Garcia 2010), and digital commerce (Li, Glass, and Records 2008). Further, some researchers have argued the importance of the generational gap rather than age to fully comprehend its influence on human behavior (Huang and Petrick 2010; Kandampully, Zhang, and Bilgihan 2015). Kandampully, Zhang, and Bilgihan (2015) grouped customers into four major generations, including Generation Z (18-21 years) (customers born in 1996 or later), Generation Y (22-40 years) (customers born between 1995 and 1977), and Generation X (41-52 years) (customers born between 1976 and 1965) and Baby boomers (53-71 years) (customers born between 1964 and 1946).

Like most African countries, Ghana has a predominantly youthful population, with about 79% being under 40 years of age. Ghana's population and housing census 2010 had a median age of 20 years, the mean age of 24 years, and 41% of its population between 15 and 40 years, and just 21% of the population above 40 years. We decided, therefore, to combine Generation Z and

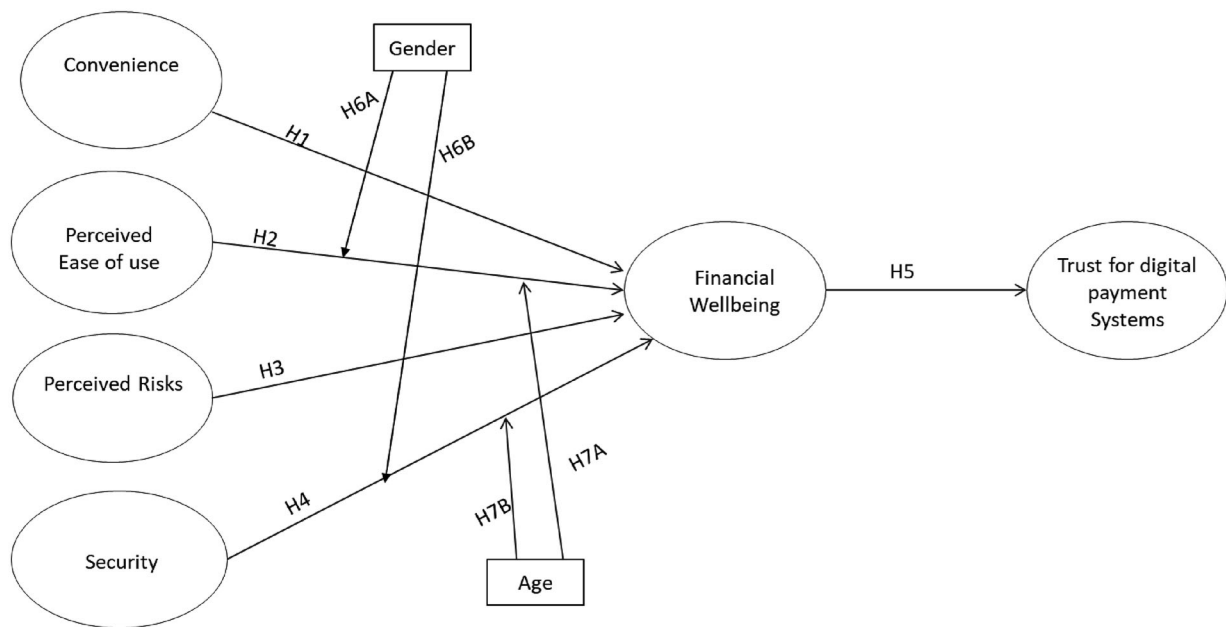


Figure 1. Authors proposed the conceptual framework based on the review of literature as presented in Figure 1.

Y respondents into one category called “younger” respondents (below 40 years) and those of higher age groups (Generation X and Baby Boomers) classified as “Older” respondents (above 40 years) for testing the moderation effect of age on digital payment and user wellbeing (Figure 1).

Consequently, the authors hypothesize that

H7a: The positive effect of ease of use of digital payment systems on financial wellbeing will be stronger among younger (≤ 40 years) users than older users (> 40 years).

H7b: The positive effect of the security of digital payment systems on financial wellbeing will be stronger among older (> 40 years) users than younger users (≤ 40 years).

