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LEVERAGING MOBILE PAYMENT AFFORDANCE FOR BUSINESS BENEFIT: A CASE STUDY OF MERCHANTS IN GHANA

EUNICE YEBOAH AFETI

DEPARTMENT OF OPERATIONS AND MANAGEMENT INFORMATION SYSTEMS

MARCH, 2023

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LEVERAGING MOBILE PAYMENT AFFORDANCE FOR BUSINESS BENEFIT: A CASE STUDY OF MERCHANTS IN GHANA

BY

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(10296031)

A THESIS SUBMITTED TO THE SCHOOL OF GRADUATE STUDIES IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF DOCTOR OF PHILOSOPHY IN INFORMATION SYSTEMS

DEPARTMENT OF OPERATIONS AND MANAGEMENT INFORMATION SYSTEMS

MARCH, 2023

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DECLARATION

I hereby declare that this thesis is the result of my research done under supervision and has never been presented either in whole or in part for any other degree at this university or elsewhere.



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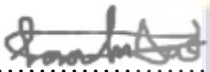
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ABSTRACT

Merchant adoption of mobile payment platforms is critical in market development for mobile payments in Africa. Extant literature has validated that the COVID-19 global pandemic is reshaping the market outlook for payments in Africa and how merchants and consumers respond. The pandemic has also driven a significant change in consumer and merchant behaviours that will continue to exist, even after the post-COVID-19 era. Despite the myriad of research on mobile payment, there exist a paucity of research from the merchant's perspective on mobile payment platforms' adoption, their affordances, and the outcomes of merchants' interactions with these platforms. The dearth of knowledge on the above has revealed four significant interrelated research gaps that need attention. First, arguably there is lack of understanding of merchant decision pathways and the strategic and non-strategic influencing factors in adopting mobile payment platforms aside utility/risk trade-offs. Second, slimily limited knowledge of how merchants interact with, identify and actualise affordances that accompany mobile payment systems and their attendant constraints. Third, the literature project limited understanding of the strategic and non-strategic outcomes of actualising mobile payment affordances after adoption, specifically focusing on what outcomes occur and what goals are achieved due to the affordance actualisation process. Last, there is arguably limited understanding of the context-specific factors that enable, stimulate and constrain specific technology in a specific context and the affordances generated from actors' interaction with technology. Therefore, the purpose of this research is stated as follows: developing a theoretical and practice-oriented framework that explains mobile payment platforms' adoption decision pathways of merchants and how these platforms afford or constrain benefits to merchants.

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This doctoral thesis formulated four research questions using the Ghanaian context as a case based on the identified gaps. First, "*What are the mobile payment platforms' adoption decision pathways of merchants in Ghana and the strategic and non-strategic influencing factors besides the risk/utility trade-off"?* Second, "*How do mobile payment platforms afford or constrain merchants' transactions in Ghana"?* Third, "*What forms of outcomes (benefits) do mobile payment platforms afford merchants in Ghana "?* last, *"What enabling, stimulating and releasing conditions affect the benefits afforded by mobile payment platforms to merchants in Ghana"?* Addressing the above research questions contributes to achieving the study's purpose of developing *a theoretical and practice-oriented framework that explains mobile payment platforms' adoption decision pathways of merchants and how these platforms afford or constrain benefits to merchants.* The study employed the Technology Affordance and Constraints Theory with principles from the Rational Choice Theory and literature on e-commerce to develop a conceptual framework. Based on the conceptual framework, five propositions were developed and tested. Further, the study was underpinned by the critical realist paradigm and adopted a qualitative multiple-case study approach using three merchant firms in Ghana to explore an in-depth understanding of the phenomenon. The case firms were theoretically selected based on a predetermined set of criteria. The research focused on Ghana because the country is an instance of a developing economy is continuously increasing access to payment systems by leveraging the widespread usage of mobile payment technologies as alternative channel access to financial inclusion and to promote a cash-lite economy.

INTEGRI PROCEDAMUS

In responding to the first research question, the study found three main pathways by which merchants adopt mobile payment platforms in Ghana. First, rational decision, where the merchant adoption of mobile payment platforms is influenced by cost-benefit analysis based on the utility /risk trade-offs. The second is a strategic decision, where the business model

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and partnership survival influence merchant adoption of mobile payment. The third is the experimental decision, where merchants incrementally develop capabilities in adopting and using mobile payment. The findings suggest that in Ghana, factors that influence the merchant adoption of mobile payment platforms are multidimensional instead of the unidimensional factors identified in extant literature. Hitherto, there was no mention of the experimental decision, in literature, which, therefore, is a new contribution. Out of the three-dimensional factors that could influence merchants' decision to adopt mobile payment, the strategic path was found to be most influential because it supported merchants' organisational strategies of developing new business models. The second research question found that merchants' interaction with mobile payment platforms afford the merchant a primary affordance of strategic information capturing. Relative to the extant literature, the study further revealed that the primary affordance of strategic information further affords the merchant with action possibilities of possible data analytics on critical customer data, leading to superior secondary affordances such as performance-monitoring, business development, and fraud detection affordances. Despite these affordances, technological deficiency, and value chain shortcomings such as mobile payment platforms interoperability, electronic-levy policy implementation, and network connectivity constrained mobile payment platform affordance actualisation and benefits.

The third research question found that merchant mobile payment platform's affordance actualisation leads to strategic and operational benefits, as reported in the e-commerce literature in information systems. The study further discovered three new forms of benefits from mobile payment platforms' affordance actualisation relative to extant literature. This includes transformational, managerial, and organisational benefits. The transformational benefits were vital in supporting valuable and positive change in merchants' firms leading to efficient merchant service delivery. This conceptualisation has not yet received scholars'

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attention in mobile payment literature therefore this finding is a new knowledge and contribution to mobile payment research.

Finally, the fourth research question found adoption readiness and stakeholder direction as two key enabling conditions. The adoption readiness factors include a favourable adoption environment, mobile payment pervasiveness, critical mass, and digitalisation uptake from COVID-19 pandemic. The prevailing payment culture consisted of mobile payment as the new normal, multi-currency feature and third-party mobile payment support. The stakeholder directional factors were also found to include regulatory factors and competitive pressure. The regulatory factors include government legislation, operational accreditation and interoperability. Finally, competitive pressure relates to usage from other firms and the changing consumer preference. On the other hand, the merchant's orientation, the kind of business model, perceived extra revenue generation, financial readiness, merchant brand value, and COVID-19 served as stimulating conditions. Furthermore, the merchant's decision to pursue an overall benefit was found to be the fundamental releasing condition.

The originality and contribution of this doctoral study to research and practice are as follows. First, hitherto non-existent in mobile payment literature, the research uncovers a new decision-making pathway to merchants' adoption of mobile payment platforms. Second, this study contributes to theory development in the field of IS and mobile payment studies with several conceptualisations. This includes an empirically-validated conceptual framework that explains how mobile payment platforms afford or constrain benefits to merchants; a unique conceptualisation of mobile payment benefits as transformational, managerial and organisational; and six typologies on merchant adoption pathways to mobile payment platforms, affordances and constraints, mobile payment affordance actualisation outcomes and typologies of environmental factors that can enable, stimulate or release affordance perception and actualisation from a developing country context. These were non-

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existent in the mobile payment literature hitherto this study. Also, policymakers and practitioners can leverage this knowledge to create enabling conditions to ensure merchants' continuance in the use of mobile payment platforms. This study's contributions have been published in one journal, two book chapters and two conference papers.

DEDICATION

This thesis is dedicated to the Almighty God for leveraging His Grace for this affordance.

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CHAPTER ONE

INTRODUCTION

1.1 Research Background

Merchant adoption of mobile payment platforms is critical in market development for mobile payments in Africa (Park et al., 2019; Lee et al., 2019; Verkijika, 2020; Abebe & Lessa, 2020; Daragmeh et al., 2021; Rafdinal & Senalasari, 2021). Extant literature has validated that the COVID-19 global pandemic is reshaping the market outlook for payments in Africa and how merchants and consumers respond (Sreelakshmi & Prathap, 2020; Pandey & Pal, 2020; Lee et al., 2019 Daragmeh et al., 2021; Rafdinal & Senalasari, 2021). The pandemic has also driven a significant change in consumer and merchant behaviours that will continue to exist, even after the post-COVID-19 era. Globally businesses and people have had to adjust to new ways of life, work, consumption and payment of bills (Sreelakshmi & Prathap, 2020; Pandey & Pal, 2020; Park et al., 2019; Lee et al., 2019; Verkijika, 2020; Abebe & Lessa, 2020). Mobile payment suddenly assumed critical importance in developing countries and played a crucial role in the pandemic situation, making mobile payment the preferred choice of payment for both consumers and merchants (De-Girancourt et al., 2020; Pandey & Pal, 2020; Samantha, 2020).

Several scholars (Liébana-Cabanillasa & Lara-Rubio, 2017; Liébana-Cabanillas, Ramos de Luna & Montoro-Ríos, 2017; Dahlberg et al., 2015; Pham & Ho, 2015) have described mobile payments as convenient, safe and simplified payment transactions that use a mobile device. Mobile payment as digital innovation redefines opportunities for merchants and service providers (Souiden, Ladhari & Chiadmi, 2019). Again, it is becoming an essential tool for mobile commerce, driving payment dynamics and pushing merchants to redefine their business models.

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In addition, mobile payments are helping merchants derive a significant value that improves efficiency and organisational benefit (Iman, 2018; Pantano & Priporas, 2016). Research across SSA countries indicates that mobile payments are making significant contributions to improving the rural poor's livelihoods and, in particular, their socio-economic well-being. There is evidence that mobile payments, especially peer-to-peer transfers, are helping in the alleviation of vulnerability, which allows consumption and risk-sharing mechanisms (Boateng, 2011; Jagun, Heeks &Whalley, 2007). Further, mobile payment has provided new ways of doing business and has shaped how monetary transactions are done (Ahmad et al., 2020). For instance, an individual can use mobile money to make payments and perform other financial transactions, including peer-to-peer mobile money transfers, mobile or person-to-business payments for goods and services (bill and retail payments), mobile banking deposits, loans, and store financial value.

The relevance and enormous potential that mobile payments present have led to an upsurge in academic and practitioner literature (Guo & Bowman, 2016; Chan, Teoh, Yeow & Pan, 2019). Despite the myriad of research on mobile payments, there exist a paucity of research from the merchant's perspective on mobile payments platforms adoption, especially understanding comprehensively the factors that influence merchant adoption of mobile payment aside from risk-utility/ trade-off (Dahlberg et al., 2015). Existing literature on mobile payment has explored and conceptualised the consumer perspective of mobile payment, technical dimensions that affect consumer intentions to adopt mobile payments and mobile payment ecosystem, and security and risk dimensions of mobile payments (Liébana-Cabanillasa & Lara-Rubio, 2017; Miao & Jayakar, 2016; Madan & Yadav, 2016; Abrahão, Moriguchi & Andrade, 2016). Despite the usefulness of these studies to mobile payment research, the extant literature on mobile payment has failed to account for the

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complexities involved in decision-making and other mechanisms that can influence merchant decisions to adopt a particular technology at the firm level. It may not be surprising for merchants to consider mechanisms other than risk or benefit to influence the choice path to adopt mobile payment platforms (Li, Zhang & Sarathy, 2010). Therefore, it is essential to comprehensively understand strategic and non-strategic factors that can influence the merchant's path to adopting mobile payment platforms aside from utility risk trade-offs (Téllez & Zeadally, 2017; Wu, Liu & Huang, 2017). Thus, understanding the strategic and non-strategic factors that influence the merchant's path to adopt mobile payment platforms will give a comprehensive understanding of the complexities involved in merchant decision marking and factors that influence merchant decision to adopt mobile payment platforms at the firm level.

In addition, the literature on merchant adoption of mobile payment platforms has theoretically not explained how merchant interaction after mobile payment adoption affords benefit to the merchant's businesses. The literature has not clarified whether the technology's usability or use enables productivity gains for merchant businesses. How the technology (mobile payment) contributes and affords the merchant benefits at the firm level has not been theoretically explained (Lim, Kim, Hur, & Park, 2019). Though some existing studies have attempted to explain some benefits generated by mobile payment technology, there is a shortfall in explaining the technology's contributory mechanisms; there is little explanation of how the technology (mobile payment platforms) successfully generates benefits (Du, 2018; Boateng et al., 2014; Bang et al., 2013). The value creation literature demonstrates that technologies are more likely to create benefits and higher performance in organisations (Casadesus-Masanell & Zhao, 2013; Amit & Zott, 2001). Nevertheless, organisational-level technology application can lead to organisational value creation where

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this relationship is mediated by environmental dynamism and technological factors (Williams, Roderick, Davies & Clement, 2017; Liu, Kauffman & Ma, 2015).

This unexplained phenomenon draws attention to questions that existing studies have failed to answer. Furthermore, current studies have assumed that an organisation's actions and strategic activities create benefits and, as such, have not given much attention or premium to the material properties of technologies in their studies, ignoring the relational, emergent, and shifting capacity realised through the association of human and the material (Kim, Shin, & Kwon, 2012). From the discussions above, it is essential to understand the conditions that enable, stimulate, or constrain the benefits of merchants' mobile payment platforms' adoption in their transactions. These conditions are worth explaining to facilitate the replication of successes and minimise unintended consequences of the technology. Therefore, this study will help explain the merchant decision-making path to adopting mobile payment platforms and how mobile payment platforms afford or constrain benefits to the merchant (Chan et al., 2019; Sharma et al., 2019).

More importantly, mobile payment is making many waves across industries like banking, agriculture, insurance, health, and commerce. For example, in commerce, businesses are trying to leverage mobile payment to support new business models, enhance business transactions and transform market mechanisms to facilitate a new business climate (Guo & Bouwman, 2016). In Ghana, for example, some businesses like big retailers, governmental services, institutions, restaurants, fashion shops and small retailers have strategically started to leverage mobile payment platforms to ensure their businesses' relevance, sustainability, growth and development, especially in the COVID 19 era (Pandey & Pal, 2020; Gomber, Kauffman, Parker & Weber, 2018; Oliveira, Thomas, Baptista & Campos, 2016). Merchants leveraging mobile payments make it very important to understand merchant involvement in

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the mobile payment ecosystem. These examples of merchant adoption in Ghana make it more relevant to understand how merchant interaction with the technology after its adoption affords the merchants opportunities to derive business benefits (Chan et al., 2019). Therefore, this research will employ the theoretical foundation of rational choice and affordance theory to explore factors that influence the merchant's path to adopting mobile payment, the benefits the technology affords the merchant, and the enabling, stimulating and releasing condition that affects the benefit derived from mobile payment technology adoption and use.

1.2 Research Problem

Extant literature on mobile payments points to four main knowledge gaps in the mobile payment literature. The first knowledge gap is based on a lack of studies from the merchant perspective; most studies on mobile payments focus largely on two issues: technology (de Reuver, & Ondrus, 2017; Gannamaneni et al., 2015; de Reuver et al., 2015) and the consumer (Hsiao, 2019; Johnson, Kiser, Washington & Torres, 2018; Liébana-Cabanillas, Ramos de Luna & Montoro-Ríos, 2017; Dahlberg et al., 2015). These studies are largely based on technology acceptance models and other adoption theories and use traditional constructs such as ease of use, utility, trust, security, privacy as well as behavioural intention (Hsiao, 2019; Fan, Shao, Li, & Huang, 2018; Ramadan & Aita, 2018; Williams et al., 2017). A consensus among top scholars in mobile payment research (e.g. Guo, & Bowman, 2016; Dahlberg et al., 2015; Liébana-Cabanillas, Slade & Dwivedi, 2016; Hedman & Henningsson, 2015; Staykova & Damsgaard, 2015) suggests that mobile payments are a typical multi-sided market and a form of a business ecosystem which consists of different groups of participants including customers, merchants, payment intermediaries, financial institutions, mobile communication network operators, hardware and software providers and for that matter, the active development of mobile payments requires a focus on all

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potential parties in the ecosystem (Gomber et al., 2018; Du, 2018; Qasim & Abu-Shanab, 2016). They pointed out that an investigation of consumer adoption in isolation will not produce innovation in mobile payment studies due to the complexity of the mobile payment phenomenon. Therefore, these scholars, including Dahlberg et al. (2015), have called for future research on mobile payment to focus on issues regarding merchant adoption of mobile payment and take into consideration other decision pathways influencing mobile payment platforms' adoption decision of merchant, other than risk/ utility trade-off; otherwise, the lack of research on same could create a gap between practice and academia (Hsiao, 2019; Dahlberg et al., 2015). To date, however, this gap still exists in the literature.

Encouragingly, there exist some mobile payment studies from merchant perspective. Such studies have investigated the inhibitors and facilitators of mobile payment systems by Australian businesses (Teo, Fraunholz & Unnithan, 2005) and the determinants of merchant adoption intentions (Mallat &Tuunainen, 2008). Others have also examined the possible impact of market drivers and organisational enablers on merchant adoption of mobile payment (Lai & Chuah, 2010). These studies suggest a skewness towards understanding the non-strategic pathways (factors) that influence merchant adoption decision of mobile payment systems. Though insightful, these studies do not provide a comprehensive understanding of the strategic and non-strategic factors that could influence mobile payment platforms' adoption decision pathways of merchant. Meanwhile, firm-level technology adoption suggests a complicated adoption process influenced by several other factors aside from utility/risk trade-offs. Consequently, scholars have called for future research into the strategic factors that influence mobile payment platforms' adoption decision pathways of merchant (Li, 2018; Iman, 2018; Bouwman, Nikou & de Reuver, 2019; Chin, Harris & Brookshire, 2018; Gao & Waechter, 2017). Therefore, while we are aware of the non-strategic factors, we need to explain the strategic factors to obtain a comprehensive

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understanding of factors that influence mobile payment platforms' adoption decision pathways of merchant.

The second knowledge gap stems from how theorisation attempts in mobile payment research are skewed towards behavioural issues such as performance expectation, effort expectation, social influence and perceived risk to explain the reasons for mobile payment adoption (Abrahão et al., 2016; Oliveira et al., 2016; Slade, Dwivedi, Piercy & Williams, 2015). The studies involved tend to make deterministic explanations about the effects of IT on human behaviours and organisational outcomes (Cabanillas et al., 2017). Such explanations fail to provide a deeper understanding and richer conceptualisation of how merchants interact with, identify and actualise the action possibilities or affordances that accompany mobile payment systems. These affordances and their attendant constraints have the potential to influence the outcomes that a merchant can achieve upon the adoption of mobile payment systems and even the unintended consequences (Majchrzak & Markus, 2013). Dahlberg et al. (2015) thus suggested that the theoretical basis for future research in mobile payment must be strengthened by adopting theories from other disciplines rather than those already applied in IS, such as the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT). It is worth noting that merchant adoption of mobile payment technology involves the merchant interacting with the technology, which produces certain affordances, influencing adoption outcomes. Therefore, there is a need to explain, from an affordance perspective, merchants' use of mobile payment systems and their related outcomes.

The third knowledge gap relates to the need to explain the strategic and non-strategic outcomes of actualising mobile payment affordances after adoption. This gap relates to a general need to explain the outcomes of the affordance actualisation process (Strong et al.,

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2014). Specifically, we need research that focuses "on what outcomes occur and what goals are achieved due to the actualisation process" of affordances (Pozzi, Pigni, & Vitari, 2014, p. 9). This is to say that there is a need for studies to focus on the exact outcomes that occur and the ultimate goals that are achieved as a result of the affordance actualisation process (Pozzi, Pigni, & Vitari, 2014, p. 9). To date, the outcomes of mobile payment adoption, use and affordances remain un-researched. Encouragingly, some scholars have chartered a course for future research efforts in this area. For example, a study published by the *Journal of Information Technology for Development* (Boateng, 2016) focused on the outcomes of e-commerce capabilities. The study highlighted how businesses could orient resources to create e-commerce capabilities and achieve e-commerce benefits. The study identifies two forms of benefit, namely, strategic and operational (i.e. performance improvement directly resulting from adopting e-commerce), e.g. operational benefit relates to the reduction in transactional costs, enhanced coordination, and improved relationships with customers and strategic benefit (i.e. the "extended customer base, increased customer loyalty as well as retention of trading partners). Despite the value of this study, its research framework fails to theorise the outcomes of mobile payment systems specifically, which are pretty different from e-commerce technologies. Therefore, future research could test Boateng's (2016) benefit framework within the mobile payment system domain.

Fourthly, existing studies have called for future research to understand the affordances of a specific technology in a specific context to help better predict how the technology will affect people's way of activities, actions, and relationships (Van Osch & Mendelson, 2011; Hong et al., 2014; Andoh-Baidoo, 2017). Such studies should have a restricted focus on the 'technological artefact to preserve affordances' relational nature' (Pozzi et al., 2014, p. 11). A contextually grounded study from the Sub-Sahara African perspective, for instance, is indeed necessary to help progress and coagulate the literature to help avoid leaky

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idiosyncrasies (Odoom & Kosiba, 2020). Contextually, Africa has begun capturing the imagination of scholars as an emerging market of new growth opportunities (George et al., 2016). Since affordances are context-specific, such an endeavour in mobile payment platforms research will help define the proper scoping of mobile payment platform concepts in different contextual settings (De Reuver et al., 2018). For example, studies have suggested that mobile payment services from developing markets are unlikely to penetrate developed economies with their developed financial markets and sophisticated telecom, merchant and consumer infrastructures (Dahlberg et al., 2015; Baabdullah et al., 2019; Duangphasuk, Thammarat & Kungpisdan, 2020). These studies have argued that there is the need to understand context-specific factors that could enable, stimulate and constrain the affordance generated from actors' interaction with technology. Hence, there is a need for research into the enabling conditions, releasing conditions, and stimulating conditions that affect the affordances that emerge from merchants' interaction with mobile payment systems.