Methodology

Sampling

Consistent with previous studies on digital payment systems (Aisaiti et al. 2019), quantitative data was obtained for this study. The Central Bank of Ghana permits the issuance of electronic or digital money, recruitment and management of mobile money agents, creation and management of electronic wallets by telco managers of mobile money. It also allows wallet-based domestic money transfers, such as transfers to and from bank accounts, cash-in and cash-out transactions,

investment, savings, credit products in partnership with banks, insurance, and pension products with authorized insurance and pension firms (Bank of Ghana 2019).

The sample utilized for the study comprised 1,549 rural customers, agents/vendors of three digital payment service firms: MTN (MTN Mobile Money), TigoAirtel (AirtelTigo Cash), and Vodafone (Vodafone Cash). Two poor rural districts in Ghana, Shai-Osudoku District and Ningo Prampram within the Greater Accra Region, were purposively selected for the administration of the survey. The Ghana Poverty Mapping Report (Ghana Statistical Service 2015) given by the Ghana Statistical Service mapped these districts in the Greater Accra Region as poor, with Shai-Osudoku District leading with 55.1% of its population being poor. In each district, 800 subscribers and agents of digital payment service firms were randomly surveyed, making 1600 subscribers. First, researchers stratified each district into towns/villages. Next, they selected principal business streets and market centers and randomly selected 100 mobile money agents/vendors (50 agents per district). Each agent/vendor stand (location) became the data collection point for the study. Customers exiting each of the 100 agents/vendors' stand were randomly selected and approached based on 1 in 6 customers for responding to the questionnaire.

Table 1. Scales of Variables in the model.

Concept	Items	Source
Privacy and security of digital payment system	1.1 I feel secured even if I give out critical information via digital payment transaction 1.2 My password on digital payment platform is safe and secured always 1.3 Changing passwords on digital payment is easy and secured always 1.4 Digital payments never fails	Zeithaml, Parasuraman, and Malhotra (2002)
Ease of use of Digital payment	2.1 Digital payments is easy and understandable during transactions 2.2 Using digital payment does not require a lot of mental effort 2.3 I can use digital payment to pay my bills and other transactions easily 2.4 Digital payment prompts/directions are user friendly 2.5 I can send and receive cash via Digital payment all day all night 2.6 All fund sent and received via digital payment are always accurate	Davis (1989), Davis, Bagozzi, and Warshaw (1989)
Trust of Digital payment	3.1 I trust digital payment because of its reliability compatibility to my life 3.2 Am prepared to save on digital payment because it's safety compared to banks 3.3 I trust digital payment because personal and transaction data sent is safe and secured always 3.4 Its usefulness of digital payment makes me trust the service	Gefen, Karahanna, and Straub (2003)
Risk Associated with Digital payment	4.1 Giving out information via digital payment transactions puts me at risk 4.2 People are likely to access my account each time I use digital payment 4.3 I feel insecure sending sensitive information via digital payment 4.4 My digital payment service providers could give out my transaction records to a third party	Kleijnen, De Ruyter, and Wetzels (2007)
Responsiveness	5.1 I trust that complains sent to my service providers will be dealt with 5.2 Digital payment service operators offer me the opportunity to fulfill specific service needs. Eg paying for flight, taxi fare, buying food	
Convenience	6.1 I feel fulfilled with digital payment service than going to my bankers 6.2 Digital payment enables me to do all kinds of transactions 6.3 Digital payment service is commonly available anywhere, anytime, any day, weekdays and even weekends	
User Financial Wellbeing	7.1 The digital payment services have been beneficial 7.2 Digital payments alerts bring me excitement 7.3 I feel fulfilled with digital payment services always 7.4 Using digital payment is economical and am NOT bothered bout the 1% commission charged 7.5 Am confident of digital payment as it has helped to obtain remittances from relatives/children 7.6 Digital payment has helped to improve my financial status	Wolfenbarger and Gilly (2003)

Instrument development

The structured research instrument was segmented into two parts. The first part comprised a 5-point Likert scale ranging from strongly disagree (1) to strongly agree (5) linked to each latent variable. The study variables were adapted for FWB (Buggen et al., 2017), service convenience (Colwell et al. 2008;), perceived ease of use (Davis 1989; Dahlberg, Guo, and Ondrus 2015), perceived risk, privacy and security (Balapour, Nikkhah, and Sabherwal 2020), customer satisfaction (Verhoef et al. 2009), service trust (Castaldo, Premazzi, and Zerbini 2010), gender (Zhou 2014; Faqih and Jaradat 2015), and age (Kandampully, Zhang, and Bilgihan 2015). A sample of the first part of the data instrument constructed is given in Table 1. The second part of the instrument focused on the bio-demographic information of participants. Prior to this, a pilot study was conducted with 20 MTN customers at Shai-Osudoku District to assess the feasibility of the intended

approach and test the adequacy of the data instruments. Cronbach's alpha coefficient calculated for the data instrument based on the sample size of 20 was 0.903, which showed adequate internal consistency and reliability.

Data collection

Data was obtained from customers and agents/vendors. First, the printed questionnaire was administered to 100 randomly selected agents with the help of an enumerator who also acted as a translator for vendors who needed translation into their indigenous language, Ga. Next, the researchers sought permission from the agents/vendors to administer the questionnaire to their customers/clients. The questionnaire was, therefore, administered randomly to customers exiting an agent/vendor's stand based on 1 in 6 customers. Data collection was done between August to October 2019. Data was gathered at peak periods

during early mornings, late afternoons, and weekends when people topped-up and transferred funds at vending points. In all, 1,580 completed questionnaires were received, out of which 1,549 were usable, representing a response rate of 96%. The questionnaires that could be used comprised 100 agents/vendors and 1,449 customers.

Participation in the study was voluntary and confidential. Ghana currently operates a semi-cashless payment system allowing mobile money agents to play a critical role in the digital payment system. Out of the respondents, 833 were males, while 716 were females. The age group distribution of respondents included 20-30 years ($n=690$, 44.5%), 31-40 years ($n=301$, 19.4%), 41-50 years ($n=465$, 30%), 51-60 years ($n=73$, 4.7%) and above 60 years ($n=20$, 1.4%). However, the age groups were categorized into two, made up of 991 respondents who were 40 years or younger classified as “young” and 558 respondents who were more than 40 years classified as “old”.

Furthermore, 802 respondents had a low level of ICT education, whereas 747 had a high level of ICT education. Age and gender were considered in this study because digital financial well-being has become a new lifestyle. Also, the female gender in most developing economies constitutes the vulnerable social group as they face challenges accessing financial services.

Data analysis

Partial least squares (PLS-SEM) was utilized in the analysis of data (SmartPLS Release: 3.2.7) (Bido, Da Silva, and Ringle 2014). PLS-SEM is appropriate for predictive models employing very small or large samples and is the ideal approach when normality assumptions are not satisfied (Hair et al. 2016). Each path's significance was checked utilizing bootstrap t -values (5000 subsamples) (Tortosa, Moliner, and Sanchez 2009), a method accessible in PLS.

Results

Exploratory factor analysis

In order to identify the key factors of customer experience in relation to mobile payment systems,

variables on the questionnaire were put through principal component analysis and then Varimax rotation. The analysis produced 8 factors, which are given in Table 2. A Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy value of 0.888 and Bartlett's Test of Sphericity (approx. Chi-square = 12135.59, $df = 190$, $p = 0.000$) was gotten. These outcomes demonstrate that the sample was suitable for factor analysis while the variables correlate. The eight extracted factors account for 56.9% of the total variance explained.

Internal reliabilities of the extracted factors were done utilizing Cronbach's coefficient alpha (α). For the purposes of this research, the cutoff value 0.6 (Hair et al. 1998; Hair et al. 2016) was adopted, whereas the acceptable benchmark value of item-to-total correlation was set above 0.3 (Narteh 2015; Hair et al. 1998). As a result, Factor 8 was eliminated. Also, Factor 5 was merged with 7 due to their conceptual fitness. The revised factor structure is presented in Table 3, showing six factors: ease of use, satisfaction, trust, perceived risks, security/privacy, and convenience. Therefore, it can be concluded that the main drivers of the digital payment experience include ease of use, satisfaction, trust, perceived risks, security, and convenience of mobile payment systems.