Moreover, in recent times, businesses in developing countries have begun to leverage mobile payment to their organisations' advantage irrespective of the challenges (Humbani & Wiese, 2018; Asongu & Boateng, 2018). In commerce, some Ghanaian businesses leverage mobile payments to build viable business models to sustain their businesses (Odoom & Kosiba, 2020; Evans & Pirchio, 2014). Furthermore, these merchant businesses in Ghana are leveraging mobile payment to create value that leads to competitive advantage through a low-cost, fast and high-quality service by addressing consumer needs (Senyo et al., 2019). These exposures help the merchants optimise internal processes to fundamentally rethink and change their business models (Odoom & Kosiba, 2020; Dahlberg et al., 2015; Loebbecke & Picot, 2015). The evidence of merchants leveraging mobile payments makes them a suitable case study for this research, and this is because the processes of leveraging

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mobile payments are ongoing. Thus, this study seeks a comprehensive understanding of the strategic and non-strategic reasons that could influence mobile payment platforms' adoption decision pathways of merchants and the enabling, stimulating and releasing conditions that affect the benefit afforded mobile payment platforms.

To summarise it all, through its literature review, this study has identified four significant research gaps that it seeks to address. Among these are issue, theoretical and contextual gaps. First, aside from the utility/risk trade-offs, studies on merchant adoption of mobile payment platforms lack a clear, comprehensive understanding of the strategic and non-strategic reasons that could influence mobile payment platforms' adoption decision pathways of merchants. Therefore, there is a need to establish factors beyond the cost-benefit analysis that could significantly influence mobile payment platforms' adoption decision pathways of merchants (see Li, 2018; Iman, 2018; Dahlberg et al., 2015; de Reuver et al., 2015). Secondly, there is skewness of theorisation in the literature regarding merchant adoption of mobile payment platforms (Dahlberg et al., 2015). Scholars have, therefore, called for the theorisation of mobile payment platform affordances to explicitly include constraints, unintended and the undiscovered use of technology (Liébana-Cabanillasa & Lara-Rubiob, 2017; Majchrzak & Markus, 2013). Additionally, it is necessary to understand outcomes and the goals merchants attain in actualising affordance, especially at the firm level (Pozzi et al., 2014). Finally, from broader affordance theory, there is the need to understand affordance from a specific technology within a particular context (de Reuver et al., 2015).

These gaps identified in the literature underpin the purpose of this study, which is to understand both the strategic and non-strategic reasons that could influence mobile payment platforms' adoption decision pathways of merchants aside from the utility/risk trade-offs

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and to developing a theoretical and practice-oriented framework that explains mobile payment platforms' adoption decision pathways of merchants and how these platforms afford or constrain benefits to merchants. The framework will help address the skewed theorisation in mobile payment adoption research, especially from the merchant perspective.

Addressing these gaps is relevant because merchant adoption is critical to developing mobile payment research. This is because merchants are one of the most important stakeholders for the success of mobile payments in the mobile payment ecosystem (Dahlberg et al., 2015).

1.3 Research Purpose

To address the gaps enumerated in the research problem, this study draws on rational choice theory and affordance theory (see Bygstad, Munkvold, & Volkoff, 2015) to explain merchants' decision pathways and mobile payment platforms' affordances and constraints. This understanding will lead to a conceptualisation of a theoretical and practice-oriented framework that explains mobile payment platforms' adoption decision pathways for merchants and how these platforms afford or constrain benefits to merchants in Ghana. The purpose of this research is, therefore, stated as follows:

developing a theoretical and practice-oriented framework that explains mobile payment platforms' adoption decision pathways of merchants and how these platforms afford or constrain benefits to merchants.

1.4 Research Objectives

In relation to the research purpose above, the research objectives of this study are outlined below:

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1. To describe the mobile payment platforms' adoption decision pathways of merchants in Ghana and the strategic and non-strategic influencing factors besides the risk/utility trade-off.
2. To explain the affordances and constraints of mobile payment platforms to merchants' transactions in Ghana.
3. To determine the forms of benefits that mobile payment platforms afford merchants in Ghana.
4. To determine the enabling, stimulating and releasing conditions that influence the benefits afforded by mobile payment platforms to merchants in Ghana.

The first research objective addresses the need to understand the mobile payment platforms' adoption decision pathways of merchants and strategic and non-strategic factors that influence these decision pathways besides utility/risk trade-offs (Hsiao, 2019; Dahlberg et al., 2015). For this research objective to be achieved, the study employed Rational Choice Theory to understand how merchants make decisions to adopt mobile payment platforms aside from risk /utility trade-offs.

The second research objective addresses the need to provide a deeper understanding and richer conceptualisation of how merchants interact with, identify and actualise the action possibilities or affordances that accompany the mobile payment platforms (see Bygstad, Munkvold, & Volkoff, 2015). These affordances and their attendant constraints have the potential to influence the outcomes that a merchant can achieve upon the adoption of mobile payment platforms and even the unintended consequences (Majchrzak et al., 2016, p. 267; Majchrzak & Markus, 2013). To achieve the second objective, this study adopts the Affordances and Constraints Theory (see Bygstad, Munkvold, & Volkoff, 2015) to explain

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the affordances and constraints that the adoption and use of mobile payment platforms provide merchants.

The third research objective combines the need for studies to take into consideration the strategic and non-strategic outcomes of actualising mobile payment affordances after adoption (Strong et al., 2014) and the specific need to focus "on what outcomes occur and what goals are achieved due to the actualisation process" of affordances (Pozzi, Pigni, & Vitari, 2014, p. 9), and the need to investigate the broad benefits of information system (IS) at the firm-level (Lee & Fedorowicz, 2018; Lee, 2016). To achieve the third research objective, the study reviewed the literature on mobile payment and IS benefits to conceptualise mobile payment platform benefits (see section 3.3). The review also appraised existing theorisation in explaining IS benefits and demonstrated its shortcomings in explaining IT artefacts' contribution to benefits, especially in the context of mobile payments (see section 4.7). Additionally, the theoretical review identified and adopted a conceptualisation of e-commerce benefits from Boateng (2016) and a further probe from enterprise systems for other potential types of benefits in a mobile payment platforms context. Therefore, based on the e-commerce benefits outlined by Boateng (2016), the study in section 9.3 followed the steps detailed in section 7.55 to analyse the case data to help achieve the third research objective.

The fourth research objective relates to the need for future research to provide an understanding of the context-specific factors (de Reuver et al., 2015) that could enable, stimulate and constrain the affordances generated from actors' interaction with technology (Van Osch & Mendelson, 2011), such studies should have a restricted focus on the 'technological artefact to preserve affordances' relational nature' (Pozzi et al., 2014, p. 11). Since affordances are context-specific, such an endeavour in research on mobile payment

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platforms will help define the proper scoping of concepts in different contextual settings (Dahlberg et al., 2015; Baabdullah et al., 2019; Duangphasuk et al., 2020). To achieve this objective, through the contextual review (see sections 6.7.1and 6.7.2), the study identified conditions from the mobile payment ecosystem in Ghana that enable, stimulate and release affordances and constraints and other unintended consequences as merchants interact to actualise mobile payment platform's affordance.

1.5 Research Questions

In relation to the research objectives above, the research questions of this study are outlined below:

1. What are the mobile payment platforms' adoption decision pathways of merchants in Ghana and the strategic and non-strategic influencing factors besides the risk/utility trade-off?
2. How do mobile payment platforms afford or constrain merchants' transactions in Ghana?
3. What forms of outcomes (benefits) do mobile payments platforms actualisation afford merchants in Ghana?
4. What enabling, stimulating and releasing conditions affect the benefits afforded by mobile payment platforms to merchants in Ghana?

1.6 Significance of the Research

The significance of this study is three-fold: research, practice, and policy. First, regarding research, the study builds on Rational Choice Theory and Affordance and Constraints Theory to describe merchant mobile payment adoption decision pathways and influencing factors and how mobile payment platforms afford different forms of benefits to the merchants in their payment transactions. As established, this knowledge is lacking in

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previous literature and its pertinent for the furtherance of research in mobile payments platforms.

Again, the study contributes to research in relation to context-specific theorising in IS literature. As identified in the research gap, there has been a persistent call for context-specific theorising, which has been cited as a significant undertaking in IS research (de Reuver et al., 2015; Dahlberg et al., 2015). From the research perspective, the study conceptualise the adoption-pathways "experimental pathway" as a new adoption- pathway beyond the rational and strategic adoption pathways as reported in existing mobile payment literature. Hitherto, previous studies have conceptualised the merchant adoption pathways of mobile payments as either a rational or strategic choice (Gao & Waechter, 2017). Secondly, from the practitioner's perspective, the significance of this study lies in conceptualising the complex and multi-level issues that merchants consider in the adoption decision in choosing mobile payment platforms.

From a policy perspective, this study's empirical findings offer policymakers guidelines. The results explain that mobile payment's successful operation depends on appropriate policy and the regulatory milieu. The study explains the contextual factors and constraints of mobile payment adoption by merchants. Through the findings, policymakers, especially the government, can create enabling conditions to improve the merchant's long-term willingness to adopt mobile payments. Further, the government can develop policies geared toward expanding the prerequisite environmental factors that create the conditions for merchants to adopt and leverage mobile payments. The study suggests that the availability of prerequisite environmental factors encourages merchants to break out of their shells to adopt the new technology. Again, policymakers can use the findings to understand the factors that serve as constraints to merchant adoption of mobile payments and formulate

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policies geared towards eliminating obstacles and constraints for merchants to adopt mobile payments for government to achieve a cash-lite economy by 2024 (GHIPSS, 2020).

1.7 Chapter Outline

This thesis is divided into ten different chapters. Chapter One, which is already covered, gives an outline of the study covering the research background, research problem, research purpose, objectives of the study, research questions, significance of the study and the research's organisation. Chapter Two reviews the literature relevant to the study and establishes the key concepts in mobile payments. In addition, the theories and models that form the foundation of mobile payment and their possible linkages are explored. Chapter Three examines the potential benefits of mobile payments. Chapter Four reviews the different theories underpinning the research. Literature on Rational Choice Theory and Affordance and Constraint Theory are reviewed to enable a possible understanding of strategic merchant decisions in leveraging mobile payments to create value in their business transactions. Based on the theoretical foundations of the study, Chapter Five explores the conceptual framework underpinning the study. The conceptual framework guided the research design, data collection methods and served as the data analysis and discussion mechanism. Chapter Six presents the study's context by examining enabling, stimulating, and releasing conditions that mobile payments platforms adoption afford merchants in Ghana. Chapter Seven focuses on the philosophical assumptions of the research and establishes the research methodology and the data collection methods and analysis employed by this research. Chapter Eight captures the case profiles and descriptions of the various merchants' cases. Chapter Nine deals with the data presentation, analysis of findings and discussions. Chapter Ten presents the research conclusions, the contribution to knowledge, practical implications of the research, the study's limitations and future research directions.

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CHAPTER TWO

LITERATURE REVIEW

2.1 Chapter Overview

After two decades of studies, there is significant research to understand the mobile payment phenomenon. Nevertheless, the research area is still developing. It is imperative to review the relevant literature to expedite the progression of knowledge and unearth new grounds in mobile payment research. Therefore, this chapter reviews existing literature on mobile payments to understand and map out the body of knowledge on mobile payments studies. The review is structured in eight distinct sections. The first section is an overview of mobile payments regarding the value-capturing process. The second section looks at the various mobile payment technologies and the digital infrastructure characteristics that affect merchants in the mobile payments space. The mobile payment value chain, its nature, the participants involved and their roles in the ecosystem are discussed in the third section. The fourth section discusses how literature for the review was obtained and how the themes were identified. The fifth, sixth and seventh sections respectively analyse and present the different issues, conceptual approaches and methodologies applied in mobile payment research from developed and developing countries' contexts. The final part summarises the existing literature and identifies the knowledge gaps to suggest future research direction.

2.2 Mobile Payment an Overview

Conceptually, mobile payment is a new form of value transfer, similar to other payments; however, the point of difference is mobile devices as a medium (Pham & Ho, 2015). Again, mobile payments, similar to other forms of payment, have been broadly categorised into purchases and payments of bills (Liébana-Cabanillas & Lara-Rubio, 2017). First, as an instrument for purchase, mobile payments compete with traditional payments such as cash,

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cheques, credit cards and debit cards. Secondly, using mobile payments for bill payment enables access to account-based payment instruments such as money transfers, internet banking payments, direct debit assignments, or electronic invoice acceptance (Kung & Huang, 2017; Dahlberg et al., 2015).

Existing literature has defined the concept of mobile payments from different perspectives. The varying perspectives in the definition of mobile payment may be linked to two separate but interrelated factors. Firstly, the mobile payment phenomenon is complex and involves several ambiguous and conflicting terminologies. This, as a result, influences researchers and practitioners to propose definitions from their perspective, depending on the technology, its objectives, the research focus, professional orientation, product and service involved and how the features are combined. For instance, in a mobile payment literature review, de Albuquerque, Diniz, and Cernev (2016) identified three different definitions of mobile payment. First, mobile payment can exhibit banking characteristics known as mobile banking. Secondly, it may have features and characteristics of payment transactions and is recognised as mobile payment. Thirdly, it may also be regarded as money with digital components, referred to as mobile money.

The second factor is that the discussion around mobile payment has broadly been equated to mobile commerce or as a sub-set of e-commerce which provides a method for conducting practical and innovative payment. To facilitate mobile commerce transactions through non-banking channels (mainly retail) and extend the financial services to subscribers who are not profitable to be reached by formal and traditional financial service providers (Kung & Huang, 2017; Pandy, 2014). The third factor is that some researchers have conceptualised m-payments as mobile services that provide payment functionality in various scenarios. These scenarios include payment in stationary internet/electronic commerce, payment at

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vending machines often called point of sale (POS), payment to a person acting as a merchant or service provider ("manned POS"), and money transfer between consumers (de Kerviler, Demoulin & Zidda, 2016). Zhao (2013) and Ondrus and Pigneur (2006) argue that mobile payment is critical for business-to-consumer payment transactions because it is one of the essential building blocks of mobile commerce. It is essential because the business model in the mobile economy is based on a direct transaction. Hence, dependent revenue needs an adequate charging approach between service providers and users, making mobile payment vital (Sethi & Tafti, 2013; Osterwalder & Pigneur, 2010). In a recent study on mobile payment, Hsiao (2019) found that mobile technological innovations have brought many changes in the commercial environment, including the development of the internet and mobile networks into commercial channels and increasing automation and self-service orientation payment services.

This study will adopt the conceptualisation of mobile payment by (Liébana-Cabanillas & Lara-Rubio, 2017). They define mobile payment as a payment transaction processing in which an individual or business uses mobile communication techniques in association with mobile devices for initiation, authorisation, or completion of payment. This definition considers the distinguishing characteristics that point to mobile payment as having strategic, participatory and operational functions. It also classifies mobile payment as a service and as an infrastructure for e-commerce and m-commerce delivery. Therefore, this study will evaluate the firm-level factors that influence merchants' decision to adopt mobile payments aside from utility/risk trade-offs. In addition, the study will seek to explain how mobile payment platforms afford or constrain benefits for the merchants as they leverage mobile payment affordance to create value for organisational benefit.

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2.2.1 Mobile Payment Classifications

Currently, literature broadly categorises mobile payments technology into remote payments and proximity payments (Agarwal et al., 2007). Remote payment allows a customer to purchase services, digital and physical goods. However, there are several methods used in the transaction process. The remote payment operates in the form of Short Message Service (SMS), direct billing, mobile internet, entering a bank account number on a mobile website, registering on a merchant's website, such as Amazon and using an electronic wallet. On the other hand, proximity payments integrate mobile phones or mobile devices' contactless abilities to enable the process of payment. This is usually facilitated by Near Field Communication (NFC), where payment is made as the user passes the mobile next to the receiving terminal. This type of payment is common in the public transport industry (Guha, 2013; Zhao, 2013). As Zhao (2013) posits, mobile payments can further be classified based on transactions into peer-to-peer (P2P) payments, consumer-to-business (C2B) payments and business-to-business (B2B) payments. Also, the providers of mobile payments can be looked at from three perspectives: mobile network operator-centric, financial institutions, and third-party operators (Zhao, 2013).

2.3 Mobile Payment Technologies

This section will discuss the various mobile payment technologies currently in the mobile payment market. As already mentioned, literature has primarily categorized mobile payments into remote and proximity. Remote payment uses technologies such as SMS and online (wireless). Proximity, on the other hand, uses technologies such as quick response codes (QR Codes), Near Field Communication (NFC), Magnetic Secure Transactions (MST), fingerprints and facial recognition and sound waves. There will be a demonstration in this review to show how merchants use mobile technologies.

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2.3.1 Short Message Service (SMS)

SMS means paying for goods and services or products via a text message sent from a mobile device. The text message is delivered to the payment provider, and then the provider approves the transaction between the one purchasing the product or the service and the merchant (Duangphasuk et al., 2020). This payment technology follows the same process as standard SMS. Based on the customer's choice, the cost of the transaction is either added to the monthly phone bill or deducted from a prepaid balance by the mobile phone operator. SMS payments enable mobile phone users to safely, quickly and securely pay vendors, purchase products or services in real-time, and make deposits or send remittances. This payment technology is helping businesses leverage the strength of SMS payments to make life easier for their clients (Duangphasuk et al., 2020; Venkatesh, Morris, Davis & Davis, 2003).

2.3.2 Online (Wireless)

Online payment is a payment process where a mobile payment transaction is done using a combination of one's credit or debit card detail with wireless technology to conduct mobile payment transaction. This form of payment scenario is associated with mobile commerce (m-commerce). Pousttchi, Schiessler and Wiedemann (2009) define m-commerce as business transactions involving mobile communication technologies for service, initiation, agreement, or fulfilment. Similarly, online mobile payment can also relate to in-app payment, where an individual using this payment system uses their mobile phone through a mobile wallet similar to the physical wallet but in a virtual environment. In this payment approach, the individual registers their credit card or debit card details into the mobile payment app. Individuals can type their card payment details to conduct transactions instantly. Another example of online payments is connecting a card reader to one's

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smartphone. By utilising online technology, a smartphone and a card reader are connected so merchants can accept card payments (Karnouskos, 2004).

2.3.3 Quick Response Code (QR Codes)

QR codes are a two-dimensional technology used to scan codes or barcodes generated by merchants. This payment system requires that mobile devices be camera-enabled to scan QR codes and an app to translate the code. Merchants usually offer QR code technology as a point of sales device terminal where customers scan to enable them to make payments. In contrast to the standard barcode, which can handle approximately a maximum of 20 digits, QR codes can manage about a hundred times more information. A single QR code can encode 7,089 characters into one symbol (Narayanan, 2012). The technology is regarded as a more beneficial and cost-effective solution because it is smartphone-enabled, and since smartphones are equipped with the internet, it eliminates passwords and authentication (Harini & Padmanabhan, 2013).

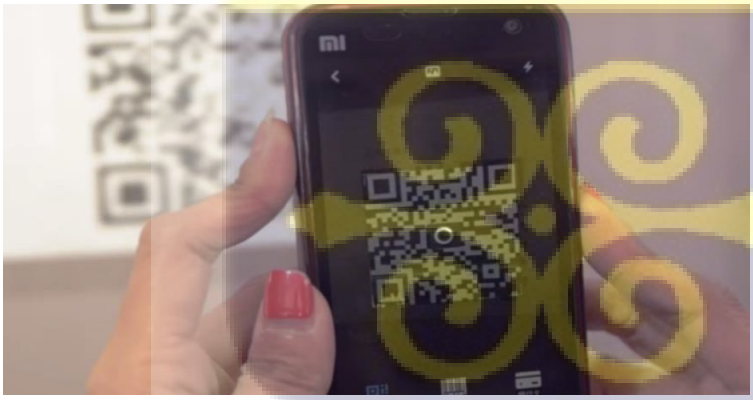


Figure 2. 1 Demonstration of scanning a QR Code (Lee, 2014).

2.3.4 Near Field Communication (NFC)

Near Field Communication (NFC) mobile payment is a noticeable phenomenon emerging in the payment industry, allowing consumers to change their smartphones as digital wallets. The NFC technology combines NFC radio frequency identification (RFID) with a smartphone (Duvaud-Schelnast & Born, 2016). This technology enables consumers to use

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their smartphones as contactless payment cards. For the technology to work effectively (e.g. smartphones and card readers), it must be equipped with an NFC chip Profis (2014) to exchange data when the two devices are placed close to each other. Compared to other wireless technologies embedded in the smartphones, such as Wi-Fi and Bluetooth, NFC has a shorter range of 4 to 10 centimetres and takes different forms, including identification, proximity payments, smart posters, and e-tickets (Profis, 2014; Coskun et al., 2013).



Figure 2. 2 Demonstration of NFC (Profis, 2014).

2.3.5 Fingerprint Recognition

Fingerprint technology is a process of payment technology that enables consumers to authenticate their payment using the touch of a fingerprint scanner linked to a payment file (Kumar & Ryu, 2009). The technology can scan and map to identify the fingerprint characteristics, register that user into a database, and create a template that verifies the user and keeps the identity for a future scan (Conti et al., 2009). Fingerprint features mean scanning the pattern of friction ridges and valleys on an individual's fingertips (Kumar & Ryu, 2009). These unique patterns on a person's fingertip are considered dependable because no two fingerprints are identical, to the extent that even identical twins do not have

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the same fingerprints. This payment technology is considered the most secure, reliable and legally authoritative identification method (Peiyan et al., 2015).

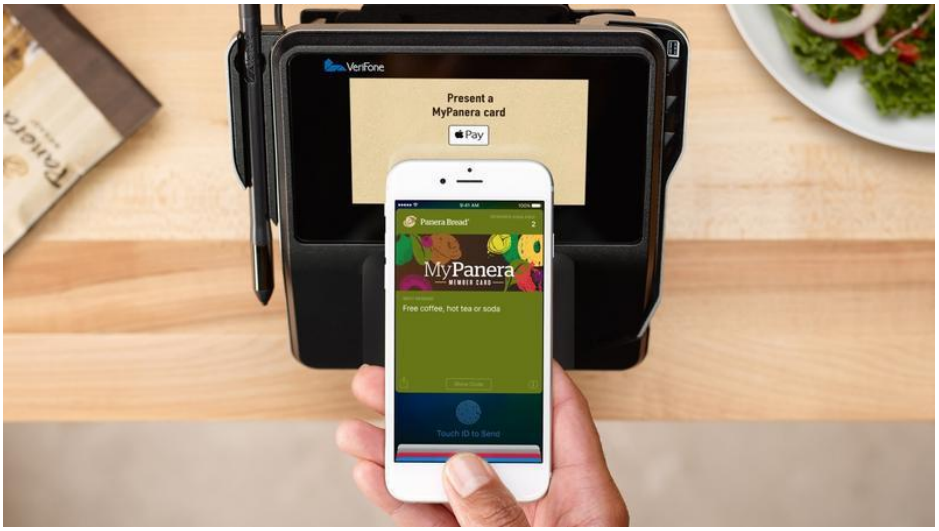


Figure 2. 3 Demonstration of fingerprint technology (Profis, 2014).

2.4 Mobile Payment Value Chain

An ecosystem from the literature is classified as a collection of organisations competing or working collaboratively to create value for the customer or the group as a whole or each group member. This could be in production, customer service or innovation (Gaur & Ondrus, 2012). The mobile payment ecosystem is a value chain collaboration characterized by high interdependency and interplay of actors. Each actor within the value chain has a specific role in the ecosystem (Pousttchi, 2008). Dahlberg et al. (2015) identified the major actors in the mobile payment service market as mobile payment service providers and their customers. A specific group of actors performing significant roles in the market include consumers, merchants, financial institutions and telecom operators. From the author's perspective, the actors can expand to include vendors of handsets, software, networks, and other technologies. However, Miao and Jayakar (2016) posit that the value chain of mobile payment comprises three major stakeholders. Mobile operators, financial service providers (such as banks and other financial institutions), and third-party payment service providers (such as Paypal).

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2.4.1 Specific Role in the Value Chain

Each actor within the mobile payment value chain has a specific role. These actors' focus and objectives determine the extent of technologies and other resources mobilised into mobile payment services. This can direct how the market offers and uses these services (de Reuver et al., 2015), as outlined in figure 2.4.

2.4.2 Financial Institutions

Financial institutions or banks provide accounting and settlement of payment transactions that seek to dominate the market with their operational models for mobile payment (de Reuver et al., 2015). The banks have a reputation for managing customers' accounts, making the banks credible and trustworthy. The banking institutions are regarded as leaders and experts in the payment industry and are the legally mandated issuer of payment methods. This offers a significant advantage concerning their role in mobile payment services (Omarini, 2018). Since most customers are familiar with traditional banking and already have their financial statements stored with several banks, this could influence their position in the mobile payment ecosystem to maintain leadership in the mobile payment market. Anecdotal evidence depicts that bank do not know much about mobile payment. Nevertheless, the banks are working hard to develop their payment apps or collaborate with other stakeholders to maintain their leadership in the payment market. Banks perceive mobile payment services' penetration within the payment industry as a significant opportunity to grow their brands and generate customer loyalty (Miao & Jayakar 2016).

2.4.3 Payment Processing Networks

Payment processing networks are institutions and companies that intermediate between banks or financial institutions and individuals who adopt payment processing network instruments (e.g. merchants). Payment processing networks usually manage the agreements

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between adopters and their stakeholders. These institutions have well-proven security and established infrastructure (Schryen, 2015). Payment processing networks have demonstrated unlimited interest in mobile payment marketing by investing in new payment ventures to expand their role in the financial service sector (Bertilsson & Hult, 2013). Due to the changing face of payment, where payments are moving from card to mobile, their strategy is to strengthen their brand position and reap economic benefits in this emerging mobile payment market.

2.4.4 Customers

Customers are those that utilize products and services. The success and penetration of the mobile payment market depend on customers. Customers expect mobile payment services to have a low learning curve to prevent switching to physical money or card payments (Karnouskos & Fokus, 2004). Customers are primarily looking for convenience, which will allow them to undertake transactions from anywhere, anytime, in any currency and expect the cost of usage to be either free or low. It is the view of the customer to have a mobile payment system that covers micro and macro payments and transactions among persons to persons and interoperable payment systems. Interoperability plays a significant role since communication between mobile devices, network operators, and banks is expected to work fluently. Customers expect that mobile payments will provide information on real-time transaction outlook where mobile prices are trustworthy with personal details remaining private. For instance, the anonymity of paying with cash should be implemented into mobile payments where businesses cannot trace buyers or identify patterns (Pham & Ho, 2015).

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2.4.5 Mobile Network Operators

Mobile network operators are the stakeholder who controls the subscriber identity module (SIM) and the wireless identity module (WIM). Again, they control the extension file format for wireless application protocols on a SIM card, which also supports digital signatures to verify the authenticity of a mobile device (Bertilsson & Hult, 2013). Their place in the ecosystem makes mobile network operators have a significant influence and strategic impact on mobile payments. Mobile network operators have minimal experience when it comes to the payment industry. Although mobile network operators have limited experience and knowledge of the associated risks regarding payment services, they cannot fully handle mobile payment systems. The mobile payment operators' expectations of mobile payments add potential value to existing services and increase customer loyalty. Mobile network operators expect to add new revenue channels since mobile payments depend on their wireless services, increase every user's average revenue, and become an attractive partner to content providers (Schryen, 2015).

2.4.6 Mobile Device Manufacturers

Mobile device manufacturers play a vital role in the mobile payment ecosystem because they are responsible for launching mobile devices into the market. Mobile device manufacturer affects both the implementation and deployment of mobile payment services since they control the technology and capabilities of mobile devices. Hence, mobile device manufacturers expect more extensive market adoption of their devices' new embedded hardware and software features. They also expect mobile payment services to be open, interoperable and a widely used standard. Since technologies and innovation emerge quickly, products will soon become old-fashioned. Therefore, low time to market (the time it takes for a product to be conceived until it is available for sale) is considered necessary. Mobile device manufacturer also expects to maintain their relationship with banks, mobile

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network operators and software providers to ensure that developed apps are compatible with their devices. However, they also do not have much knowledge and experience in mobile payments (Riksbank, 2013).

2.4.7 Software Providers

Software providers are profit-maximizing smaller entrepreneurial firms that realize the business opportunities in the mobile payment market and strive for a share in the value chain by becoming software providers (Schryen, 2015). They serve as intermediate payment services providers (PSP) that facilitate merchants to accept online services for electronic payments. Again, they develop the mobile payment infrastructure by producing standards that enable different parts of the mobile payment process to communicate. They offer merchants services and instruments that facilitate mobile payment services to act better than financial institutions on considerations such as speed, security, price and convenience (Bertilsson & Hult, 2013). Software providers expect to reap economic benefits by providing complementary services affected or adopted by other stakeholders (Riksbank, 2013).

2.4.8 Trusted Third Parties

Trusted third parties are non-financial institutions regarded as new entrants in the mobile payment ecosystem. These non-financial institutions can be trusted third parties who have independently reached a large critical mass of users and have a history of handling users' data. (Zhong, 2009).

2.4.9 Merchants

Merchants are the actors within the mobile payment value chain. They create the market for financial institutions and other mobile payment service providers by accepting payments

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with mobile payment instruments (acquirer role) or even by issuing them (issuer role) (Dahlberg et al., 2015). Again, they are regarded as adopters of payment solutions similar to consumers and are critical in mobile payments' market development and form the nucleus of creating network externalities (Taylor, 2016).

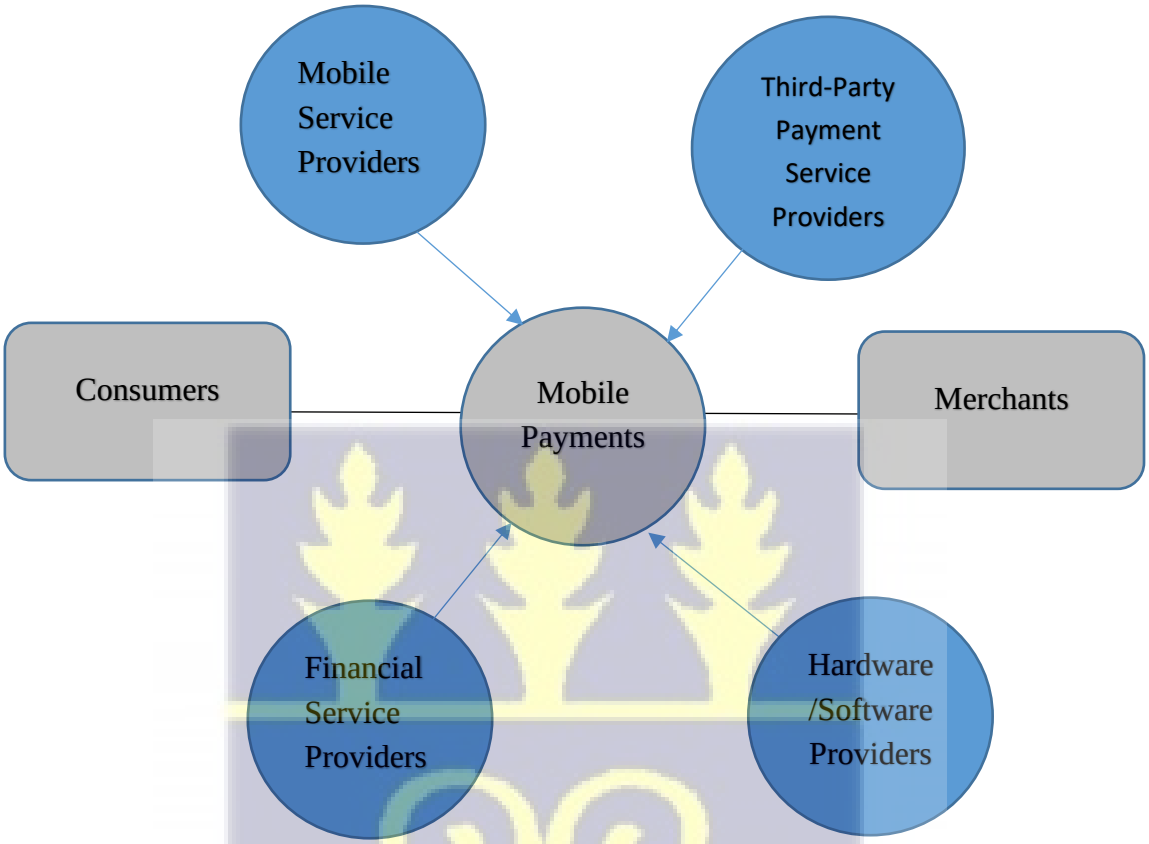


Figure 2. 5 Mobile Payment Value Chain

Source: Authors construct

2.5 Classification of Mobile Payment Research

In the preceding section, there was an attempt to conceptualise mobile payment as a type of payment transaction processing in which an individual or business uses mobile communication techniques in association with mobile devices for the initiation, authorization, or completion of payment (Liébana-Cabanillas & Lara-Rubio, 2017; Zhong 2009; Pouttchi, 2008). Moving on from this conceptualisation, this section of the review

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will concentrate on the extent of research in mobile payment literature dwelling on the research themes and a brief examination of the literature from a developing country perspective.

In IS, several review frameworks have been used to review the literature on different IS topics. Whether it is an emerging field like mobile payments or very well-developed topics like e-commerce (Schryen, 2015; Levy & Ellis, 2006; Webster &Watson, 2002), generally, the framework for reviewing IS literature is concept centric; however, it can also be author-centric (Webster & Watson, 2002; Schryen, 2015). The researcher's concept informs the literature review framework for an IS topic. Also, concepts may be reviewed from a different perspective, including research methodologies, theoretical framework, levels of analysis such as micro, macro, meso and meta-levels, and geographical location or context (Schryen, 2015; Levy & Ellis, 2006; Webster &Watson, 2002). As a result, authors in the IS field have used several concepts in organizing IS literature reviews for different IS topics (Pintaric & Bronzin, 2013; Schäfferling, 2013; Schryen, 2015; Heeks, 2007). The phenomenon of mobile payment is arguably new, complex and dynamic (Wenner et al., 2018). As a result, its literature classification poses a challenge as all its aspects must be considered. Therefore, this review followed a multi-faceted approach. The themes of mobile payment research were classified based on Dahlberg et al. (2008). Based on their classification framework, four thematic areas were espoused. These include adoption issues, technology issues, ecosystems and emerging new e-payment systems. These are the broad classifications underpinning the review.

The source of data for the review was mainly done on an electronic database search. This is because IS researchers mostly use the practice (Dahlberg et al., 2015; Petter & McLean, 2009). As a result, databases as the literature source were considered appropriate for this

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study. The literature search was conducted in two phases. The first phase of the search was in the senior basket of IS journals (Association for Information Systems Academic Journals) to determine the extent of research conducted on the subject in these journals. Surprisingly, it became evident from the search that the senior basket of Information Systems journal did not have many studies on mobile payments. The phenomenon may be attributed to the interdisciplinary nature of the topic, which allows relevant articles on mobile payments to be published in a wide variety of journals (Dahlberg et al., 2015). Mobile payment research is still emerging, and most contemporary research is published in conference proceedings (Wenner et al., 2018). In the second phase, a broader search was conducted on electronic databases such as Emerald Insight, EBSCOhost, Taylor and Francis Group, Science Direct, Sage online Journals, ACM Digital Library, and Google Scholar. IS researchers have acknowledged these sources as covering many of the top fifty Information Systems journals (Levy & Ellis, 2006). This, to a considerable extent, ensures more extensive coverage. The descriptors used for the literature search included “mobile payments”, “m payments," "e payments," "mobile money", and "wireless payments" any of these words were used in the abstract and as part of its keywords. As Webster and Watson (2002) indicated, a backward review of the literature was also done based on other authors' works and a citation in the articles.

Nevertheless, the search was limited to peer-reviewed scholarly journal articles from 2013 to 2018. The articles were carefully screened through manual filtering to eliminate editorials, review articles, and reports. This is because the focus of the study is only on peer-reviewed articles. Similarly, dissertations, books, working papers, and reviews of books were also not included. A thorough check was further done to remove duplicates and articles from other disciplines, such as marketing. One hundred eighty-five articles from 67 journals were considered for classification and analysis. Additionally, the final 185 articles were then

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classified based on the classification framework for the study as described above. Figure 3.1 shows the distribution of articles by year of publication from 2013 to 2018.

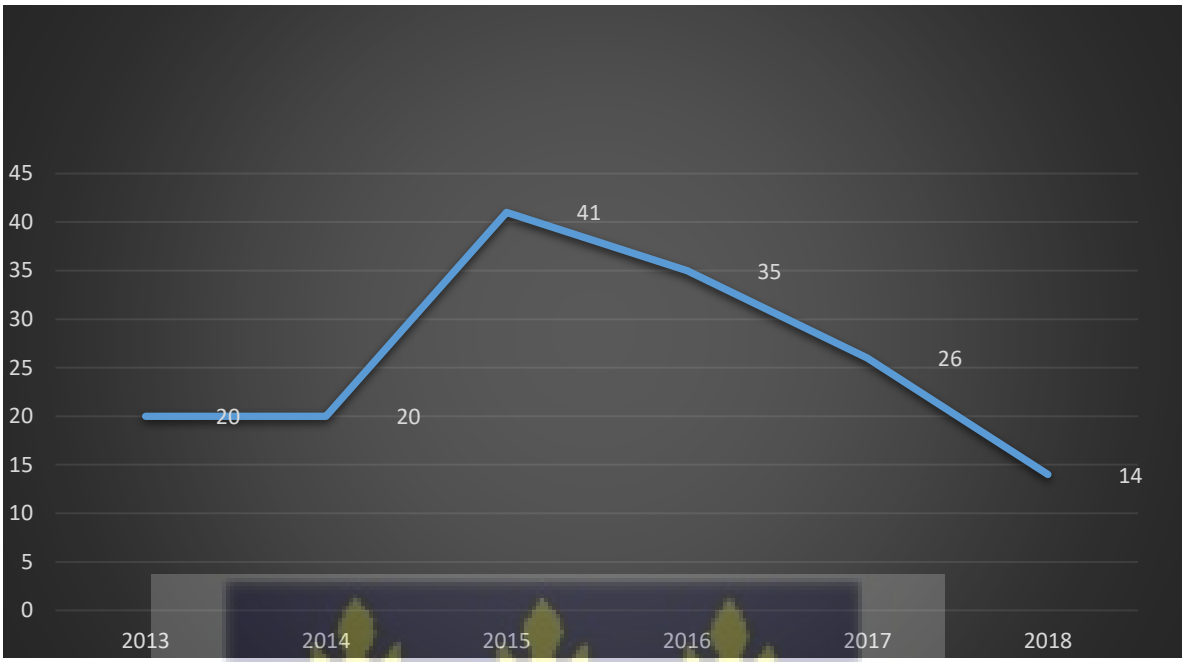


Figure 2. 6 Distribution of Journal Articles by year
Source: Authors Construct

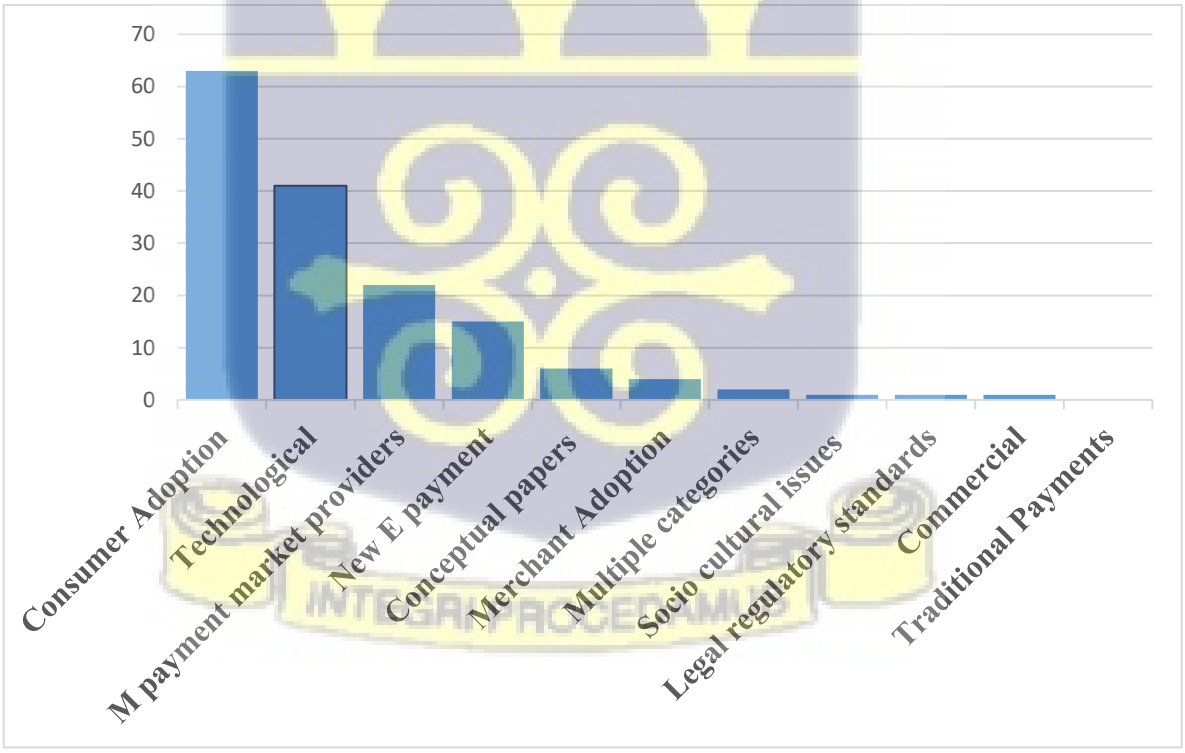


Figure 2. 7 Distribution of Articles by Research Themes

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2.5.1 Research Themes

Based on the conceptual framework for this study and as shown in Figure 2.6 consumer adoption theme recorded (40.4%), technological issues (26.3%) mobile payment ecosystem (M-payment service providers) 14.1%, new E-payment issues (9.7%), conceptual issues (3.8%), multiple category (1.3%), legal regulatory standards (0.6%), commercial (0.6), traditional payments (0) as well as socio-cultural environment (0.6%). The trend in the issue review demonstrates a clear dominance in four thematic areas, which include consumer adoption issues, technology issues, ecosystems and emerging new e-payment systems, to the neglect of the other themes such as legal, regulatory standards, socio-cultural environment, merchant adoption as well as traditional payment systems and others.

2.5.2 Consumer Adoption

Most of the categorised mobile payment adoption literature papers approach the studies from the consumer perspective. Literature suggests that the consumer focus may be because value creation for consumers and other stakeholders in an ecosystem depends on understanding consumer preference and their attitude towards service based on technology (Dahlberg et al., 2015). As a result, authors have explained the motivation for consumer adoption of mobile payments using behavioural factors such as performance expectation, effort expectation, social influence and perceived risk to explain the reasons for mobile payment adoption (Abrahão et al., 2016; Oliveira et al., 2016; Slade, Dwivedi, Piercy & Williams, 2015). Further, in the consumer adoption theme, some studies have also explained that consumers' adoption of mobile payments depends on user-centric factors like security and system characteristics while they moderate with gender (see Johnson, Kiser, Washington & Torres, 2018; Lwoga & Lwoga, 2017; Killian & Kabanda, 2017). These studies identified consumer adoption of mobile payment factors to include perceived ease of use, usefulness, trust, risk, security compatibility, social influence, cost, convenience,

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subjective norm, personal innovativeness, privacy, knowledge, satisfaction, complementarity, and complexity. More so, other studies on consumer adoption (Liébana-Cabanillas, Ramos de Luna & Montoro-Ríos, 2017; Cocosila & Trabelsi, 2016; Ramos-de-Luna, Montoro-Rı´os & Lie´bana-Cabanillas, 2016; Liu et al., 2015; Leong, Hew, Tan & Ooi, 2013) have looked at adoption from specific technologies such as NFC, mobile wallet, Zantel as well as different payment scenarios such as using mobile ticketing and payment for government services. These studies' main ideas are to precisely analyse the intention to use and the determinants of use and adoption behaviour of consumers of such specific technology in the payment system.