Confirmatory factor analysis

The six extracted constructs were subjected to CFA using Partial least squares (PLS-SEM). Initial outcomes indicated that some items had low loadings in the constructs they were intended to measure, while others had significant cross-loadings. The offending items included eas4 and eas5 (4th and 5th items, which loaded into “ease of use”), fw3 and fw6 (3rd and 6th items, which loaded into “financial wellbeing”), risk2 (2nd item, which loaded into “perceived risk”), and sec3 (3rd item, which loaded into “security”). The offending items were sequentially deleted, and the model was rerun after each item deletion until acceptable loadings per construct were achieved. The resultant convergence and discriminant validity information are provided in Table 4.

Table 2. Varimax Rotated Component Matrix.

Variables	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8
Digital payment is easy and understandable during transactions	0.697							
Using digital payment does not require a lot of mental effort	0.666							
Digital payment prompts/directions are user friendly	0.623							
I can send and receive cash via Digital payment all day all night	0.598							
All funds sent and received via digital payment are always accurate	0.581							
I can use digital payment to pay my bills and other transactions easily	0.51							
I feel fulfilled with digital payment services always		0.647						
Digital payments alerts bring me excitement		0.641						
Using digital payment is economical and am NOT bothered bout the 1% commission charged		0.572						
Am confident of digital payment as it has helped to obtain remittances from relatives/children		0.569						
Digital payment has helped to improve my financial status		0.566						
The digital payment services have been beneficial		0.500						
Its usefulness of digital payment makes me trust service			0.758					
I trust digital payment because personal and transaction data sent is safe and secured always			0.708					
Am prepared to save on digital payment because it's safety compared to banks			0.57					
I trust digital payment because of its reliability and compatibility to my life			0.5					
I feel insecure sending sensitive information via digital payment				0.793				
My digital payment service providers could give out my transaction records to a third party				0.691				
People are likely to access my account each time I use digital payment				0.647				
Giving out information via digital payment transactions puts me at risk				0.592				
My password on digital payment platform is safe and secured always					0.753			
Changing Digital payment passwords is easy and secured always					0.738			
Digital payment enables me to do all kinds of transactions						0.675		
I feel fulfilled with digital payment service than going to my bankers						0.603		
Digital payment service is commonly available anywhere, anytime, any day, weekdays and even weekends						0.594		
Digital payment never fails							0.742	
I feel secured even if I give out critical information via Mobile transaction							0.574	
I trust that complains sent to my service providers will be dealt with								0.718
Digital payment service operators offer me the opportunity to fulfill specific service needs. E.g. paying for flight, taxi fare, buying food								0.649

KMO = 0.888; Barlett's Test Chi-square = 12135.593, df = 190, p = 0.000; Total variance explained = 56.903%

Composite reliability and average variance extracted estimates were more than 0.7 and 50%, respectively, meeting the minimum value proposed by Hair et al. (2016). Therefore, convergent validity was adequately met. Discriminant validity was met because the square root of the average variance extracted estimates for each of the six constructs/factors was higher than the inter-factor associations between them (Fornell and Larcker 1981; Hair et al. 2016). Furthermore, the hetero-trait-monotrait ratio (HTMT) of the connections

between the constructs utilizing a specificity criterion rate of 0.85 (HTMT0.85) showed that none of the connections went beyond 0.85. Therefore, the six-construct model demonstrates discriminant validity (Henseler, Hubona, and Ray 2016; Dzogbenuku and Kumi 2018).

Structural equation modeling

The structural paths showing the connection between the constructs are presented in Figure 2.

Table 3. Internal Consistency of Final Revised Structure.