2.5.3 Technology

Contrary to the consumer adoption themes, the technology and the technological environment have mainly focused on security. Most of the articles reviewed within the technological environment have security dominating (Apanasevic, 2013; Cheng & Huang, 2013: de Albuquerque et al., 2016; Alshare & Mousa, 2014; de Reuver et al., 2015: Gannamaneni, Ondrus & Lyytinen, 2015). These studies have looked at identification, authentication, security message protocols, messaging, data encryption, non-repudiation, fraud, threat cancellation, nullifying and reversing transactions with transaction rollback (Liu et al., 2015; Wmuyu, 2014; Kanobe, Alexander & Bwaly, 2017). However, the strong security focus has not prevented other topics. Other technological articles have compared alternative technological solutions (see Isaac & Zeadally, 2014; Hedman & Henningsson, 2014; de Reuver, & Ondrus, 2017), while others have looked at specific technologies and how their applications or usage improve the deployment, use or impact of the described technology (for example, mobile networks, mobile devices, SIM cards, POS terminals and other technology components used in a mobile payment service (Gannamaneni et al., 2015; Apanasevic, 2013; Cheng & Huang, 2013). Besides, some authors in the technology

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literature have also investigated different payment situations: micropayment, peer-to-peer money transfers Li et al. (2021), and proximity payments (Bojjagani & Sastry, 2019). Others have focused on examining vending machines that use different short-wave radio frequency technologies (NFC & RFID), swipe cards, or mobile device swiping in public transportation (Gannamaneni et al., 2015). Some other authors have also focused on payments with mobile money, mobile wallets (Leong et al., 2013; Cocosila & Trabelsi, 2016), or mobile credit cards at the points of sale in shops (Jocevski et al., 2020).

Furthermore, other researchers within the technological environment investigated platforms for authorisation and authentication of mobile payment services (see de Reuver et al., 2015; Gannamaneni et al., 2015) and how the digitalization of payments, as technology innovation, affects competition and collaboration in the ecosystem (Hedman & Henningsson, 2015). These studies determined the market potential of platforms to reach critical mass by exploring how the openness of platforms influences market potential. Openness was examined at three levels - provider, technology, and user-level - to ascertain how opening (or closing) each level will increase or decrease a platform's market potential (See Hedman & Henningsson, 2015). Critically, the articles in the technological review mainly discuss improving the existing technology to make it user-friendly but not the invention of new technology. However, the technology papers do not build on other studies.

2.5.4 Mobile Payment Ecosystem

Another dominant research theme under mobile payment research is the mobile payment ecosystem. This theme examines the ability of players in the mobile payment market space to create and maintain a profitable relationship with consumers by providing value propositions that address consumer needs (Iman, 2018). A review of these categories of papers exhibited three major themes: a group of articles identifying actors and their roles in

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the mobile payment ecosystem, an analysis of various business models, and articles on strategic issues in the mobile payment ecosystem. On strategic issues of a mobile payment ecosystem, De Reuver et al. (2015) did an in-depth case study on collaboration between three major Dutch banks and three Dutch telecom operators to understand issues of collaboration and competition between banks and operators within the mobile payment ecosystem. The findings of their study demonstrate that differences in interest and strategic objectives, conflict and lack of dependencies, and governance issues between the mobile network and the banks led to the failure and dissolution of a payment platform in the Netherlands (de Reuver et al., 2015).

Further, in the strategic issues regarding the ecosystem, several scholars (Kanobe et al., 2017; Guo & Bouwman, 2016; Liu et al., 2015; Hedman & Henningsson, 2015) have investigated the strategic impact of merchant payment platforms, such as MCX in the U.S as well as impacts of new actors and most recent business models in the mobile payment markets, such as (Google Wallet, soft card Paypal, Apple pay and Ali Baba, which are NFC-enabled and their impact on technology and ecosystems. These studies demonstrate how successful the m-payment ecosystem is created and sustained through the competition of various actors and collaboration among traditional and new stakeholders in the payment ecosystem.

Ondrus et al. (2015) also investigated the impact of openness strategies on the market potential of platforms. Their research draws on the experiences of multiple cases from different mobile payment markets. They demonstrated that several strategic, technological, and user-related decisions have to be made before the launch of a mobile payment platform in order not to limit its diffusion potential. In addition, Staykova and Damsgaard (2015) did a study intending to identify digital payment platforms' optimal entry and expansion

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strategies. According to them, the ability to time entry and expansion decisions optimally is a crucial factor in the success of platforms. If the timing is not-optimal, previously gained competitive advantage could be lost.

The business model categories of papers have analysed the various business models and the effect of regulations on mobile payment ecosystems. Miao and Jayakar (2016) did a comparative study of three countries (Japan, South Korea and China) using existing business models by investigating how mobile payment operation models might evolve in China. Their findings suggest that regulation has affected both the industry structure and the vertical linkages of the different participants in the mobile payments ecosystem (Miao & Jayakar, 2016). Papers in the review have also investigated competition, cooperation, and regulation issues in understanding the evolution of the mobile payment technology ecosystem and the role of regulation in driving or delaying innovation in the mobile payment ecosystem (see Liu et al., 2015). The study demonstrates that actors with heterogeneous and complementary resources can forge sustainable collaboration.

Looking at actors and their role in the ecosystem system, researchers have investigated current mobile payments services and defined the m-payments technology ecosystem by determining the role of various actors in the ecosystem. For instance, in their study, de Reuver et al. (2015) developed a framework outlining the role of the various actors in the mobile payment ecosystem where each stakeholder's role and responsibility are defined within the ecosystem (de Reuver et al., 2015).

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Table 2. 1 Summary of Research on Mobile Payment

Author and Title of article	Purpose of the Study	Theory used	Methodology	Findings	Gaps
Slade et al. (2015) Modeling Consumers' Adoption Intentions of Remote Mobile Payments in the United Kingdom: Extending UTAUT with Innovativeness, Risk, and Trust	To explore the factors affecting nonusers' intentions to adopt RMP in the United Kingdom	Unified Theory of Acceptance and Use of Technology (UTAUT)	Quantitative	The findings revealed that performance expectancy, social influence, innovativeness, and perceived risk significantly influenced nonusers' intentions to adopt RMP, whereas effort expectancy did not. Mobile Payment (MP) knowledge is significant and affects trust.	MP research has largely ignored the variations between different MP solutions, and there is an over-reliance on TAM.
Abrahão et al. (2016) Intention of adoption of mobile payment: An analysis in the light of the Unified Theory of Acceptance and Use of Technology (UTAUT)	The study seeks to evaluate the intention of adopting a future mobile payment service from the perspective of current Brazilian consumers of mobile phones	Theory of Acceptance and Use of Technology (UTAUT)	Quantitative	The findings show that behavioural intention, performance expectation, effort expectation, social influence, and perceived risk are the key factors that affect the adoption of mobile payment in Brazilian consumers	Future studies may use samples from other telecommunication companies and other regions of the country or even between countries that have deployed mobile payment technology using other relevant factors that enhance the adoption model used.
Oliveira et al. (2016) Mobile payment: Understanding the determinants of customer adoption and intention to recommend the technology	This study aims to identify the main determinants of mobile payment adoption and the intention to recommend this technology	Extended unified theory of acceptance and use of technology (UTAUT2) & Diffusion of Innovations	Quantitative	The study found that compatibility, perceived technology security, performance expectations, innovativeness, and social influence have significant direct and indirect effects on mobile payment adoption and the	

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				intention to recommend the technology.	
Wu et al. (2017) Consumer acceptance of mobile payment across time Antecedents and moderating role of diffusion stages	The purpose of this paper is to investigate the role of positive emotion in consumer acceptance of WeChat payment across time.	Consumer response system model	Quantitative	The results show that users' acceptance intention is relatively related to perceived risk, perceived usefulness, and positive emotion. Positive emotion has a strong negative impact on perceived risk and a positive impact on perceived usefulness. Also, perceived usefulness strongly decreases users' perception of risk.	Future research should integrate more relevant affective factors (e.g. negative emotion) or detailed emotions (e.g. arousal and valence), such that a more comprehensive understanding of m-payment acceptance would be achieved

Source: Author's construct

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2.6 Review of Conceptual / Theoretical Approaches to Mobile Payment Research

The preceding section discussed the dominant research themes in mobile payment. This section aims to review and discuss the dominant theoretical/ conceptual frameworks used in mobile payment research based on the identified themes. Further, there is an analysis evaluation of knowledge contributed by these frameworks, and gaps are identified for the future. The categorisation of the conceptual approaches was based on a scheme adopted from Duncombe & Boateng (2009); the classification graded the various conceptual approaches depending upon the degree of theorisation; more in-depth theoretically based approaches to shallower conceptualisations, from theoretically-based to framework-based, to concept-based and finally category-based approaches. The academic discussion on mobile payment has mainly sought to explore and give evidence that mobile payment is a technology-based service. For that matter, value creation for consumers and other stakeholders in the ecosystem depends on understanding consumer preference and their attitudes toward services based on technology (Dahlberg et al., 2015). As a result, the most frequently used theories in studying issues relating to the assessment of mobile payment adoption include the Technology Acceptance Model (Anthony & Mutalemwa, 2014; Upadhyay& Jahanyan, 2015; Liébana-Cabanillas et al., 2013; Lwoga & Lwoga, 2017) or with an extension by adding on the different construct.

The Technology Acceptance Model (TAM) is most of the time combined with the theory of Reasoned Action and the Task Technology Fit (TTF) as well as UTAUT (see Thakur & Srivastava, 2014; Oliveira et al., 2016). These technology adoption theories are associated with addressing the technologically related determinants of mobile payment adoption at the micro-level. These theories are prominent in academia and practice to predict the extent of a system's success whether or not the system is used. The theory stipulates that an individual's adoption of an innovation in an Information System is dependent on the

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intention of the individual to use the system and the extent to which an individual believes that adopting an innovation will improve their effectiveness and job performance per the actor's opinions about the system (Davis, 1993; Liébana-Cabanillas, Ramos de Luna &Montoro-Ríos, 2017). The theory suggests that perceived usefulness and ease of use of an innovation by an individual are correlated to the attitudinal influence towards IS adoption, resulting in actual adoption and use of the technology. Generally, using TAM is appealing because it is empirically robust, with excellent measurement qualities and dependable instruments (Pavlou, 2003).

Nevertheless, other studies (Davis, 1989; Moon & Kim, 2001) argue that with time as the user becomes knowledgeable about the object in question, the influence of perceived ease of use (PEOU) on perceived usefulness (PU) weakens. Therefore, these studies argue that the concept is relevant in explaining some issues of user attitude and intention towards technology usage, especially at the initial stages of technology deployment. Since the two key belief concepts of PU and PEOU may not adequately explain the effect of other usage issues that may influence individual adoption intention (Davis 1989; Moon & Kim, 2001). Hence, previous IS studies have expanded the TAM by adding constructs such as "computer self-efficacy" (Park & Kim, 2014), "personal innovativeness" (Agarwal & Karahanna, 2000), "perceived information quality" (Shih, 2004), and "social factors" (Hsu, Yu & Wu, 2013), confidence, cost and perceived satisfaction (Chong, 2013).

In a study to understand user acceptance of mobile payment intention in Tanzania, Lwoga and Lwoga (2017) adopted TAM in explaining the M-payment context and extended it with three user-centric factors, two security factors, two system characteristics and a gender difference to assess the behavioural intention to use mobile payment service in Tanzania. The study found that compatibility, social influence, and m-payment knowledge determined

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perceived usefulness, while m-payment knowledge, trust, and compatibility predicted perceived ease of use of m-payment services. This goes to buttress the point that TAM provides an understanding of the significance of PEOU and PU as the critical prerequisite in adopting the technology. However, it does not appear to adequately explain the different contextual issues that confront technology use, such as trust, security, the service provider characteristics, norms, values, and culture in a particular society. Legris, Ingham, and Collerette (2003) emphasised that PEU and PU are not the only factors for technology adoption.

Another study by Pham and Ho (2015) investigated the effects of product-related, personal-related factors and attractiveness of alternatives on consumer adoption of NFC-based mobile payments by proposing a research framework to provide a profound understanding of factors facilitating or impeding the adoption of NFC-based mobile payments among Taiwanese consumers. Their investigation revealed that the intention to adopt NFC mobile payments is affected by most the product-related factors, personal-related factors, and attractiveness of alternatives. Considering theoretical backgrounds of innovation diffusion and specific characteristics of NFC mobile payments, their study proposed a research framework to provide a profound understanding of factors facilitating or impeding the adoption of NFC-based mobile payments among Taiwanese consumers. The use of Diffusion of Innovation (DOI) in mobile payment research enhances and facilitates managerial and other determinants of mobile payment adoption that are internal to organisations in the technology market. The DOI theory recognizes that while the technical attributes of the innovation per se may not be significant, perceptions of technology do matter and are essential factors influencing technology adoption. The DOI model suggests that an individual's decision to adopt or reject the innovation is predicated upon five essential perceptions about the characteristics of such innovation: relative advantage, compatibility, complexity,

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observability, and trialability; for example, their study brings some managerial implications by assisting relevant parties in the mobile payment's ecosystem such as mobile network operators, card issuers, payment processing institutions, bank decision-makers and merchants when devising their business strategies and marketing campaigns to facilitate mobile payments.

Also, in an earlier study on consumer acceptance of mobile payment in Germany, Pousttchi and Wiedemann (2007) combined TAM and TTF models to explain information technology utilisation better. The TTF regulates TAM's fundamentals of attitude toward IT, and the consumer perceives a good fit between the technology's functionality and the task's characteristic. In a mobile payment use scenario, consumers should perceive the system as useful if the procedure fits the individual use case (Pousttchi & Wiedemann, 2007). The finding of their study hinted that an easy mobile payment process and its benefits are the critical acceptance criteria. Additionally, the TTF has some effect on perceived usefulness and suggests that the use case and the business-to-consumer application mobile payment operate in the same way as a fit between task and technology in work-related activities.

2.6.1 Frameworks in the Mobile Payment Ecosystem

Authors in the mobile payment ecosystem have focused on multiple frameworks to explain actors' positions and make sense of the new competitive landscape in the mobile payment ecosystem. For example, in a study conducted by De Reuver et al. (2015) on collaborative issues between banks and telecom operators concerning collective action for mobile payment platforms in the Netherlands, the authors combined Collective Action Theory and Platforms Theory to explore an in-depth case of collaboration between three major Dutch banks and three Dutch telecom operators to understand issues on collaboration and competition between banks and telecom operators within the mobile payment ecosystem.

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Their findings suggest that differences in interest and strategic objectives, conflict and lack of dependencies, and governance issues between the mobile network and the banks led to the failure and dissolution of a mobile payment platform in the Netherlands (de Reuver et al., 2015).

Similarly, Hedman and Henningsson (2015) proposed a multi-level framework consisting of micro, meso, and macro levels to depict cooperation strategies in mobile payment ecosystems. They developed a mobile payment market cooperation (MPMC) framework to make sense of the new competitive landscape. Their framework is grounded in market cooperation theories (Drnevich & Croson, 2013; Makadok, 2011), technology ecosystem theory (Liu et al., 2015) and business ecosystems theory (Selander et al., 2013). The framework explains competition and collaboration in payment ecosystems. Their findings foster comprehensive thinking beyond isolated technologies or specific stakeholders based on the ecosystem analysis. According to their study, a technology-based market cooperation strategy in mobile payment ecosystems can balance defensive and offensive technology-based strategies.

2.6.2 Dominant Frameworks and Merchant Adoption

Compared to the literature on the consumer adoption, technological and mobile payment ecosystem in mobile payment research, there has been relatively little offering on the merchant and the needed guidance for merchants to benefit from mobile payment adoption. In terms of numbers, the research and literature addressing merchants at the firm level form about 2% of the articles reviewed. This is a limited number, but it still needs to be reviewed. However, reviewing the limited literature in more detail, they are more inclined to investigate factors influencing merchants' decisions on mobile payment adoption based on utility/risk trade-offs (Singh & Sinha, 2020). Nevertheless, these studies failed to give clear

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strategic guidance on other factors that could influence the merchant decision-making path aside from utility and risk factors (Li, Liu & Heikkila, 2014). The uncertainty of privacy and security risk in mobile payments services, coupled with the innate attractiveness (utility) of mobile payment convenience, results in situations where merchants engage in calculated trade-offs between the perceived benefits and the perceived risks; these have been overemphasised to the neglect of other decision-making paths (Téllez & Zeadally, 2017; Wu, Liu & Huang, 2017). In addition, the studies on merchants have not adequately theorised how mobile payment technology afford benefit merchants or businesses.

For example, in a more recent study on merchants in India, Singh and Sinha (2020) investigated how perceived trust mediates merchants' intention to use a mobile wallet technology by using an empirical model to measure merchants' choice to use a mobile wallet technology. Furthermore, their study tested the mediating effect of perceived trust on the influence of perceived usefulness in predicting a merchant's intention. Using a survey of 315 Indian merchants, the study found that perceived customer value addition had the highest effect on merchant's choice, followed by perceived usefulness of technology. Their proposed mediation effect of perceived trust was small but significant in perceived usefulness. In another study, Możdżyński (2018) built a conceptual model using the TAM and UTAUT models to investigate the acceptance of payment systems from the perspective of merchants. The conceptual model focuses on the main factors influencing merchants' acceptance of payment systems using the commercially available "eXpay" system. An intention construct was proposed as part of the model to understand the determining factors guiding merchants in accepting or otherwise a payment system.

Also, in Spain, Liébana-Cabanillasa and Lara-Rubio (2017) investigated predictive and explanatory modelling regarding the adoption of mobile payment systems from the

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merchants' point of view and perspective. The study explored the relevance of mobile payment systems, taking into consideration both Porter's Extended Rivalry Model (1998) and the Generic Contingency Theory, which emerged from the work of Lawrence and Lorsch (1967) to represent both the actors and factors which mediate a particular mobile payment service market with the help of concepts taken from the Porter's Five-Forces model. The study described the various contingent factors impacting the market with concepts derived from the contingency theory. The study found a need to incentivise and encourage the intentional use of these mobile payment systems for each participant in the adoption process.

In another study in China, Guo and Bouwman (2016) combined resource-based view, resource dependency theories, and network analysis to propose an analytical framework for an m-payment ecosystem from the merchants' perspective and to understand how a relatively thriving m-payment ecosystem is created and sustained through the competition of various actors. Their findings suggest that actors (merchants) with heterogeneous and complementary resources can forge sustainable collaboration within an ecosystem. Also, in a recent study, Hsiao (2019) used the Resource-Based View (RBV) with the Task Technology Fit (TTF) and Expectancy Value Theory (EVT) to propose a conceptual framework using mobile payment services as a facilitator for value co-creation. The study employed 'efficacy expectation', and 'outcome expectancy' from the motivation theory as a mediation between customers' resources and value created and uses 'task-technology fit' from the TTF model as a mediation between merchants' resources and value created. From the perspective of Hsiao (2019), organisations, customers and other service providers are resource integrators. Therefore, firms can use information resources with information technology applications, including additional resources such as actors' skills and knowledge, to create the needed value in the business (Hsiao, 2019).

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From the discussions, even though various studies are emerging on merchant decisions to adopt mobile payments, the literature review from the merchant perspective is yet to focus on strategic and non-strategic factors other than cost-benefit analysis or the utility/risk trade-offs that can influence the potential merchant in making a decision or a choice to adopt mobile payment platforms as an investment decision at the firm level. From the review, there was no model or framework developed to explain, particularly in mobile payment, the enabling, stimulating and releasing conditions that affect the benefit afforded by mobile payment platforms to merchants (Du, 2018). Such a holistic view remains mostly absent in the literature. Not much is known about the enabling, releasing and stimulating conditions and the potential synergy that informs the merchants' investment decision on mobile payments. As a result, mobile payment research from the merchant perspective has been defined narrowly (Hsiao, 2019). Beyond their academic significance, these knowledge gaps may account for the difficulties encountered by the significant majority of merchants in sustaining mobile payment systems in their businesses (de Reuver et al., 2015).

Nevertheless, an appropriate contribution to mobile payment research will be to ascertain the factors that influence merchant's decisions and how merchants exploit mobile payment affordance as a resource to create benefits in their business transactions. The literature review shows that merchants and mobile payment research have received little scholarly attention (Li, 2018). Inadvertently, Rational Choice Theory and Affordance Theory have been generally accepted as theoretical approaches to explain decision-making based on risk-utility trade-offs and affordances provided by technology through actor interaction. Based on the discussions above, the studies on merchant adoption and its theoretical foundation highlight several gaps in the research knowledge base. The literature review from the merchant perspective is focused on investigating enablers and inhibitors of merchants'

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decisions on the adoption of mobile payment. However, Breidbach and Maglio (2016) argue that mobile payment technologies (MPT) enable economic factors such as merchants to exchange resources and create value for competitive advantage; however, the technology-enabled benefit remains largely unexplored in mobile payment research and understanding the performance implications of mobile payments remains a crucial challenge for mobile payment research (Berman, 2016; Breidbach & Maglio, 2016). Therefore, this study builds on the Rational Choice Theory and affordance framework to establish how technology-enabled value processes can be integrated with other merchant resources to create value and benefit merchant firms.

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Table 2. 2 Research Conducted from Merchant Perspective

Author and Title of Article	Purpose of the Study	Theory Used	Methodology	Findings	Gaps
Li, 2018 The strategic decision on mobile payment: a Study on merchants' adoption	The purpose is to identify the factors that impact merchants' adoption.	No theory	Quantitative	Merchant adoption of mobile payment is influenced by the knowledge merchants possess about their resources, capabilities, mobile payment service providers and mobile strategies	Future research should explore the perception and influence of external elements (security seals, providers' brandings and logos, etc.) on variables such as knowledge, trust and perceived security regarding this type of tool, analysing their influence on the intention to use.
Możdżyński, 2018 Acceptance of payment systems From the perspective of merchants	The purpose of this paper is to propose determinants that merchants use as guidance in accepting or not a payment system.	TAM and UTAUT	Quantitative	Conceptual Review	The proposed model will permit to set of research hypotheses and verify them in the area of payment system acceptance by merchants
Liébana Cabanillas & Lara-Rubio, 2017 Predictive and explanatory modeling regarding adoption of mobile payment Systems	This research aims to empirically examine merchant adoption of mobile payment systems to find the driving factors and the deterrents influencing the use of mobile payment systems in the different commercial activities.	Porter's Five-Forces mode	Quantitative Analysis	Their findings indicate that intention to use mobile payment systems depends on the number of employees of a particular company, its net income, the experience with traditional payment systems and, finally, the perceived and actual advantages, utility and usefulness of the mobile payment systems	Future research can look at specific payment systems because no particular mobile payment system has been assessed. The overall intention to use said payment systems was approached instead. Thus, the interviews did not cite particular brands, devices or tools
Singha & Sinha, 2020 How perceived trust mediates merchant's intention to use a mobile wallet technology	To use an empirical model to measure a merchant's intention to use a mobile wallet technology.	No theory	Quantitative	The study found that perceived customer value had the highest effect on the merchant's intention, followed by the perceived usefulness of technology. However, the proposed mediation effect of perceived trust was small but significant in perceived usefulness	Merchants' business details were not collected during the survey and current study. Therefore, I did not review the use and suitability of mobile wallet services for different business lines and products. This provides an opportunity to study merchants' perception and usefulness of a mobile wallet service for different business and revenue models.

Source: Author's construct

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2.7 Review from Sub-Saharan Africa

Further, a synthesis of Sub-Saharan Africa (SSA) studies was done to map out the body of knowledge on mobile payments. The review demonstrates that extant literature on mobile payments from developing economies in Africa has mainly focused on consumer adoption, technology issues, and how mobile payments facilitate micro-businesses growth.

2.7.1 Issues Discussed

Among the issues discussed in the SSA literature on mobile payments is the consumer adoption perspective centred on factors that influence adoption. Including trust, risk, compatibility, consumer learning and acceptance of mobile payments (see Kombe et al., 2020; Malinga & Maiga, 2020; Killian & Kabanda, 2017; Humbani & Wiese, 2018; Anthony & Mutalemwa, 2014; Wamuyu, 2014). In addition, some of the studies in the consumer adoption category have looked at mobile money and payment for the poor, implementation and strategy for mobile payments adoption (See Mothobi & Grzybowski, 2017; Suárez, 2016; Asongu & Asongu, 2018; Wamuyu, 2014) while others have looked at social aspects of m-payment with a focus on the needs of mobile payment users at an individual level (micro-level) by understanding cultural influence and the role m-payment play in the lives of the adopter. Other studies have also looked at the importance of network structures and technology complementarities and how mobile payment improves the quality of life of its adopters.

The second cluster of research was on the technological environment. From the technological cluster of studies, it was evident that studies on mobile payments have looked at technological issues; among them are challenges in mobile payment adoption, criminal activities in cyberspace, mobile device compatibility and resistance to change. Also, mobile banking applications and their influence on the banking industry and the financial system

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(see Malinga & Maiga, 2020; Bosire & Ntale, 2018). Again, some studies have looked at mobile payment technical solutions such as APIs for secure access and money transfer, designing mobile payment technology to include the poor user.

The significant difference in the literature from the SSA perspective and the global perspective is that a section of the mobile payment literature has focused on mobile payment and micro-businesses. These studies have examined how mobile payments facilitate and improve micro-business (Bosire & Ntale, 2018; Muchiri, 2018; Amegbe, Hanu & Nuwasiima, 2017; Kirui, Okello, Nyikal, & Njiraini, 2013). For example, Muchiri (2018) studied the effect of m-banking adoption on the performance of SMEs in Nairobi County and determined the magnitude to which small and medium enterprises have adopted mobile banking in Nairobi County. The extent to which SMEs utilise the different services offered by mobile banking and established the association between usage of m-banking services and SME performance. It was identified from their study that mobile banking had increased its customer base because of its easy method of payments, more time to carry out other business activities, easy access to funds in the bank, increased business transactions, increased profits and increased business efficiency. Most of the studies from this cluster have concentrated on mobile banking as a form of electronic payment and the institutional setup required to implement them in micro-businesses.

Finally, some scholars have also looked at the regulatory environment consisting of authorisation of payment institutions, money transfer surveillance and ownership from a different context (Rustamov, 2016; Williams, 2013; Nyaga, 2014). For example, Williams (2013) investigated stakeholder relations to find out how the various mobile money implementations are organised and the resultant effects on the market. The study established that telecom regulators are passive in regulating mobile money, which is a positive.

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However, the financial regulators regulate mobile money based on how they perceive it, either as a core or nonbanking service. Results also indicate that although mobile money is regulated differently in different countries, it is difficult to say that one regulatory measure is better than the other.

2.7.2 Conceptual Approaches

Conceptually, there is evidence in the literature that many adoption theories have been used to study mobile payments initiatives in the developing economies in Africa. Among the theories used are (TAM) (Davis, 1989) (Kombe et al., 2020; Lwoga & Lwoga, 2017; Muchiri, 2018; Anthony & Mutalemwa, 2014), UTAUT (Venkatesh & Davis, 2000; Killian & Kabanda, 2017, Malinga & Maiga, 2020), Task - Technology Fit (TTF) (Goodhue & Thompson,1995; Wu et al., 2021), Innovation Diffusion Theory (IDT) (Rogers, 1995), and Theory of Planned Behaviour (TPB) (Ajzen, 1991), with some of the studies extending TAM and same for UTAUT (see Lwoga & Lwoga, 2017). These theories were used to understand mobile payments adoption dynamism and the opportunities and barriers to adopting mobile payments in developing counties, especially in the informal sector.

2.7.3 Methodological Approaches

Mostly the methods employed by these studies are quantitative, using structural equation modelling and PLS algorithm for analysis. On the other hand, ten developing country papers used a qualitative analysis method using meta-analysis and the mean end chain approach. Only one article made a mixed-method approach. As far as this review is concerned, most studies referred to countries as their unit of analysis. Irrespective of the methodology used, most studies were skewed towards Kenya. Geographically almost all countries from East-west, central, south and north in the continent of Africa were represented in terms of studies

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on mobile payments. However, the concentration was in Eastern Africa, mainly Kenya. This is attributed to the M-Pesa success story, which has generated a lot of interest amongst researchers on the continent; hence most of the studies, if not conducted in Kenya, have made references to M-Pesa as a case study.

In summary, it can be observed from the review that studies from developing countries in SSA have focused on adoption mainly in the area of consumer adoption and technological environment that aid in mobile payment services or mobile banking services. There was a lack of research conducted from the merchant's perspective on how the African culture influences the adoption or non-adoption of mobile payment. Most of the studies were descriptive and conceptual, with few studies using empirical data to validate their models. Again, the review demonstrated a few studies using a qualitative and mixed-method approach. The above review confirms existing studies and indicates the lack of research on merchant adoption globally. Therefore, there is a need for mobile payment research to focus on contextualizing merchant adoption and understanding the merchant perspective of mobile payment.

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Table 2. 3 Sample Studies from Sub-Saharan Africa Perspective

Author and Title of Article	Purpose of the Study	Theory Used	Methodology	Findings	Gaps
Humbani & Wiese, 2018 A Cashless Society for All: Determining Consumers' Readiness to Adopt Mobile Payment Services	The purpose is to understand consumers' readiness to adopt mobile payment services and the moderating effect of gender.	Technology readiness index	Quantitative	Their findings demonstrate that convenience and compatibility drive consumers' adoption. In contrast, risk, cost and insecurity are inhibitors—furthermore, gender moderates only the relationship between convenience and the adoption of mobile payment services.	Ongoing research is needed to further explore the impact of these three factors on the adoption of mobile payment services.
Anthony & Mutalemwa, 2014 Factors influencing the Use of Mobile Payments in Tanzania: Insights from Zantel's Z-pesa1 services.	The purpose is to investigate factors influencing the intention to use Zantel's Z-pesa services. .	TAM	Quantitative	The study found that the rate of adoption of mobile payments services among subscribers of Zantel (Z-pesa) are growing at a relatively low rate due to various factors that	The need for a comparative study
Killian &Kabanda, 2017 Mobile Payments in South Africa: Middle Income Earners' Perspective	The purpose is to examine the factors that affect mobile payments in the South African context from the perspective of the middle class	UTAUT	Quantitative	The findings show that trust, risk and habitual use were factors that significantly affected the intention to adopt mobile payments by South African middle class citizens.	Future research can use structural equation modelling to analyse the research model instead of individual correlation analysis between constructs
Muchiri, 2018 Effect of Mobile Banking Adoption on the Performance of Small and Medium Enterprises in Nairobi County	To understand the effects of m-banking adoption on the performance of SMEs in Nairobi County and to determine the magnitude to which small and medium enterprises have adopted mobile banking in Nairobi County.	TAM	Quantitative	It was identified from the study that mobile banking has increased its customer base because of its easy method of payments, more time to carry out other business activities, easy access to funds in the bank, increased business transactions, increased profits and increased business efficiency.	The study recommends other studies on the effect of mobile banking in other institutions.

Source: Author's construct

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2. 8 Identified Research Gaps

The review of mobile payment research highlighted several research gaps that need addressing to outline and propose guidelines for future research. The current mobile payment studies appear to be consumer adoption-centred, and this has skewed research findings on mobile payment in one direction to the neglect of other themes. This lack of diversity in mobile payment studies narrows knowledge generated on mobile payments adoption. Nevertheless, mobile payments are a typical multi-sided market which needs a focus on and active development of all potential parties in the ecosystem (Gomber et al., 2018; Du, 2018; Qasim & Abu-Shanab, 2016). The phenomenon draws attention to the fact that research focusing on consumer adoption in isolation will not produce innovation in mobile payment research. Therefore, there is a need for mobile payment research to focus on contextualizing merchant adoption and investigate the strategic reasons that could influence merchants to adopt mobile payment platforms at the firm level. Strategic factors that influence merchant adoption of mobile payment must be known because firm-level technology adoption suggests a complicated adoption process influenced by several factors other than utility or risk trade-offs. While we are aware of the non-strategic factors, there is a need to explain the strategic factors to obtain a comprehensive understanding of factors that influence merchant adoption of mobile payment systems at the firm level (Li, 2018; Iman, 2018; Bouwman, Nikou & de Reuver, 2019; Chin, Harris & Brookshire, 2018; Gao & Waechter, 2017).

Concerning these gaps, there are insufficient theoretical frameworks in mobile payment research explaining how merchant interactions with new technologies (mobile payments) create affordance to sustainable value that leads to business benefit; of more importance to future mobile payment, research is how organisations can achieve outcomes that would not occur without the use of technology, to explicitly include the unintended and the

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undiscovered use of technology (Majchrzak & Markus, 2013). Further, the utmost importance is for future research to explore the affordance of a specific technology (mobile payments) with a particular focus on the technological artefact. Understanding the process is needed to seize affordance potential (Pozzi et al., 2014, p. 11). Understanding how affordance potential is captured can expand our knowledge of how the value created generate benefit for the actors involved (De Reuver et al., 2018; Pozzi et al., 2014, p. 11; Majchrzak & Markus, 2013). This will help elicit a broader understanding of how an actor's technology interaction affords or constraint benefit at the firm level. The identified gaps in the conceptual approaches reiterated the urgent need to develop a theory-based framework to explain the benefit of the technology-enabled value processes. This will bring an understanding of the performance implications of mobile payment to help evaluate the possible contribution of mobile payment to business development and potential socio-economic development.

More importantly, mobile payment services from developing markets are unlikely to penetrate developed economies with developed financial markets and sophisticated telecom, merchant and consumer infrastructures. Therefore, there is the need to understand context-specific factors that could enable, stimulate and constrain the affordance generated from actors' interaction with the technology. Moreso, since affordances are context-specific (Pozzi et al., 2014, p. 11), there is a need for a contextually-grounded study from the Sub-Sahara African perspective. Such an endeavour will help define the proper scoping of mobile payment platform concepts in different contextual settings. This endeavour will help progress and coagulate the literature to help avoid leaky idiosyncrasies (Odoom & Kosiba, 2020). Finally, on methodology, the review demonstrated a few studies using qualitative and mixed method. Mobile payment research could benefit from more mixed

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methods and design science studies across a broader range of business activities to extend the findings from previous mobile payment studies.

2.9 Chapter Summary

The chapter reviewed existing literature on mobile payments from the SSA perspective. The aim was to understand the extent of research, map out the body of knowledge on mobile payments, and establish the current knowledge gaps in the literature. The literature reveals that most studies on mobile payments focus on areas such as the ecosystem, technology and consumer adoption at the micro-level. Most studies utilise theoretical models like TAM and its variation to determine the factors that may influence mobile payment adoption by consumers at the micro (individual) level. Although these are essential issues that need to be addressed, these studies tend to neglect other important contextual and institutional factors, such as regulation, legal issues, merchant adoption, and strategic guidance. As a result, there is currently no theoretical framework in mobile payment research describing and analysing organisational strategy on how merchants can actualise mobile payment affordance to create business benefits where merchants can leverage new technologies (mobile payments) and, at the same time, adapt to environmental changes to create sustainable value that will lead to organisational benefit.

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CHAPTER THREE

POTENTIAL BENEFITS OF MOBILE PAYMENTS IN DEVELOPING COUNTRIES

3.1 Chapter Overview

Evidence in the literature suggests the need for the potential of mobile payments be harnessed completely for socio-economic development in Africa and other developing economies (Asongu & Asongu, 2018; Oliveira et al., 2016; Boateng, 2011). The previous chapter qualitatively synthesised the literature on mobile payments to understand the progression of knowledge and unearth new ground in mobile payment research. This chapter seeks to understand the types of benefits the mobile payment platforms interaction provides to the merchant firm as an outcome. The focus of the chapter will be on the value-generating impact of merchant mobile payment platforms interactions. It is divided into two sections; the first section looks at the benefit at the National level and the second section looks at the benefit at the firm level.

3.2 Benefit at the National Level

A number of studies from both academic and practitioner perspectives on mobile payments demonstrate a growing global interest in the role of mobile technologies in developing countries (Humbini & Wise, 2018; Klapper & Singer, 2017; Sujata, Perumal, Zaman & Jha, 2017; Aker & Mbiti, 2010). The availability and relatively inexpensive mobile phones are life-transforming, with new and valuable opportunities to mitigate the region's challenges in developing its payment infrastructure. According to Wamuyu (2014), mobile payment is one of the visible examples of how the evolution of new technologies can contribute to economic growth and national development. For example, mobile payment can propagate agricultural price information, monitor health care, and transfer money in poorer countries

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(Aker & Mbiti, 2010). There is evidence in the literature that the poor, who are in the majority, are crying for an extensive range of micro-financial services that can potentially be provided through mobile payments.

Research across SSA countries indicates that mobile payments are making significant contributions to improving the rural poor's livelihoods and, in particular, their socio-economic well-being. There is evidence that mobile payments, especially peer-to-peer transfers, are helping in the alleviation of vulnerability, which allows consumption and risk-sharing mechanisms (Boateng, 2011; Jagun, Heeks &Whalley, 2007). Further, mobile payment has provided new ways of doing business and has shaped how monetary transactions are done (Ahmad et al., 2020). For instance, an individual can use mobile money to make payments and perform other financial transactions, including peer-to-peer mobile money transfers, mobile or person-to-business payments for goods and services (bill and retail payments), mobile banking deposits, loans, and store financial value.

In addition, mobile payment is bringing significant transformation and economic opportunities to those unable to access formal banking institutions, enabling them to participate and take advantage of the financial economy (Kilian & Kabanda, 2017). A study conducted by Singh et al. (2017) on the potential of mobile remittances for the bottom of the pyramid from emerging economies identified that those who are aware of such services and use them tend to enjoy higher standards of living in terms of both income and education (Suri & Jack, 2016; Mbiti & Weil, 2015).

In Ghana, for example, there is a tremendous expansion in mobile payment adoption. Anecdotal evidence and research have shown that people without access to formal banking use mobile payment services to conduct finance-related transactions. This is especially true

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in remote areas with limited or no access to formal financial institutions. This innovation is made possible by the explosive expansion of mobile phones in emerging markets and the non-availability of affordable alternatives (Alhassan, Kolog & Boateng, 2020; Odoom & Kosiba, 2020). When used appropriately, the growth of mobile payment will provide immense opportunities, and countries can leverage mobile payment to revolutionize the transaction environment within the payment value chain (Pandey et al., 2010). Arguably, the development impact of mobile payment is related to the enormous potential of mobile money to facilitate financial inclusion (Senyo & Osabutey, 2020). Again, mobile payments are helping improve efficiencies in trading and assisting businesses to become competitive (Rodrik, 2018). The next section will focus on the benefit of mobile payment to the merchant firm and its value-generating impact on the merchant firm.

3.3 Potential Benefits of Mobile Payments to the Merchant Firm

The outcome of leveraging technology has been studied from different perspectives. For example, scholars like Oh, Ryu and Yang (2019) and Bharadwaj (2000) have examined it based on firm performance, while others like Kim et al. (2010) have studied it from the competitive advantage perspective. Yet still, others have examined it from the benefit perspective. For example, Wang and Hajli (2017) and Wang, Kung and Byrd (2018) examined the benefit dimensions within the business value chain in the healthcare industry. A further examination of the literature suggests that both studies were built on the study by Shang and Seddon (2002); they explored the potential benefits organisations are likely to gain from enterprise systems. Arguably, the literature points to the fact that the application of technology in the performance of a task leads to an efficient delivery of that particular task. Hence, the mobile payment adoption by the merchant firm provides an alternative payment means likely to reduce the merchant's transactional costs. This leads to other interrelated benefits that can potentially influence the merchant's operational process,

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trading relationships and informational and strategic resources in the marketplace, which could add value to enhance their business performance (Wang & Hajli, 2017; Boateng, 2016).

In addition to appropriate technology in payment transactions, efficient and valuable exchange of goods and services, as well as profitable transactions at a minimal cost, generate efficiency and value in businesses (Liu, Kaffman & Ma, 2015; Casadesus-Masanell & Zhu, 2013; Boateng, 2011; Amit & Zott, 2001). For example, researchers like Boateng (2016), Ssonko (2010) and Taylor (2016) have emphasised that mobile payment technologies allow businesses to strategically use their mobile phones to store value on an account linked to their handset, transfer funds to their suppliers and receive payments for their sales irrespective of their location and time. The mobile payment technology enables the merchant's firm to control their bank accounts, store value on their mobile device, and transfer funds.

Taylor (2016), in her work on the potential benefits and risks of mobile payments, mentioned that mobile payments are beneficial to consumers and retailers alike, arguing that the use of mobile payments leads to transformation and innovation in brick-and-mortar sales by making transactions simpler and faster; this saves time and effort. Furthermore, research into mobile payment adoption by Zhang and Williamson (2021) posits that mobile payments enable quick transactions in an environment with large volumes of payments, save operational turnaround time, and ensure productivity gains. In addition, Kim et al. (2010) indicated that mobile payments enable organisations to achieve a competitive advantage through the efficient use of mobile payments for transactions.

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The above studies provide evidence that merchants achieve a broad spectrum of benefits beyond mobile payment adoption when applied strategically in the organisation. These interrelated mobile payments benefits have also been broadly categorised by Boateng (2016), from an e-commerce perspective, as being oriented around three objectives: strategic, informational and operational. The author defines strategic benefits as improving the market performance of organisations; the informational benefit is associated with improving marketplace information and communication, and finally, operational benefits are associated with achieving cost reductions and efficiency (time) in processes which facilitate the delivery of the organisation's products (goods and services) in the marketplace. Further, the author explained that these three broad objectives might characterise the intent of adopting e-commerce within a firm.

In addition, Wang and Hajli (2017) and Wang, Kung and Byrd (2018) also examined the benefits organisations derive from using technology within business value chains in the healthcare industry. The above studies were based on Shang and Seddon's (2002) research on the potential benefits organisations are likely to gain from enterprise systems. Their studies identified five broad categorisations of technology benefits. These technology benefits classifications include managerial, operational, strategic, IT infrastructure, and organisational benefits. Adopting the benefit conceptualisation by Boateng (2016) and Shang and Seddon (2002), this study identified five broad categorisations of mobile payments benefits, as illustrated in Table 3.1.