Code	Variables and items	Item-tota correlation	Cronbach's α
Eas	Factor 1/ (Ease of Use)		
eas1	Digital payment is easy and understandable during transactions	0.582	0.772
eas2	Using digital payment does not require a lot of mental effort	0.513	
eas3	Digital payment prompts/directions are user friendly	0.523	
eas4	I can send and receive cash via Digital payment all day all night	0.48	
eas5	All fund sent and received via digital payment are always accurate	0.511	
eas6	I can use digital payment to pay my bills and other transactions easily	0.504	
Fw	Factor 2/ (Financial Wellbeing)		
fw1	I feel fulfilled with digital payment services always	0.51	0.753
fw2	Digital payments alerts bring me excitement	0.531	
fw3	Using digital payment is economical and am NOT bothered bout the 1% commission charged	0.447	
fw4	Am confident of digital payment as it has helped to obtain remittances from relatives/children	0.518	
fw5	Digital payment has helped to improve my financial status	0.475	
fw6	The digital payment services have been beneficial	0.459	
Tr	Factor 3 /(Trust)		
tr1	Its usefulness of digital payment makes me trust service	0.544	0.75
tr2	I trust digital payment because personal and transaction data sent is safe and secured always	0.646	
tr3	Am prepared to save on digital payment because it's safety compared to banks	0.495	
tr4	I trust digital payment because of its reliability and compatibility to my life	0.496	
Risk	Factor 4/ (Perceived Risks)		
risk1	I feel insecure sending sensitive information via digital payment	0.527	0.649
risk2	My digital payment service providers could give out my transaction records to a third party	0.433	
risk3	People are likely to access my account each time I use digital payment	0.44	
risk4	Giving out information via digital payment transactions puts me at risk	0.326	
Security	Factor 5/ (Security)		
sec1	My password on digital payment platform is safe and secured always	0.477	0.645
sec2	Changing Digital payment passwords is easy and secured always	0.451	
sec3	Digital payment never fails	0.307	
sec4	I feel secured even if I give out critical information via Mobile transaction	0.464	
Con	Factor 6/ (Convenience)		
con1	Digital payment enables me to do all kinds of transactions	0.34	0.601
con2	I feel fulfilled with digital payment service than going to my bankers	0.33	
con3	Digital payment service is commonly available anywhere, anytime, any day, weekdays and even weekends	0.36	

Table 4. Convergence and Discriminant Validity.

Construct	CR	AVE	Fornell-Larcker Criterion						Heterotrait-Monotrait Ratio (HTMT)					
			1	2	3	4	5	6	1	2	3	4	5	6
Convenience	0.757	0.513	0.72											
Ease of Use	0.828	0.547	0.44	0.74					0.72					
Financial Wellbeing	0.817	0.528	0.43	0.47	0.73				0.68	0.66				
Perceived Risk	0.778	0.539	−0.11	−0.19	−0.24	0.73			0.20	0.28	0.37			
Security	0.814	0.596	0.29	0.32	0.42	−0.20	0.77		0.44	0.44	0.62	0.34		
Trust	0.843	0.573	0.47	0.49	0.54	−0.15	0.43	0.76	0.70	0.65	0.73	0.22	0.61	

Square root of AVEs in bold-diagonal.

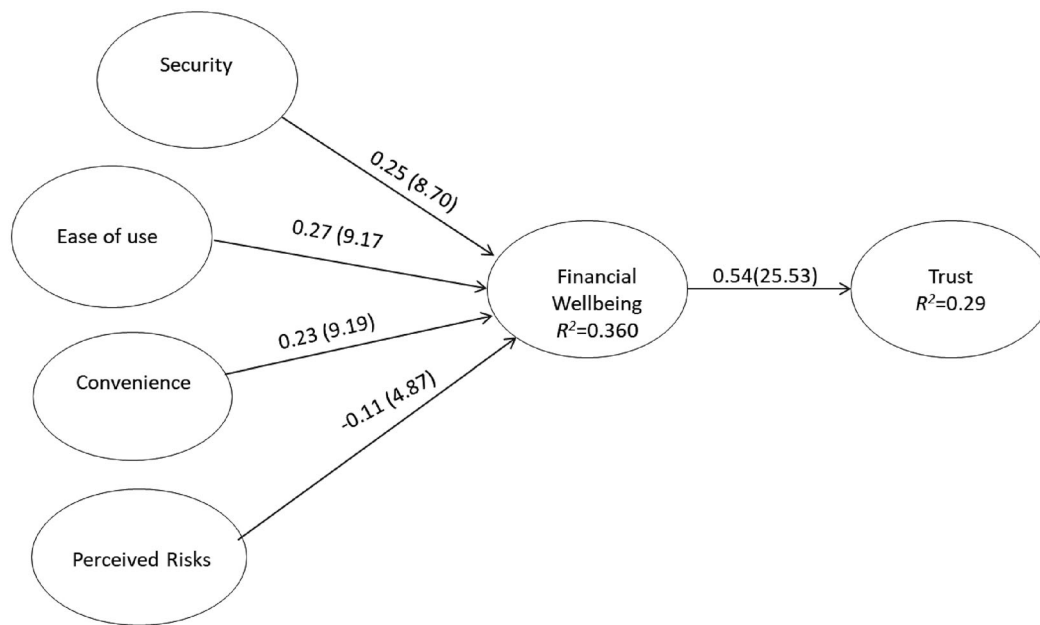
Each path's significance was checked utilizing bootstrap t-values (5000 sub-samples) (Tortosa, Moliner, and Sanchez 2009). All paths were statistically significant, demonstrating that a significant positive association exists between convenience and financial wellbeing, ease of use and financial wellbeing, and security of digital payment systems and financial wellbeing; therefore, lending support to hypotheses **H1**, **H2**, and **H4**. The study also revealed that financial wellbeing is positively related to trust; hence, confirming hypothesis **H5**. Conversely, a significant negative connection exists between perceived risks and financial wellbeing; thus, lending support to hypothesis **H3**.