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Table 3. 1 Mobile Payment Benefit Dimensions

Benefit dimension	Description	Sub-dimension
Operational benefit	The mobile payment benefits obtained from the improvement of operational activities	• Cost reduction • Cycle time reduction • Productivity improvement • Quality improvement • Customer service improvement
Managerial benefit	The mobile payment benefits obtained from business management activities involve allocation and control of resources, monitoring of operations and supporting of strategic business decisions	• Better resource management • Improved decision-making and planning • Performance improvement
Strategic benefit	The benefits obtained from strategic activities which involve long-range planning regarding high-level decisions	• Support for business growth • Support for business alliance • Building business innovations • Building cost leadership • Generating product differentiation • Building external linkages
IT infrastructure benefit	Shareable and reusable mobile payment resources that provide a foundation for present and future business applications	• Building business flexibility for current and future changes • IT cost reduction • Increased IT infrastructure capability
Organisational	The benefits arise when using a big data system benefit an organisation in terms of focus, cohesion, learning, and execution of its chosen strategies.	• Changing work patterns • Facilitating organisational learning • Empowerment • Building common vision

Source: Adopted from Boateng (2016) and Shang and Seddon (2002)

3.3.1 Operational Benefits

Merchant firms undertake several daily operational activities. These repetitive activities usually consume many organisational resources because they require more time and resources. They may consist of activities performed routinely daily, weekly or monthly basis. Merchants' interaction with mobile payment technology allows them to reduce their transactional costs and increase their performance by helping the merchants perform their

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transactions using their mobile payment platforms, irrespective of their place and time. Again, mobile payment, in some cases, provides a better alternative for executing some operational activities. As argued in extant IS literature, investment in technology has the capability to restructure processes and enable business benefits such as reduction in cost, reduction in operational turnaround time, reduced human involvement, expansion in functional volumes and improvement in productivity, leading to improvement in customer service delivery (Wang et al., 2016; Shang & Seddon, 2002).

Also, mobile payment is aiding businesses in achieving operational efficiency through different transactions, including paying suppliers for goods and services, paying bills, sending money to friends and relatives, withdrawing cash and topping up airtime accounts. This generates an enormous convince in their operations as it becomes effortless for the merchant firms to control their mobile phone accounts and have access to their accounts and manage finances, and control spending (Altounjy, Alaeddin, Hussain & Sebastian, 2020; Taylor, 2016; Boateng, 2011; Mbogo, 2010).

Furthermore, mobile payment allows convenience because most merchant businesses in developing economies operate in the informal sector and are usually one-person or family businesses. Additionally, many of these businesses do not have bank accounts and those that do, struggle to operate them because of the inconvenience associated with having to regularly visit the bank to transact business (Taylor, 2016; Altounjy et al., 2020; Mbogo, 2010; Mallat, 2007).

3.3.2 Strategic Benefits

From the strategic benefits perspective, businesses always look for innovative ways in their business activities to create and capture value (Altounjy et al., 2020). Merchants leveraging

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mobile payments in businesses can generate value based on the features of mobile devices such as mobility, flexibility, convenience and ubiquity, localization immediacy and instant connectivity to create a competitive advantage through innovative strategies as against "being first on the scene" (Kettinger & Lee, 1994; Yang & Kim, 2012). According to the literature, these characteristics generate strategic and operational benefits for the merchant (Wu, Liu & Huang, 2017). Activities involving strategy involve long-term planning in relation to high-level managerial decisions, including product planning, retaining customers, and capital sourcing. Merchants adopting mobile payment have access to relevant customer and transactional data, useful for strategic direction such as business growth, business model innovation, and differentiation in cost and external linkages (Shang & Seddon, 2002). These strategic benefits ultimately improve merchant performance and strategically position merchant firms to gain a competitive advantage (Wang et al., 2016; Shang & Seddon, 2002).

Again, the strategic benefit is related to the mobile device's affordances. These affordances, combined with the vastly reduced cost of information processing, allow efficient payment transactions, affecting how these businesses operate (Baptister & Oliveira, 2017; Boateng, 2011). This goes a long way to significantly improve the loyalty of trading partners and customers. It gives further opportunities for firms to expand their reach and increase revenue and profitability (Boateng, 2016). Also, the use of mobile payments by the merchants allows them to access money and financial services without having bank accounts. The traders can purchase digital funds using cash at an authorised agent and transfer funds to their suppliers, irrespective of location. They can also redeem the cash at another agent even if they are in a remote area. This facilitates the trading activities of merchant firms. Moreover, these transactions are done easily in a safe and secure environment, affecting businesses positively (Anwar & Johanson, 2015).

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3.3.3 Organisational Benefits

The organisational benefits are achieved when the investment and application of technology enables a more accurate and faster process coordination and execution around the technology being introduced in the organisation (Seddon, Calvert & Yang, 2010). Additionally, the organisational benefits enable linkages between the business and its partners across their supply chain. More so, the application of the technology enables the organisation to gain greater accuracy in organisational data, which helps the organisation evaluate and control organisational processes, improve managerial decision-making, and improve asset utilisation (Harris & Davenport, 2006). In a nutshell, organisational benefits are the significant business improvements that lead to changes in how the business carries out its work that leads to visible improvements as a business invests in new technologies (Shang & Seddon, 2002).

In conclusion, these benefit dimensions have been applied extensively in IS studies and other studies that are not IS-related. Therefore, its application in future mobile payment research, such as this, is worthwhile. Again, the justification for mobile payment benefit over competitive advantage and performance is because mobile payment performance studies seem to focus mainly on a few variables such as market performance, operational performance or financial performance in a firm to make generalisations. In addition, the review of mobile payment research demonstrates a seemingly non-existent mobile payment benefit dimensions framework. Thus, this research can take the opportunity to empirically test the mobile payment benefits dimensions' framework in the retailing industry.

3.4 Chapter Summary

The chapter reviewed the literature on mobile payment outcomes and how mobile payment can be leveraged strategically at the national and firm-level for socio-economic

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development in developing countries. It was established that mobile payments are helping improve efficiencies in payment transactions and facilitating the integration of developing countries into the global economy. Also, mobile payments assist businesses in achieving benefits and value, thereby becoming competitive. The benefits mobile payment offers organisations include operational, strategic and organisational benefits.

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CHAPTER FOUR

THEORETICAL FOUNDATIONS

4.1 Chapter Overview

As concluded in Chapter Two, the identified gaps in the literature reiterated the urgent need to develop a theory-based framework to explain how merchants can benefit from the technology-enabled value processes and understand the outcome implications of mobile payment platforms interactions. Therefore, this chapter reviews the twofold theoretical approach adopted for this study Rational Choice Theory and Technology Affordance and Constraint Theory. The review of both theories was under these broad captions; origins, assumptions, approaches, core concepts, their application in information systems and critiques of both theories'. The review concluded with a summary.

4.2 An Overview of Rational Choice Theory

The Rational Choice Theory (RCT) is one of the dominant theoretical approaches in conceptualising human decision-making in several social science fields (Voss & Abraham, 2000). The theory is of a sociological origin and is also known as Rational Action Theory and has been widely used in different fields of study. The theory has mainly been applied in IS studies to understand security behaviour (Bulgurcu et al., 2010; Li et al., 2010; Vance & Siponen, 2012). Rational choice generally means choosing among alternative courses of action in accordance with certain rationality assumptions. The theory assumes that individual humans undertake purposeful actions because they are rational (Bridge & Wilson, 2015; Voss & Abraham, 2000). The theory is built on the grounds that all actions are fundamentally 'rational' in nature and that people calculate any action's likely costs and benefits before making a decision. Therefore, the sum total of social behaviour is as a result of individual actors' behaviour in making their decisions. Based on the underlying

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assumptions of the theory, the individual has a preference among alternative choices that enables them to state their preference regarding the options available (Burns & Roszkowska, 2016). It is worth noting that there are variants of rational choice theory; therefore, there are several rational choice perspectives (Zey, 1992). The following section reviews a few of the variations and provides some examples.

4.2.1 Compositions of Rational Choice Theory

Originally, the concept of rationality is widely used in Economics models with a strong influence on understanding rationality. As understood in conventional Economics and attributed to Adam Smith (1732–1790), rationality is seeking the utmost beneficial choices to meet an individual's self-interest (Fry, 2005). Based on this assumption, neo-classical economists propounded the rational choice approach using mathematical utility function and operationalising it to maximise the utility. In Economics, generally, utility denotes satisfaction or the happiness received from goods or services. Rational actors are seen as "utility maximizers," acting to maximise "the expected utility" (Coleman, 1986), "private benefits" (Hardin, 1997), wealth (Friedman & Wittman, 1995), "cost-benefit ratios" (Frey, 1997), rent (Zafirovski, 2019), or money income (Opp & Hartmann, 1989). On the other hand, they may minimise costs, including transaction costs (Williamson, 2005) and other "disutilities." From the Economics perspective and adopting from game theory and decision theory, the rational agent is anything that makes decisions, typically a person, firm, machine, or software, which can take into consideration a very clear preference, and rational individuals choose the alternative that is likely to give them the greatest satisfaction (Burns & Roszkowska, 2016; Hardin, 1997).

Rational action or rational choice has also been applied extensively in criminology. The conception of rationality/rational choice is traced to Cesare Beccaria (1738–1794) and

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Jeremy Bentham (1748–1832), the founders of classical criminology. Bentham developed his theory based on Beccaria and proposed utilitarianism and the greatest happiness principle. He established a felicific calculus algorithm to measure the amount of pleasure and pain a specific action cause, suggesting that punishment should be based on the pleasure/pain principle (Cornish & Clarke, 2014). These variations of rational choice theories of crime explain criminal behaviour as a basis for expected reward and punishment (Cornish & Clarke, 2014).

The development of RCT has also been vigorous in Sociology and Political Science fields of study. These disciplines have developed different rational choice theories as well. The social capital theory is a rational choice-based theory that explains stratification and rests on the assumption that "my connections can help me" (Cross & Cummings, 2004). The social capital theory concerns the purposeful establishment of relationships and an individual's drive to employ them to generate intangible and tangible short-term or long-term benefits. The benefits could be social, psychological, emotional, or economical (Lin, 2000). The theory of justice, a political theory, discusses the features of a desirable and feasible societal structure and how to achieve the just distribution of goods in a socio-political arrangement (Rawl, 1971). The theory suggests that when individuals are under the "veil of ignorance," their interests are screened out, and they are aware of only the general truths about primary goods (Rawl, 1971). The assumption of maximising justice in this theory is quite different from that of maximising self-interest. Though there are many other variants of RCT, the sampling above demonstrates that different RCTs could be produced depending on the context. Quackenbush (2004) argued that a rational choice is an approach to theory that can result in competing or even contradictory theories. Therefore, this study adopts rational choice theory from an organisational perspective as applied by Paternoster and Simpson (1993).

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4.2.2 Assumptions of Rational Choice Theory

Despite the differences in RCT assumptions, four basic assumptions are common to all the variants. The basic underlying assumption is that the individual, who makes a decision, identifies specific alternative actions or sequences of actions and the available possibilities in the choice situation that are probable and explicitly known. Secondly, the individual or group of actors decide the outcome resulting from each of the other options and the possible results or payoffs of their choices. The actor is assumed to know all relevant consequences of her elective actions. Thirdly, the actor has preferences among the options with what is assumed to be a consistent preference ordering. There is an assumption that the outcome of acts can be looked at in terms of subjective preferences or utilities. Effectively, the values or preferences are comparable to each set of consequences. Finally, the actor applies a decision or choice system to the alternatives to determine which maximises net gain. The individual then chooses a single alternative based on its consequences for the actor regarding her preferences or utilities (Charki, Josserand & Boukef, 2017). More precisely, the actor settles on a decision by choosing the alternative which maximizes a utility or value function.

To summarise, a rational choice action is caused (motivated) by the individual's circumstances oriented to the consequences as they see or define them. The actor judges/differentiates the costs and benefits of alternative actions (their consequences or outcomes), with concern exclusively about the consequences for herself (although some variants of RCT have relaxed this assumption). They choose the alternative with the most net gain or "utility" (in more rigorous formulations, one uses algorithms to model-actor decisions that maximise (or optimise within defined constraints) with respect to some utility function). An event, action, social process or institution can, thus, be explained in terms of the rational choices of individual agents (Charki et al., 2017; Ransbotham & Mitra, 2009).

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4.3 Application of Rational Choice Theory in Information Systems

The application of RCT in information systems is mostly applied in IS security research, and it is a popular theory in understanding IS security behaviour. The theory has been used in IS to explain behaviours such as employees' IS security policies compliance or violation in an organisation (Bulgurcu, Cavusoglu & Benbasat, 2010; Herath & Rao, 2009; Li et al., 2010; Siponen, Pahnila, & Mahmood, 2010; Vance & Siponen, 2012; Willison, 2005), or an organisation's information security compromise (Ransbotham & Mitra, 2009). These studies have been based primarily on economic and criminological approaches to rational choice (Becker, 1976; Clarke & Cornish, 1985; Paternoster & Pogarsky, 2009; Paternoster & Simpson, 1993). Even though IS studies have extensively applied the RCT to information securities, not much is known about its application in the decision-making process of merchant adoption of mobile payment, considering the cost and benefits associated with the same. Additionally, the assumptions of RCT are context-sensitive, which creates substantial opportunities to advance the RCT approach in merchant adoption behaviour by taking into consideration differences in contexts and building the RCT on appropriate assumptions.

4.4 Rational Choice in Relation to Merchant Adoption of Mobile Payment

Merchants are increasingly leveraging mobile payments to enhance their business transactions (Hsiao, 2019; Souiden et al., 2019). Notwithstanding the much-known benefits of mobile payments technology, its use comes with increased privacy, fraud and security risk, a genuine concern to the merchant (Isaac & Zeadally, 2014). In this case, the merchant's choice in adopting mobile payment services is based on the fact that the individual merchant has specific preferences toward mobile payment (utility) (Charki et al., 2017). This presupposes that as the merchants seek to maximise the utility of mobile payment services, the merchant is willing to invariably divulge personal information and forgo concerns regarding privacy and security whenever the perceived benefits (i.e. utility

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of ease of use, high network availability, etc.) outweigh the perceived potential risk. The application of the theory demonstrates how merchants react in a trade-off assessment of the risks and benefits of mobile payment in deciding to adopt mobile payment. The understanding is that adoption may reduce when merchants perceive high threats from mobile payment platforms or high-security risks. On the other hand, if the merchant holds strong benefit beliefs, it can enhance the possibility of the merchant adopting the technology (Li et al., 2010; Bulgurcu et al., 2010).

Nevertheless, from the technology acceptance literature, individual decision to adopt technology is influenced mainly by the perceived ease of use and perceived usefulness, which could be related to the rational choice theory (Davis, 1993; Davis, Bagozzi & Warshaw, 1989; Sundarraj & Wu, 2005). This is because the rational choice seeks to explore the process of optimising and maximising the utility of a technology. The technology acceptance theories relate to external variables that externally influence an individual's decision based on the risks and benefits associated with technology adoption (Bulgurcu et al., 2010). For example, the technology acceptance model (TAM) provides an understanding of external variables that largely influence consumers' decisions on whether or not personal information is at risk (Park, 2009). Thus, we can project that the fundamental variables in TAM are foundational for rational choice theory, which can be classified as the utility a merchant derived from the perceived ease of use (uPEOU) and perceived usefulness (uPU) of a technology (Pai & Huang, 2011; Turner et al., 2010). The satisfaction a merchant gets in spending minimal effort to use technology is the utility of PEOU. Venkatesh (2000) argued that the less effort a specific technology is, the higher the utility, PEOU and probability that the merchant will perceive the anticipated technological service as beneficial.

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4.5 Criticism of Rational Choice Theory

One criticism of rational choice focuses on the lack of realism in its assumption that we calculate the expected consequences of our options and choose the best of them. A vast body of social research reveals that people often act impulsively, emotionally, or merely by force (Charki et al., 2017). The most common argument against the use of rational choice models outside Economics and society is that they make unrealistic assumptions about individual behaviour and the structure of a particular situation (Draper, 2017). The main criticism is that real decision-makers are not strict rationally because institutions constrain them, cultural influences and psychological limitations that make the assumption of rationality problematic at best and foolhardy at worst (Draper, 2017).

4.5.1 Why Rational Choice Theory

The application of RCT has mainly been in criminology, healthcare and Economics, which is contextually sensitive. Though studies in IS security have applied RCT, the literature review shows that IS scholars in security have barely discussed RCT's assumptions in the IS specific security context. For instance, the development of RCT is from several contexts, which began from the assumption level to its application, thereby giving different versions of RCT. The literature shows that IS security research has not done this yet. Leaving out the particularity of the IS security context may cause inadequate consideration in theory development. Therefore, the application of RCT in mobile payment securities will fill this gap by integrating the IS security context (mobile payments) into the use of rational choice to understand mobile payment security behaviour in the mobile payment context. In this study, the rational choice perspective examines the factors influencing merchant decisions to adopt mobile payment platforms. It is used as a starting point to understand factors affecting merchants' tendency to adopt and use mobile payments. Aside from the RCT, a second theory, the technology affordance theory, was adopted to respond to the other

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research gaps and answer the research questions. Therefore, the next section reviews and discusses the affordance theory.

4.6 An Overview of Technology Affordance Theory

The theory of technology affordances is based on the general theory of affordances grounded in the relationship between object and observer and can either enable or constrain (Gibson 1979). The affordance theory originated from ecological psychology, attributed to Gibson (1979). James J. Gibson first introduced the concept of affordances within his larger theory of direct perception to describe "action possibilities", whereby an environment presented opportunities for animals (including humans) (Gibson, 1979). Affordance is the possible actions that are available to an actor in an environment for good or ill. An object's complete set of affordances defines its possible functions. Affordances are, therefore, a form of communication between objects and their users. Humans tend to use objects in ways suggested by the most conspicuously perceived affordances, not in ways that are difficult to discover, and affordance is independent of the actor's ability to perceive the possibility (Greeno, 1994; Hartson, 2003; Gibson, 1986). The above accession has been emphasised by Greeno (1994) that affordances are prerequisites for activity and do not imply that the specific activity will occur. Gibson (1979) holds the view that the individual can directly perceive the information present in the environment because affordance is related to the actor in the environment but independent of their ability to recognise them (Gibson, 1979).

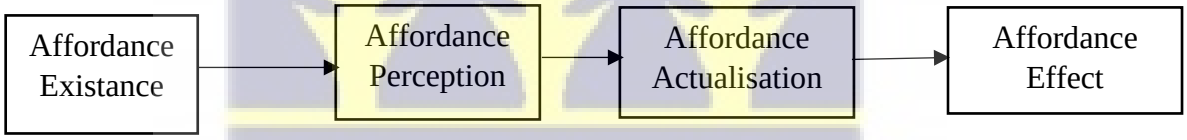
4.6.1 Dimensions of Technology Affordance Theory

The literature on affordance has classified affordance into four thematic cognitive areas: affordance existence, affordance perception, affordance actualisation, and affordance effect. As classified by the literature, these areas describe how affordance translates into action (Pozzi et al., 2014; Leonardi, 2013; Du et al., 2019). First, the affordance existence is the

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recognition that affordance exists as a cognitive process which is produced as a result of IT artefact and organisational interaction. Secondly, affordance perception is the recognition of the existence of affordance. The third premise is that the actualisation of affordance is the actions adopted by the goal-oriented actors. They use technology to achieve an outcome dependent on the organisation's behaviour adopted in acting on the identified opportunity for action. More so, affordance actualisation authenticates an organisation's behaviour to attain the desired objective (Leonardi, 2013). Its implication then leads to a goal-oriented actualisation. Finally, the affordance effect is the adopted behaviour producing an effect (Pozzi et al., 2014; Du et al., 2019). Specific outcomes in an organisation are dependent on the actualisation of an affordance (Bygstad et al., 2015; Strong et al., 2014). The affordance dimension is represented in Figure 4.1.

Figure 4. 1 Affordance Dimensions



Source: Authors construct

4.6.2 Components, Structure and Assumptions of Technology Affordance

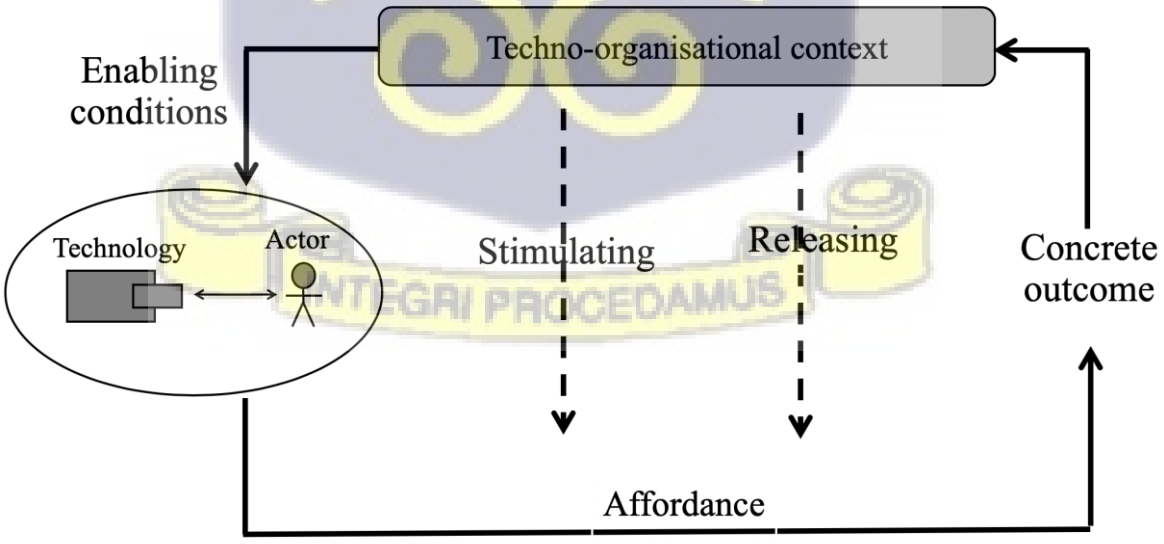


Figure 4.2 Affordance structure

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Source: Adopted from Bygstad, Munkvold & Volkoff (2015, p. 5)

As illustrated in Figure 4.2 in relation to the components and structure of affordance, a study by Bygstad et al. (2015) provides a graphical illustration that helps explain eight components, structure and assumptions underlying the affordance theory. As indicated in the literature, affordance existence is connected to an object or artefact or technology, and there is the need for an actor to enable the actualisation of the affordance. As affordances exist as mere possibilities for action, there is the need to be triggered (Volkoff & Strong, 2013) or actualised (Strong et al., 2014) by a goal-oriented actor to achieve an outcome. For affordance to be perceived, there is the need for an IT artefact, the object and a goal-oriented actor. An actor may be an individual or a complex collection of individuals.

As earlier stated, an affordance emerges when an actor relates to the artefacts (i.e.) the technology. As a result, the affordance that emerges is not solely related to the features of the technology; nevertheless, the affordance of a particular technology will exist whether or not it is perceived or actualised (Sayer, 2010). According to Volkoff and Strong (2013), it is possible that the affordance may never be actualised or even perceived. However, someone with the capabilities and goals must exist for the affordance to be meaningful, even though that person may be unidentified (Chemero, 2018). Therefore, the affordance actualisation process will take an individual with the needed capability and a goal to actualise the affordance (Stoffregen, 2018). Additionally, an actor for whom the affordance may be relevant might not even perceive the affordance (Hutchby, 2001). The realisation of an affordance is dependent not only on the actor's goals but also on their competence. Such a realisation is achieved by executing the necessary associated actions, leading to a particular immediate concrete outcome. For example, the potential for recording data, integrating processes or monitoring operations are some affordances pertaining to a

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relationship between a manufacturing company and an enterprise system (Volkoff & Strong, 2013).

The associated outcomes are recorded data, integrated processes, and monitored operations, and these outcomes make an enterprise system what it is. Sometimes, however, the affordance of a technology can also result in unintended consequences. For instance, fragility in digital technologies and networks can lead to abuses, viruses and spam attacks (Conole & Dyke, 2004). While an affordance is a latent potential for action, how it is actualised in a specific instance is contingent on aspects of the techno-organisational context (Hedstrom & Swedberg, 1998), making the outcome indeterminate.

The techno-organisational context contains networks of human, social and technical objects, which create the potential for action (i.e. affordances) in various combinations. If an affordance is actualised, the result of the action is fed back to the structure as outcomes. The context also generates a variety of mechanisms that may act as either enabling or constraining conditions for the actualisation of the affordance or that later stimulate its actualisation in a variety of ways, or release constraints (Demetriou, 2009; Fleetwood, 2011). While enabling conditions foster the perception or actualisation of an affordance constraints refer to "ways in which an individual or organisation can be held back from accomplishing a particular goal when using technology or system" (Majchrzak et al., 2016, p. 272).

By focusing not only on affordances but also on constraints, we may avoid deterministic and simplistic assumptions on the effects of introducing technology in organisations, allowing for the investigation of the possibilities for people using technology in unintended ways (Majchrzak & Markus, 2013). Norman (1999), from a designer's perspective, suggests

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three categories of technology action constraints: (1) physical constraints (the features of the technology), (2) logical constraints (the operation of the technology system) and (3) cultural constraints (the way the technologies are used according to conventions shared by a cultural group). Physical and logical constraints are concerned with the device itself; thus, they can be considered technical constraints. Besides, cultural constraints should be addressed on a broader scope to include more general social aspects such as institutional and community factors (Song & Kong, 2017).

Finally, the user's factors may also constitute a constraint in perceiving and acting on the affordances to achieve certain learning goals due to learners' different abilities and needs (Song & Kong, 2017). The affordances of ICT may not be exploited effectively without coping with these barriers. It is worth noting that because a technical object is a complex assemblage of many parts and an actor may be an individual or a complex collection of individuals, the relation between technology and an actor can raise multiple affordances (Bygstad et al., 2015). Further, multiple affordances can also result from an actor identifying a variety of affordances emanating from the object's multiple features that can be combined in various ways, or the actor acting simultaneously based on personal and a variety of collective goals.

In summary, affordance has various components. First, there is a concrete outcome that a researcher would like to explain. Second, there is a technological object, and third, goal-oriented actors who interact with the technological object. Fourth, these interactions take place under certain stimulating and releasing conditions. Stimulating conditions are typically organisational arrangements that make it easier to act while releasing conditions are often specific decisions that release constraints. These interactions occur within a techno organisational context that provides contextual non-technical organisational and social

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structures (e.g., organisational culture, business model). These either enable or constrain the realisation of a possible concrete outcome.

4.7 Application of Technology Affordance Theory in Information Systems

The affordance theory has been applied in several fields, including Psychology, human-computer interaction and design. The application of affordance in IS research has typically been centred on theorising users' interactions with IT artefacts in diverse contexts, exploring how the physical properties of the tools enable different forms of interaction and explaining the opportunities and constraints for action those technological artefacts offer actors (Leonardi, 2011; Majchrzak & Markus, 2013; Pozzi et al., 2014; Zammuto et al., 2007). The use of technology affordance in IS enables an explanation for the design, use, administration and consequence of IS in an organisation. The theory of technology affordance is one of the influential theories increasingly used in information systems to understand people and organisations' use of IS and how they affect individuals and organisations and their performance (Majchrzak et al., 2016). The technology affordance theory indicates that understanding the use and consequence of IS is dependent on the dynamic interaction between people, the organisation and the technology they use.

Several researchers in information systems (Leonardi, 2011; Majchrzak & Markus, 2013; Pozzi et al., 2014; Zammuto et al., 2007), have emphasised that the functional and relational explanations of affordances, as the relationship that exists among IT artefact, people and organisations, connotes how technological artefacts are implicated in human activity. The functional explanation relates to the object's characteristics that meet the actor's goals. Leading to the conceptualisation of affordance as rooted in relationships between users and the physical properties of artefacts with which they interact. Further, Leonardi (2011) explains affordances as "not exclusively properties of people or artefacts but constituted in

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relationships between people and the materiality of the things with which they come in contact" (p. 153). Leonardi (2011) conceptualised affordance from the socio-materiality perspective, throwing light on the essential role of human interaction and technology features (Leonardi, 2011, 2012; Orlikowski, 2010). The socio-materiality perspective is more interested in human actions and the intelligence that shapes technologies in the way individuals desire. It is based on the individual's unique capabilities, objectives, and the use situation that influences and shapes the perception the individual has about the usefulness of the technology and the many ways they can interact with it, making affordances a complex interaction between multiple actors and the artefacts since affordance are not the outcome of the actor or the artefacts alone (Faraj & Azad, 2012; Majchrzak & Markus, 2013). From this perspective, an interaction between an actor and the technology triggers affordance.

Consequently, there is a renewed interest among several IS scholars in using affordance theory as a theoretical approach to explain the potential that different features of an IT artefact offer to an individual, group of individuals or organisations (Leonardi, 2012; Markus & Silver, 2008; Robey, Anderson & Raymond, 2013). In IS, an artefact comprises several technical objects, their parts, the interface through which the actor interacts, and the IS's output (Leonardi, 2012; Savoli & Barki, 2013; Volkoff & Strong, 2013). As expressed by Leonardi (2013) and Strong et al. (2014), the organisation is a group of actors who relationally are involved with the technology, as they identify affordances and undertake actions to exploit the artefact's potential.

Per the discussion above, it can be inferred that the existence of a particular IT artefact was to serve an identified need, based upon which the IT artefact was designed and executed. Nevertheless, it is not always the case that the intentions of the designer of the IT artefacts

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will be known or understood by its intended user. However, users can explore some of the IT features, use them, ignore others or work around them, depending on their objectives and goals. Such uses of IS, both intended and unintended, are achieved when the user can identify the potentials inherent in the material features of the IT artefact. From the argument advanced, this study aims to explain the mechanisms behind how and why a material IT artefact affords varying values to its multiple actors. The affordance is perceived by the actor or the individual that guides the individual on how to interact with the technology to achieve their goals (Vaast et al., 2017). Technology affordances are related to the features or characteristics of the technology that can provide organisations with the opportunity to pursue and attain objectives related to organisational growth. Such technology affordances may also enable the firm to realise goals related to offering superior value to enhance the customer experience and derive sustained organisational benefit (Tan et al., 2016).

4.8 Mobile Payments in Relation to Affordance Theory

Mobile payments, arguably, have become one of the most influential digital technologies with the potential to significantly increase future business value (Yin, Gong, Guo & Wu, 2019). Though there is significant growth in literature on mobile payment, mobile payment research can still benefit from payment-enabled systems and the interaction of technological features and human actors to explore mobile payment affordance. This will help evaluate, strategically, the potential of IS investments in organisations (Nascimento, Oliveira & Tam, 2018). Furthermore, the literature on mobile payment established that merchant adoption of mobile payment brings new possibilities to merchant experience in business transactions. Some of the benefits relate to where and when business transactions can occur. Additionally, the mobile device allows the merchant to capture, collaborate and present data. Such technology affordances may also enable the firm to realise goals related to offering superior

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value to enhance customer experience and derive sustained competitive advantage (Yin et al., 2019).

This study adopts affordance, which is derived relationally based on the interactions of an IT artefact, emphasised in an organisation with goals and expertise to exploit the affordance (Savoli & Barki, 2013). In relation to mobile payment, Affordance research has identified a list of the most critical and recurring affordances relevant to mobile payment, especially from Conole and Dyke (2004). Using these identified affordances from the literature, the study will adopt them as a basis to identify affordances that can strategically lead to affordance actualisation for the merchant. They include accessibility, usability, ability to respond to changing needs, network externalities and reflection.

4.8.1 Information Accessibility

There is evidence in the use of ICT as offering information access to vast amounts of users from different locations contributes to accessibility as an affordance of technology usage (Conole & Dyke, 2004). For example, telemedicine provides access to medical doctors in remote places (Thapa & Sein, 2018). Mobile payment services, with their availability and the relatively cheap Internet, now offer affordances in terms of access to information about mobile payment by various companies with features useful for specific transactions of both consumers and merchants (Banerjee & Wigginton, 2015). Mobile payments are associated with multiple features like bill payments, ticket bookings, paying ride-sharing drivers, e-commerce payments, and transactions with individuals and shop owners. Accessibility of purchase information and methods through features and functionalities offered by the technology will shape the affordances of payments.

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4.8.2 Usability

Closely related to accessibility affordance is usability. The difficulty is not in accessing the technology but in usability, which relates to the individual's ability to know how to use the available technology (Conole & Dyke, 2004). Therefore, apart from the available technology, individuals or businesses need to choose the suitable technology for efficient use. The basis for cognitive and physical affordance is dependent on usability (Hartson, 2003). As has also been defined by ISO 9241-11, usability is how specified users can use a system to achieve specified goals in a specific context (Jokela, Iivari, Matero & Karukka, 2003). Additionally, Seidel et al. (2013) stressed that the decision to adopt and use technology is influenced by affordance like usability.

4.8.3 Reflection

ICTs offer the potential to reflect on past interactions with the technology and critically analyse past transactions and make a decision (Conole & Dyke, 2004). Seidel et al. (2013) explain reflective disclosure as a functional affordance with users able to assess alternative actions. Mobile apps provide reflection as an affordance in mobile payment (Leinonen, Keune, Veermans & Toikkanen, 2016). E-receipts of transactions are readily available through the various application features in apps. Reflection allows mobile payment users to view past transactions with ease. The study theorises that the ability of payment apps to offer the reflection on past expenses through tracking the transactions provides an edge to mobile payment apps, thus making reflection an affordance for usage.

4.9 Why Technology Affordance Theory

This section discusses the suitability of affordance theory in explaining how merchants' adoption of mobile payment enables mobile payment benefits. The affordance theory overcomes the limitations of theories in mobile payment research that emphasise only

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psychological or social behaviour and ignore the features and functionalities of IT that make simplistic and deterministic assumptions about the effects of IT on human behaviours and organisational outcomes. Using affordance theory will enable this study to account for the possibility that organisations can achieve outcomes that would not occur without technology. Furthermore, it explicitly includes the unintended and undiscovered use of technology (Majchrzak & Markus, 2013). Under the affordance lens, technology is no longer an outsider, an external force generative of change and possibility for innovation, but an organisational factor (Pozzi et al., 2014).

4.10 Chapter Summary

The chapter reviewed two separate theories, Rational Choice Theory and Affordance Theory, to help elicit a broader possible understanding of the other influencers of merchants' adoption, path aside from the utility/risk trade-offs. The review of the affordance theory demonstrates that affordance has various components. First, there is a concrete outcome that a researcher would like to explain. Second, there is a technological object, and third, goal-oriented actors interact with the technological object. Fourth, these interactions take place under certain stimulating and releasing conditions. Stimulating conditions are typically organisational arrangements that make it easier to act while releasing conditions are often specific decisions that release constraints. All these interactions occur within a techno organisational context that provides contextual, non-technical organisational and social structures (e.g. organisational culture, business model) that either enable or constrain the realisation of a possible concrete outcome.

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CHAPTER FIVE

CONCEPTUAL FRAMEWORK AND RESEARCH PROPOSITIONS

5.1 Chapter Overview

Based on the theoretical foundations, this chapter draws on the Technology affordance and constraint theory, concepts from Rational choice theory and the e-commerce benefit framework to propose a conceptual framework that explains how merchant interaction with mobile payment platforms afford or constraint benefit. The chapter outlined and advanced the assumptions and linkages based on the RCT, ACT and e-commerce benefits to formulate the proposed conceptual framework. Based on the assumptions, the research propositions were formulated, and their linkages with the research objective were also outlined. Finally, a visual representation that explained the main constructs to be studied and the presumed relationship among the constructs were presented in figure 5.1.

5.2 Advancing the Arguments

Based on the conceptual framework in Figure 5.1, merchants' choice of mobile payment platforms could be influenced by cost/benefit analysis due to conflicts regarding benefits and security risks. This influences the merchant to make the decision based on a cost and benefit analysis, which suggests that the merchant will evaluate the perceived cost and consider the expected reward and make the choice of mobile payments based on the perceived reward or cost of not adopting (Gao & Waechter, 2017). This means that the merchant, in adopting mobile payment, will seek to maximize value from the use of mobile payment technology (Li & Li, 2020; Bailey et al., 2020). For instance, mobile payments are perceived to be useful and convenient because merchants can undertake payment transactions at any place and anytime. However, it has higher risk, security and privacy implications with minimal identity protection (Gao & Waechter, 2017).

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The negative attributes of risk, powered by insecurity, associated with mobile payments may increase the chance of merchants falling victim to mobile payment security breaches (Koenig-Lewis et al., 2015). Perceived security risks may act as a fear-based mechanism that increases the cost of adopting mobile payment. If the merchant holds high-security risks about mobile payment platforms coupled with the organisational context and culture, it may reduce the merchant's intention to adopt mobile payment (Cheng & Huang, 2013). Nevertheless, the merchants' perceptions of mobile payment-related benefits could sufficiently explain merchants' decision to adopt mobile payment platforms technology (Lim et al., 2019; Li & Li, 2020). Several studies on technology adoption have reported that an individual's adoption of technology is greatly influenced by perceived usefulness and perceived ease of use (Dahlberg et al., 2015; Koenig-Lewis et al., 2015; Davis, 1989; Davis, Bagozzi, & Warshaw, 1989). These factors are the fundamental drivers in the individual decision to accept technology or adopt the technology. Perceived usefulness denotes "the degree to which a person believes that using a particular system would enhance his or her job performance", and perceived ease of use is "the degree to which a person believes that using a particular system would be free of effort" (Davis, 1989). From the rational decision point of view, individuals are willing to overlook the risk associated with technology when there is strongly perceived usefulness. Thus, the study has the following propositions:

Proposition 1: *A merchant's decision to adopt mobile payment platforms is influenced by risk/ utility trade-off or cost-benefit analysis.*

Nevertheless, Kauffman, Liu and Ma (2015) have emphasised that decision-making regarding technology adoption or making technology investments go beyond purely technical issues to those involving strategic issues such as market demand, critical mass, infrastructure, and government regulations. In deciding on technology adoption, the merchant faces significant uncertainties relating to future market conditions, technology

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standards, consumer responses, and their willingness to adopt. The merchants also face infrastructure development issues, changing transaction costs and many "cost unknowns" (Singh, Sinha, & Liébana-Cabanillas, 2020). In such a complex environment, various factors make it hard for merchant decision-makers to balance the trade-offs. More importantly, the strategic decision-making process can also be influenced by how IT enables resources combined with other organisational resources to develop capabilities that contribute to achieving organisational goals (Lim et al., 2019). For example, the merchant can invest in technology to enable the resource to complement an existing organisational resource for business value. Therefore, the decision of a merchant to invest in IT-related resources may be related to the extent to which the resource allows for possible capability development, which could be strategic.

Proposition 2*: Merchant decision to adopt mobile payment could also be influenced by strategy.*

The two propositions above correspond to the study's first objective, exploring the strategic and non-strategic influencers of merchant adoption path to mobile payments platforms.

Again, from the conceptual framework, merchant interaction and relation with the features of the technology (mobile payment platforms) can either enable or constrain the release of mobile payment affordances. The affordance allows the merchant to deliver services to meet the needs of their customers, which leads to the value creation process and subsequently benefits the organisation (Parmentier & Gandia, 2017). On the other hand, constraints may inhibit the merchant, holding them back from accomplishing the affordances when using the mobile payment platforms. The several components associated with the payment platforms enable different levels of interaction that can generate benefits (Keen & Williams,

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2013). As already discussed in this study, affordance is regarded as "the potential behaviours associated with achieving an immediate concrete outcome arising from the relation between an object (e.g., an IT artefact such as a mobile payment platform) and a goal-oriented actor or actors" (Volkoff & Strong, 2013 p.822). Conversely, constraints are the conditions and relationships amongst attributes that may inhibit other actions considered to be more desirable.

With an understanding of socio-materiality, instead of attributing specific achievements solely to technology, social materiality logic reminds us that the actors' actions and intelligence shape technologies in the ways the actor wants. Social materiality throws more light and explains the important roles of technology features and actor interactions in using the technology (Leonardi, 2011, 2012; Orlikowski, 2010). The actor's goals, the context of use and unique characteristics impact how technology's usefulness is perceived (Faraj & Azad, 2012; Majchrzak & Markus, 2013). Majchrzak and Markus (2013) argue that the affordance perceived by the individual largely defines how the individual interacts with the technology to achieve their goals. The resulting outcome may differ since different merchants may relate to the payment platforms differently.

First, the merchant must recognise the existence of affordance as a cognitive process produced as a result of merchant interaction with the mobile payment platforms (IT artefact). Secondly, the organisation must perceive the existence of affordance. Thirdly, affordance's actualisation depends on the organisation's behaviour in acting on the identified opportunity for action. Finally, the adopted behaviour will produce an effect.

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Proposition 3a: *A goal-oriented merchant interaction with the mobile payment platforms (IT* artefacts*) generates affordances when the merchant undertakes an action to exploit the* artefact*'s potential.*

Proposition 3b: *A relational involvement by the merchant firm enables or constrains the firm from identifying affordances to exploit the* artefact*'s potential for organisational benefits.*

Proposition three relates to the second objective, which explains mobile payment platforms' affordances and constraints as merchants leverage mobile payment in their transactions.

Mobile payments are a form of digital technology (software, internet, communication networks) which is easily accessible to merchants, allowing service delivery to meet the need of their stakeholders, leading to value creation for organisational benefit (Parmentier & Gandia, 2017). Also, mobile payment is considered a multi-side platform that can help the merchant build an infrastructure for its customers and client that creates value by reducing distribution, transaction, and search cost. Through interaction with its stakeholders, the merchant can transform the resources into valuable market output (Kazan et al., 2018). With the definition of mobile payment as a service or product, technology and infrastructure can impact how merchants sell and distribute their products. The merchant, for instance, through the affordance enabled by the technology, can produce technology-enabled value by providing different kinds of services to influence the decision-making of their clients and customers through the use of mobile devices and network-related facilities (Breidbach & Maglio, 2016).

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Further, mobile payment platforms also exhibit general ICT features such as personalization, ubiquity, localisation, immediacy, and instant connectivity (Baptista & Oliveira, 2017). These unique mobile technological affordances provide advantages for mobile shopping, searching, browsing, comparing, and purchasing goods and services from merchants (Thakur, 2018; Zhou, 2011). Merchants can develop capabilities to take advantage of all these affordances to generate immediate, location-sensitive, and highly personalized offers for consumers (Berman, 2016; Maduku, Mpinganjira, & Duh, 2016; Shankar & Yadav, 2010; Shankar & Balasubramanian, 2009). Through these mobile payment affordances, the merchant generates value that creates strategic, operational and informational benefits from IT-enabled resources.

Borrowing from e-commerce, the literature offers evidence that organisations achieve three types of benefits, strategic, informational, and operational, from e-commerce adoption (Boateng, 2016). The operational benefit is evident when there is a reduction in transactional cost, leading to organisations achieving operational efficiencies. Also, when there is an improvement in accessing market information, and at the same time, the firm can improve communication and relationship between the firms and its trading partners and customers, the firm is said to achieve informational benefits.

Finally, firms will achieve strategic benefits when the loyalty of trading partners and customers improves significantly. It gives further opportunities for firms to expand their reach and increase revenue and profitability (Boateng, 2016). According to Boateng (2016), informational capability extends the communication capability where an online presence is used to inform potential and existing trading partners and customers. Interactional capability adds the capability of online interactions between a firm and its customers or trading partners to the informational capability. Transactional capability adds transactional services,

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such as online purchasing and account management, to the interactional capability. Through these capabilities, organisations achieve the three interrelated types of e-commerce benefits which are informational, strategic, and operational.

Proposition 4: *Actualisation of mobile payment affordance by goal-oriented actors generates value, leading to interrelated organisational benefits.*

Proposition four relates to the third objective, which explains the outcomes (benefits) of the mobile payment platform's affordance actualisation.

The merchant's context exhibits enabling or constraining conditions, stimulating conditions and releasing conditions that could affect organisations' decision to adopt an innovation. Following the logic above, from the conceptual framework, the merchant's context produces several mechanisms that can serve as either enabling or constraining conditions for the actualisation of the affordance or that later stimulate its actualisation in a variety of ways, or release constraints (Demetriou, 2009; Fleetwood, 2001). Enablers are conditions that foster affordance actualisation, i.e., allowing actions of affordance to take place. On the other hand, constraints relate to "ways in which an individual or organisation can be held back from accomplishing a particular goal when using technology or system" (Majchrzak & Markus, 2013).