Moderating effects of gender and age group

The moderating effects of gender and age group were investigated using multi-group analysis (PLS-MGA) techniques (Hair et al. 2017; Sarstedt et al., 2011). The results of the analysis are summarized in Table 5.

Gender

A significant difference was found between males and females with regard to the relationships between ease of use and financial wellbeing, perceived risks and financial wellbeing, security and financial wellbeing, and trust and financial



Note: t-values in parenthesis; All paths are statistically significant at $p < 0.01$

Figure 2. SEM Standardized path coefficients for all respondents.

Table 5. Multi-Group Results.

Paths	Gender		Absolute value of path difference	Age		Absolute value of path difference
	Male (n = 833)	Female (n = 718)		Young (n = 991)	Old (558)	
Security → Financial Wellbeing	0.15**	0.36**	0.21**	0.18**	0.34**	0.16**
Ease of Use → Financial Wellbeing	0.33**	0.23**	0.10*	0.29**	0.27**	0.02
Convenience → Financial Wellbeing	0.20**	0.25**	0.04	0.27**	0.15**	0.12**
Perceived Risk → Financial Wellbeing	-0.15**	-0.06	0.10**	-0.13**	-0.10**	0.03
Financial Wellbeing → Trust	0.48**	0.59**	0.11**	0.52**	0.57**	0.06

Note: **Significant at $p < 0.01$; Significant at $p < 0.05$

wellbeing. Specifically, the connection between the ease of use and financial wellbeing was stronger among male users than female users of digital payment systems, lending support to hypothesis **H6a**. On the other hand, the association between security and financial wellbeing was stronger among female users than male users of digital payment systems, lending support to hypothesis **H6b**.

Age group

A comparison between young people (40 years or below) and old people (above 40 years) showed significant differences regarding the relationships between convenience and financial wellbeing, and security and financial wellbeing. Specifically, the connection between security and financial wellbeing was stronger among older users than

younger ones; thus, lending support to hypothesis **H7b**. On the contrary, the connection between the ease of use of digital payment systems and users' financial wellbeing did not differ significantly between the age groups; hence, hypothesis **H7a** was not supported in the present context.

Discussion

The aim of this study was to assess how digital payments affect the financial wellbeing of rural poor using Ghanaian customers as a case study with special emphasis on gender and age. The results of the study show that users' perception of wellbeing was positively influenced by digital payments, as recommended by Narteh (2015). The main drivers of digital payment systems in Ghana are constructs such as ease of use, trust, perceived risks, security, and convenience (Collier

and Sherrell, 2010; Kleijnen, De Ruyter, and Wetzels 2007). These constructs promote the use of digital payment systems in Ghana. This study discovered that digital payment experience drivers are mediated by wellbeing experience in building trust for the service.

It is worth stressing that traditional banking in most developing economies, including Ghana, is associated with laborious bureaucratic documentation procedures that hinder some customers who opt for new payment methods based on technology. Ease of digital payment systems and procedures remain the main incentive for a digital financial system attributable to user-friendly procedures (Davis 1989; Davis, Bagozzi, and Warshaw 1989). Satisfaction and trust of digital payment systems such as Mobile money stimulate customer experience compared to the traditional cash-oriented payment system. The perceived risk of loss of funds with its associated risk through digital payment systems does not discourage continuous usage.

The results also revealed that the customer experience of digital payment systems differs based on gender and age categories. Males appeared to value the ease of use rather than great customer experience, whereas females valued security over great customer experience. This confirms an earlier study by Shao et al. (2019), which indicated that females are more concerned with security in payment systems than males. The issues of fraud with virtual payment interface systems make trust a very necessary and key psychological factor, impacting customer experience (Klaus 2013). This study indicates that great customer experience leads to stronger trust levels among female users than males. This affirms Pandey and Chawla (2018) study that suggested that issues of trust have different effects on males and females in relation to online payment systems. These findings underscore the importance of marketing managers acknowledging the differences in gender when developing marketing strategies. The findings also affirm the assertion of Ratten (2017) that global marketers must confront gender biases as a way of enhancing a more open and inclusive society. However, whereas younger users were more concerned with convenience issues in terms of great customer experience, older users placed a higher premium on security. The study results show that

the age of users has a significant effect on digital payment behavior and technological acceptance (Li, Glass, and Records 2008; Liébana-Cabanillas, Sánchez-Fernández, and Muñoz-Leiva 2014).

Our findings are consistent with those of Arvidsson (2014), who indicated that trust, ease of use, and perceived security risk were associated with adoption. It is worth noting that Koenig-Lewis et al.'s research findings contradict those of Arvidsson as there was no statistically significant relationship between ease of use and intention to use m-payment services, which can be related to their financial wellbeing. Our finding is consistent with Johnson et al. (2018), who found that perceived security and privacy issues affect how customers adopt the technology involved in the m-payment system, which can be related to their financial wellbeing.

Our study further confirmed Özkan, Bindusara, and Hackney (2010) study indicating that perceived risk, security, and trust are important in the adoption of digital payment systems, which can be related to financial wellbeing. This study also affirmed earlier work, demonstrating that perceived economic wellbeing is an antecedent of technology's perceived usefulness. Furthermore, Senyo and Osabutey (2020) opined that hedonic motivation (fun, enjoyability, and entertainment) influenced the adoption of the mobile money payment system. These three items relate to the convenience of usage of technology. This study confirmed that a digital payment system's convenience is positively related to financial wellbeing and indirectly related to the financial wellbeing of respondents though not explicitly.

Theoretical contributions and managerial implications

This study's outcomes are significant for corporate managers and policymakers, including members of the academic community associated with digital financial payment systems. Firstly, telecommunication firms providing digital payment services, including manufacturers of mobile phones, must recognize that mobile phones are now devices utilized to access financial services. Therefore, they must be designed with utmost safety and security in mind for users in developing markets. Mobile phone manufactures must

take into consideration limitations such as erratic power supply and high illiteracy rates associated with EMs when designing products for this market. Furthermore, telecommunication organizations providing digital payment services must focus on driving customer satisfaction, which will in turn, serve as a key antecedent and driver of trust for service users.

Secondly, marketing managers must carefully consider key marketing mix implications like product quality and design, pricing, and distribution functions to influence adoption and reuse. Findings from Ross and McTavish (1988) suggest that marketing managers will have to consider their particular situation and the environment for the application of marketing mix elements in developing countries. Financial service providers such as commercial banks, microfinance institutions, and digital payment vendors in EMs that benefit from MFS must factor mobile marketing strategies into their broader corporate strategies to drive adoption and promote financial inclusion to attain SDGs, especially Goal One, to reduce extreme poverty. Thirdly, mobile payment systems provide local communities of EMs with enormous micro-business opportunities via mobile phones. Mobile payment systems promote the creation of jobs, which engenders wealth creation to improve the living standards of families.

Managers of mobile payment services should be conscious of demographic moderating factors, such as gender and age when crafting marketing strategies. In addition, mobile payment organizations must develop customer-focused marketing strategies in sub-Saharan Africa targeted at different age groups to elicit the desired response. In relation to gender, products targeted at females should emphasize security to maximize their satisfaction and trust for products or services. They must focus on females for positive word-of-mouth referrals. Also, products targeted at females must be secured with the requisite assurance systems to win their trust. Finally, older customers were attracted to digital payment systems, which means that managers have to tailor products using brand differentiation strategies.

Specifically, products targeting younger consumers should emphasize convenience to maximize customer satisfaction, whereas those

targeted at older consumers should emphasize security. Moreover, it is important to note that 'understanding consumers in different regions helps marketing practitioners to develop the right strategies to survive in contemporary global markets (Hamed and El-Deeb 2020). Global marketing managers associated with digital payments will, therefore, have to design their strategies based on the diverse regional peculiarities of their consumers in order to be effective.

Further, this study's findings confirm the importance and extend the use of TRA, TPR, TAM, and UTAUT models in understanding consumer behavior. The findings show how digital payment systems are connected to the financial wellbeing of the rural poor. Furthermore the findings in this research confirm that TRA and TPB are the appropriate theories to use since the findings demonstrate human intentions to adopt innovative products like digital payment is influence by reasoning and planning thus showing user attitudes and subjective behavior. Additionally, the findings suggest that global marketing managers and researchers can use theories and models to expand the frontiers of marketing knowledge. This study makes important contributions to theory. It adds to the body of knowledge on technology adoption as issues of security (H6b) and ease of use (H6a) in digital payment have been shown to affect the behavioral intention of customers. This paper illustrates further that UTAUT model can be an effective theoretical lens for exploring factors impacting technology adoption in the context of digital payments. This is because UTAUT's four core constructs (performance expectancy, effort expectancy, social influence, and facilitating conditions) are direct determinants of behavioral intention, and consequently, behavior. Also, these four constructs are moderated by gender, age, experience, and ease of use of technology (Venkatesh et al. 2003). This study has demonstrated that age and gender affect the adoption of technology.

Likewise, the outcomes of this study demonstrate that younger customers' behavior in the digital financial market is different from older users, which is significant knowledge for the global academic community, marketing

practitioners, investors, and strategists, particularly operating in emerging markets. Hence, global marketing managers and investors can leverage this knowledge to develop appropriate and effective strategies to reach their targets. Also, findings in this study affirm the importance of trust in the adoption of payment systems. Furthermore, they affirm other studies (e.g., Senyo and Osabutey 2020; Osei-Assibey 2015; Baganzi and Lau 2017) that indicate trust is essential in the adoption of mobile money services. Rural folks do not have access to many options and mobile money payment is probably the only quick way of effecting payments. It is therefore critical that they trust the payment system since it will go a long way to determine their financial wellbeing. Therefore, managers and operators of online payment systems must design policies and strategies that will build rural customer trust and reduce negative customer experience thereby enhancing customer financial wellbeing.

This behavior can consequently lead to the financial wellbeing of the respondents. There is, therefore, the need for strict policy guidelines for the approval of mobile money agents and service providers. This is vital because technology adoption can play an important role in reducing poverty among marginalized communities (Rahman et al. 2017). Research may help in the development of various trust prediction issues in online payment platforms and how other tested constructs can be used to guide the design of online payment systems that would appeal to different genders and age groups in Ghana and other emerging markets.

Limitation and direction for future research

This study's results were limited to opinions of digital payment customers and vendors within the Greater Accra Region of Ghana; hence, it may affect generalization. Future researchers may consider investigating financial service agents' role in digital payments, particularly in rural communities in sub-Saharan Africa and other emerging markets. Also, a multi-country study of sub-Saharan countries could be considered possibly somewhat path-breaking since digital

payment systems may differ across countries. Again, future researchers could explore the phenomenon by conducting a comparative study of the middle-income earners and poor persons in other countries regarding mobile money technology usage.

Conclusion

The findings of this study demonstrate the importance of digital payment systems as an important tool for the poor customers and financial wellbeing. It was concluded that age and gender affect the adoption of technology. It was discovered that the link between security and financial wellbeing was stronger among older users than younger users, but the connection between the ease of use of digital payment systems and the financial wellbeing of users did not differ significantly between age groups. Furthermore, security fulfillment, trust, convenience, perceived risk, and ease of use were all important to adopting a digital payment system and financial wellbeing.

The study established a significant positive association between security and satisfaction, ease of use and satisfaction, and convenience and satisfaction of digital payment systems in emerging markets. Also, customer satisfaction mediates the digital payment experience and trust. Again, females appeared to value secured mobile platforms as drivers of satisfaction more than males. Also, females seemed to trust digital payment systems due to satisfaction than males. The relationship between security and satisfaction was stronger among older users than younger ones. The opposite is true for the relationship between convenience and satisfaction, which ultimately affects financial wellbeing.

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