Several contextual factors serve as enabling or constraining, stimulating and releasing conditions in the merchant's decision to actualise mobile payments affordance. These factors may include the organisation and its resources, competitors, industry or government policies, as well as cultural and political issues that could be enabling or constraining and releasing conditions for the merchant mobile payment affordance actualisation (Hedman &

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Henningsson, 2015; Khan, 2012). As Odoom and Kosiba (2020) reported, for example, in Ghana, customers and merchants are comfortable conducting business transactions in cash. As a result, individuals are not used to mobile payment, and there are issues of trust among parties. The technology-organisation–environment (TOE) framework developed by Tornatzky and Fleischer (1990) explains an organisation's three key contextual elements that impact its decision on technological innovation adoption.

These significant elements include technological, organisational and environmental contexts. First, the technological factors relate to technologies that are available internally and externally and are relevant to the organisation in delivering its business processes to create the needed value. They also encompass the technology's compatibility and the perceived relative advantage it offers the organisation. This relates to the technical and organisational observability and complexity in understanding how to use it and try or experiment with the technology (Awa, Ojiabo & Emecheta, 2015). Secondly, the organisational context relates to the management structure, available human and other resources the organisation has at its disposal. It also considers the firm's characteristics, culture, organisation size, and communication processes (Abed, 2020).

Thirdly, the environmental context relates to the uncontrollable external forces where the organisation operates. The environmental factors that could influence the organisation's decision to adopt innovative technology include pressure from competitors, regulations, government policies, economic and technological infrastructure (Scupola & Pollich, 2019). Abed (2020) posited that these three major factors collectively influence an organisation's decision to adopt technology innovation. At the same time, these three major forces could pose opportunities or constraints. Therefore, researchers have asserted that these major

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elements - technology, organisation, and the environment- significantly impact how an organisation adopts and accepts technological innovations (Lippert & Govindarajulu, 2006).

In the light of the above, discussions on the enabling or constraining conditions, stimulating conditions and releasing conditions that could affect the merchant adoption decision on mobile payments may include the proliferation of mobile technology, viable mobile payment infrastructure, need for new payment systems and the merchant knowledge on how to use the technology (Liébana-Cabanillas et al., 2017). On the other hand, the constraining conditions in the context may also include the need for investment in a huge financial operation, possible non-usage by customers and the immaturity of mobile technology as an alternative for payment, less competitive pressure, lack of customer need for the service, limited performance and possible incompatibility of current mobile technologies in the purchase process of complex business transactions.

Additionally, factors like perceived financial cost and perceived risk have been identified as constraints to adoption in most consumer-centric research on mobile payment, which may influence the merchant firm (Liébana-Cabanillas et al., 2013; Slade et al., 2015). Contextually, few studies have focused on risk from a disease perspective, influencing users' intention to actualise technology affordance. However, recent literature (Aji et al., 2020a) demonstrates that the COVID 19 outbreak negatively affected consumers' and merchants' intention to use physical money. However, it increased the use of e-wallets in their financial activities. This was because cash and banknote use and contact-based transactions contributed to the disease's spared. Further, the World Health Organisation (WHO) encouraged consumers and merchants to switch from contact base transactions to contactless digital payment methods in financial activities (Durr, 2020). These COVID-19 concerns in the form of news and safety measures, often communicated through traditional

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media sources, social media, and other means, influenced serious changes in how people worldwide performed their usual daily transactional activities. For example, a study by Revathy and Balaji (2020) found that Indian customers used e-wallets during the COVID-19 outbreak. Also, Koch et al. (2020) found that the COVID-19 pandemic directly influenced consumers' behavioural intentions regarding online clothing purchases. As merchants and consumers sought more secure means for their business transactions during the COVID-19 pandemic, mobile payments were perceived as a useful technology to prevent COVID-19 infection and spread. This perception intensified the use of mobile payments during the COVID-19 era because mobile payments were considered a means of helping to reduce the risk of exposure to viruses and germs (Mastercard, 2020). As a result, the COVID-19 pandemic served as an influencing mechanism that facilitates, enables, and stimulates the merchants to actualise the mobile payment platform's affordance. From the TOE framework perspective, these factors could be grouped as the context-specific technological, organisational, and environmental factors that can enable, constrain, stimulate, and release the affordance actualisation of mobile payment platforms.

***Proposition** 5a: Merchant firm contextual factors can enable or constrain releasing conditions to influence a decision to actualise mobile payments affordance.*

Proposition 5b: *Perceived COVID-19 risk is an environmental factor that could serve as enabling or stimulating conditions to influence merchant mobile payment platform's affordance actualisation.*

Proposition five relates to the fourth objective**,** exploring the enabling, stimulating, and releasing conditions that affect the benefit afforded by mobile payment platforms.

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Table 5. 1 Research Propositions in this Study

Research Propositions	Support/Evidence from Previous Research
1. Merchant's decision to adopt mobile payment platforms may be influenced by risk/ utility Trade-off or cost-benefit analysis	Davis, Bagozzi & Warshaw (1989); Lim et al. (2019).
2. Merchant decision to adopt mobile payment may be influenced by strategy.	Kauffman, Liu and Ma (2015).
3a. A goal-oriented merchant interaction with the mobile payment platforms potentials (IT artefact) may influence affordances generation.	Volkoff and Strong (2013); Orlikowski, (2010).
3b. The merchant firm's relational involvement may enable or constrain affordances of the artefact's potential for organisational benefits.	Volkoff and Strong (2013); Orlikowski (2010).
4. Actualisation of mobile payment affordance by goal-oriented actors may influence value generation, leading to interrelated organisational benefits.	Kazan et al. (2018).
5a. Contextual factors in the merchant environment may enable or constrain releasing conditions to influence a decision to actualise mobile payments affordance.	Majchrzak & Markus (2013).
5b. Perceived COVID-19 risk is an environmental factor that could serve as enabling or stimulating conditions to influence merchant mobile payment platform's affordance actualisation.	Koch et al. (2020).

Source: Author's construct

5.3 Link between Research Propositions and Research Questions

The research questions to guide the data collection and analytical investigation of these propositions on mobile payment adoption and affordance actualisation among merchants in Ghana are:

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1. What are the mobile payment platforms' adoption decision pathways of merchants in Ghana and the strategic and non-strategic influencing factors besides the risk/utility trade-off? This question will enable us to investigate propositions 1 and 2.
    - *Merchants' decision to adopt mobile payment platforms may be influenced by risk/ utility trade-off or cost-benefit analysis.*
    - *Merchant decision to adopt mobile payment may be influenced by strategy*.

2. How do mobile payment platforms afford or constrain merchants' transactions in Ghana? This question will enable us to investigate proposition 3 A&B.
    - *A goal-oriented merchant interaction with the mobile payment platforms (IT* artefacts*) many influence affordances generation when the merchant undertakes an action to exploit the* artefact*'s potential.*
    - *A relational involvement by the merchant firm enables or constrains the firm from identifying affordances to exploit the* artefact*'s potential for organisational benefits.*

3. What forms of outcomes (benefits) do mobile payments platforms actualisation afford merchants in Ghana? This question will enable us to investigate proposition 4.
    - *The actualisation of mobile payment affordance by goal-oriented actors may influence a generation of value outcomes that leads to interrelated organisational benefits.*

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4. What enabling, stimulating, and releasing conditions affect the benefits afforded by mobile payment platforms to merchants in Ghana? This question will enable us to investigate proposition 5A&B.

    - *Merchant firm contextual factors may enable, stimulate or release conditions to influence a decision to perceive and actualise mobile payment affordance.*
    - *Perceived COVID-19 risk is an environmental factor that could serve as enabling or stimulating condition to influence merchant mobile payment platform's affordance actualisation.*

Figure 5.1 below illustrates the summary of the research framework of how merchant interaction with mobile payment platforms affords or constraints benefits.

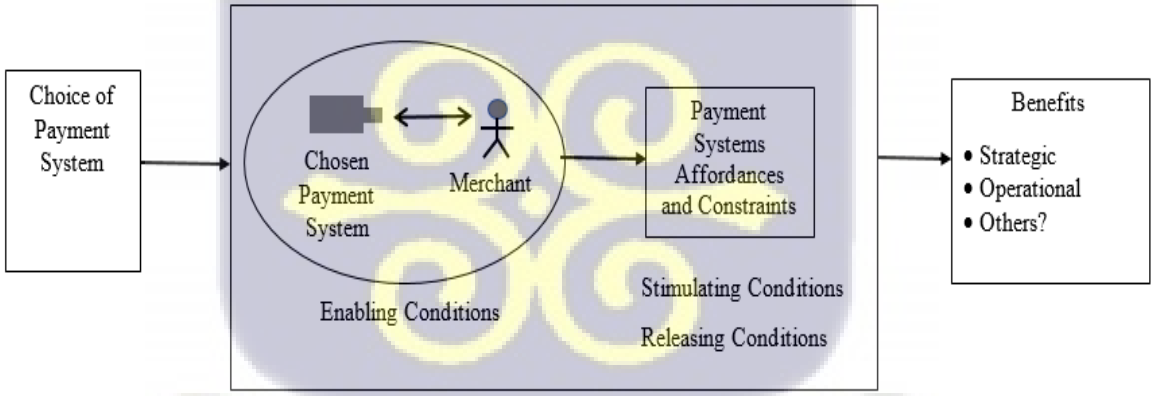


Figure 5. 1 Mobile payment affordances and benefit framework
Source: Authors construct

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5.4 Chapter Summary

The chapter sought to explain the proposed conceptual framework, summarising the assumptions and linkages based on the RCT and AT as theories that support this research to explore a practical and theoretical understanding of factors that affect the merchant decision path to adopt and use IT-enabled resources. Further, the proposed framework established how the merchant resource is deployed, managed and implemented for mobile payment affordances to achieve mobile payment benefits at the firm level. The research propositions were formulated from the proposed conceptual framework, and their linkages with the research objective were also outlined. Finally, a visual representation that explained the main constructs to be studied and the presumed relationship among the constructs on merchants actualising mobile payments affordance for mobile payments benefits were presented.



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CHAPTER SIX

EMERGENCE OF MOBILE PAYMENT SYSTEMS IN GHANA: PAST, PRESENT AND FUTURE

6.1 Chapter Overview

The previous chapter discussed the arguments of the proposed conceptual framework in line with the objectives of this study and subsequently established the propositional assumptions guiding the study. This chapter examines the study's context, including a general overview of mobile payment systems in Ghana. The chapter will cover a brief historical background of Ghana and a chronological discussion of the mobile payment systems in Ghana. Some of the notable challenges besetting the mobile payment systems in Ghana will be addressed. Additionally, the relevance of mobile payment adoption, and the mobile payment ecosystem, in Ghana will be discussed. Finally, the chapter will enumerate the contextual factors that stimulate and release conditions that enable or constrain mobile payment affordance in Ghana.

6.2 A Brief Overview of Ghana

Ghana is one of the fastest-growing economies in the West African sub-region in terms of its socio-economic prospects. Formerly called The Gold Coast under British colonial rule, Ghana gained its independence, after several years of struggle, in 1957. Ghana was the first sub-Saharan country to declare its independence from colonial rule, and this set the pace among many other African countries under similar colonial control (Amankwah-Amoah & Debrah, 2010; Appiah-Adu et al., 2018). After several years of self-rule under the first president, the country witnessed several political instabilities until 1992, when the country decided to chart a new era of democracy that has been sustained to date. Ghana is located along the Gulf of Guinea and the Atlantic Ocean in West Africa. Its population is estimated

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to be 31 million (Ghana Statistical Service, 2020), and it is noted for its progress in its economic ventures such as agriculture, trade and technology; Ghana's Gross Domestic Product (GDP) is mainly driven by three sectors, namely agriculture, industry and services. Despite the country being traditionally an agrarian country, the services industry has been the main driver of Ghana's economy, contributing to about 48.3% of the total national GDP. The services industry includes telecommunication, software and financial institutions (Ghana Statistical Service, 2020). For instance, the telecommunications and banking sectors continuously deploy ICT-enabled products and services in their operations, thus increasing the ICT penetration among Ghanaians, especially internet and mobile phone subscriptions (Demirguc-Kunt et al., 2018).

6.2.1 Background

The Government of Ghana is making efforts to achieve a "cashless economy" where financial transactions are made through digital channels (Mattern & McKay, 2018). This, the Ghanaian government envisages, will eliminate over-reliance on paper-based financial transactions among Ghanaians. This initiative, though novel, was consequent upon the introduction of Ghana's National ICT for Accelerated Development policy introduced in 2003 (Asamoah & Owusu-Agyei, 2020). This policy aimed to improve the socio-economic status of Ghanaian citizens, in the formal and especially informal sectors, via information technology. Specifically, the government sought to transform Ghana into an information-rich, knowledge-based society and economy (Govt of Ghana ICT4D Policy, 2003). Key among the ICT-led initiatives in the policy framework is the deployment of ICT in critical sectors of the economy, such as education, health and agriculture. Besides these thematic areas, the emphasis was placed on using ICT to synchronise all sectors of the economy, including health, education, commerce, banking, and finance, thus making Ghana the regional hub for business services and the ICT industry (Boateng & Molla, 2006; Heeks,

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2008). The agenda has driven ICT use in almost all sectors of the economy and among public and private agencies that are constantly deploying ICTs in their routine activities (Ofoeda et al., 2018).

Progressively, Ghana continues to make some advances in deploying mobile technologies among various sectors of its economy. As of 2019, the use of mobile phones for financial transactions has surged due to the gradual shift from face-to-face financial transactions to mobile and online channels. For instance, the National Communication Authority (NCA) reports that out of the 456 million unique mobile phone subscriptions in sub-Saharan Africa, Ghana's share is above 40 million (NCA, 2019). This ultimately presents an avenue to attain financial inclusion for the larger populace (Yu & Ibtasam, 2018). While this record also suggests an opportunity to bridge the digital divide among citizens (Igun, 2011), the affordances of mobile use in Ghana are still being explored among its users and agents (mobile network operators [MNOs], banks, agents and fintech firms) and customers in Ghana.

6.3 An Overview of Mobile Payments in Ghana

Ghana has sought to revolutionise its financial sector through technology for several years. Because a more significant percentage (an estimated 80%) of Ghanaians were unbanked, those with bank accounts also resorted to traditional payment methods, such as cheques and cash payments, which were, however, not motivating enough for attaining financial inclusion. Hence, there was the need to aggressively move towards non-cash and other digital payment channels, given the changing trends in financial technology. Ghana gathered its enthusiasm toward mobile payment systems partly from Kenya's success story of introducing M-PESA, a mobile-based financial technology (Yu & Ibtasam, 2018). The Bank of Ghana (BOG) established the Ghana Interbank Payment and Settlement Systems Limited

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(GhIPSS), a means to harmonise interoperable payment systems infrastructure for both financial and non-financial institutions across the country (Asamoah & Owusu-Agyei, 2020).

Consequently, GhIPSS introduced the card-based E-zwich payment system. The e-zwich is a biometric smartcard that supports different cashless transactions to provide a common platform to match the payment system of all banks and other financial institutions in Ghana to reach the unbanked sectors of the Ghanaian economy. Currently, all banks in Ghana are using the GhIPSS payment infrastructure to facilitate easy and real-time payment transactions between individuals and institutions. Most importantly, GhIPSS operations were to limit the over-reliance on physical cash transactions and reduce the rate of the unbanked. However, the GhIPSS system has not yielded significant results (Addai & Arthur, 2020).

After the liberalisation of mobile payment in some African countries, Ghana's initial approach to its adoption was uninspiring due to regulatory constraints (Robson, 2016). However, over a decade now, the mobile payment transactions in Ghana have tripled, surpassing the off-takers in East Africa like Kenya and Tanzania (Demirguc-Kunt et al., 2018). For instance, Demirguc-Kunt et al. (2018), based on the Global Findex report, indicate that Ghana's mobile money transactions have more than tripled since the launch of mobile money in 2009 by MTN. Additionally, Ghana's percentage of digital and mobile account holders has risen from 41% in 2014 to 58% in 2017 (Demirguc-Kunt et al., 2018). Ghana has three mobile network operators (MNOs) operating mobile payment services.

Additionally, several traditional banks have also been licensed under the E-money Issuers and Agents guidelines to provide mobile payment services to Ghanaians. As of the first quarter of 2019, Ghana's active mobile money account holders were 12,725,649 (BOG

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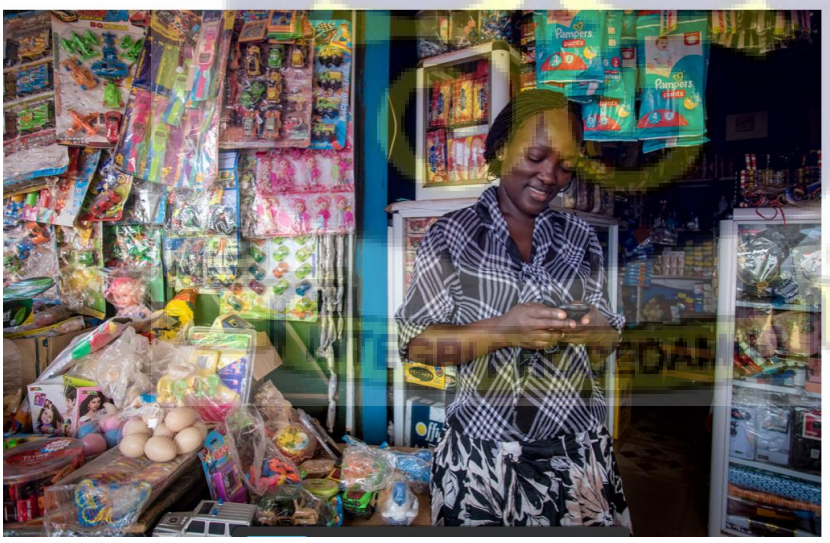
Payment statistics, May 2019). With the increasing rate of mobile phone users in Ghana and the rising need for associated mobile financial transactions, Ghana recently launched its first mobile payment interoperability system in May 2018. The platform is set to facilitate the smooth transfer between different payment platforms. In March 2020, GhIPSS launched Ghana's novel interoperable Quick Response (QR) code payment system to access business transactions with merchants using mobile devices easily. These mechanisms enhance Ghana's digital payment under its cashless economy agenda.

6.4 Mobile Payment Adoption in Ghana

The use of technology for financial transactions among businesses and individuals has risen since the 1990s, when financial institutions started leveraging technologies such as the telephone and facsimile to speed up their services (Abor, 2005). Over time, individuals and institutions have continuously embraced this novel beginning (both financial and non-financial). With its varied affordances among disparate users, mobile payment offers several opportunities for individuals with a bank account and the unbanked while promoting a cashless society and enhancing financial inclusion (Adams & Nyuur, 2018). The reasons for the adoption of mobile payments in Ghana have been varied. Osei-Assibey (2015) asserts that perceived risk, educational level and the relative advantages of mobile money transactions account for its adoption, while perceived ease of use and usefulness has also been attributed to reasons why mobile payment adoption is gradually rising in Ghana (Narteh, Mahmoud & Amoh, 2017). Again, while convenience also drives the rate of adoption, an increase in the rate of mobile phone usage is also a major contributory factor (Geach, 2007; Yu & Ibtasam, 2018). This is true since the subscriber base of mobile phones and associated technologies used among Ghanaians have increased threefold since 2010 (Haruna, 2012; Demirguc-Kunt et al., 2018).

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Over time, payment methods such as cheques and cash are giving way to many mobile payment services for users in various businesses. For instance, the mobile money market in Ghana is set to be the game-changer among businesses in the informal sectors such as agriculture (Demirguc-Kunt et al., 2018). Ozyurt and Beck (2019) report that mobile financial services in Ghana are used mainly by customers who feel disappointed by traditional banks. This comes as no surprise since about 20% of mobile-wallet users in Ghana are unbanked (Demirguc-Kunt et al., 2018). Today, about 40% of the payments made in the informal sectors, especially in agriculture, are through mobile accounts. This is due to the strong penetration of mobile phones and mobile-financial services used in rural areas. It is estimated that about 128% of Ghana's population has access to mobile-financial services, especially mobile money (Ozyurt & Beck, 2019). While the penchant for consumer-driven products also accounts for mobile payment adoption, Ghana's favourable regulatory environment similarly presents reasons for the rise in mobile payment services. Today, an array of mobile payment systems exists in Ghana, supported by telecommunications firms and payment platforms with the firm supervision of the BOG and the National Communication Authority (NCA).



Source: Bank of Ghana (2022)

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6.5 Mobile Payment Ecosystem Systems in Ghana

A payment system is an inter-institutional arrangement that facilitates the transfer of funds from one individual or business to another (Nakajima, 2017). This typically involves the coordination of institutions, instruments and technologies, data, people, regulatory frameworks, guidelines, procedures and standards to facilitate the exchange processes (BOG, 2017). The BOG has an established payment system office with oversight responsibility for issuing and merchandising electronic money in and across the country. The office enforces transparency, standards and statutory authority, consistency and cooperation with other state agencies. Since 2015, Ghana's payment system has witnessed significant improvement in its regulatory framework changes, product and service development and growth in electronic (online and mobile) payment streams. Presently, an array of institutional processes makes up Ghana's payment systems. Some include payment cards (debit and credit), E-zwich, and mobile money. However, among the systems mentioned, mobile payment systems have been cited as the most commonly-used payment channel, even among the unbanked and underserved in Ghana (Adams & Nyuur, 2018; Narteh et al., 2017; Osei-Assibey, 2015). The mobile payment ecosystem (Figure 6.1) in Ghana comprises the following:

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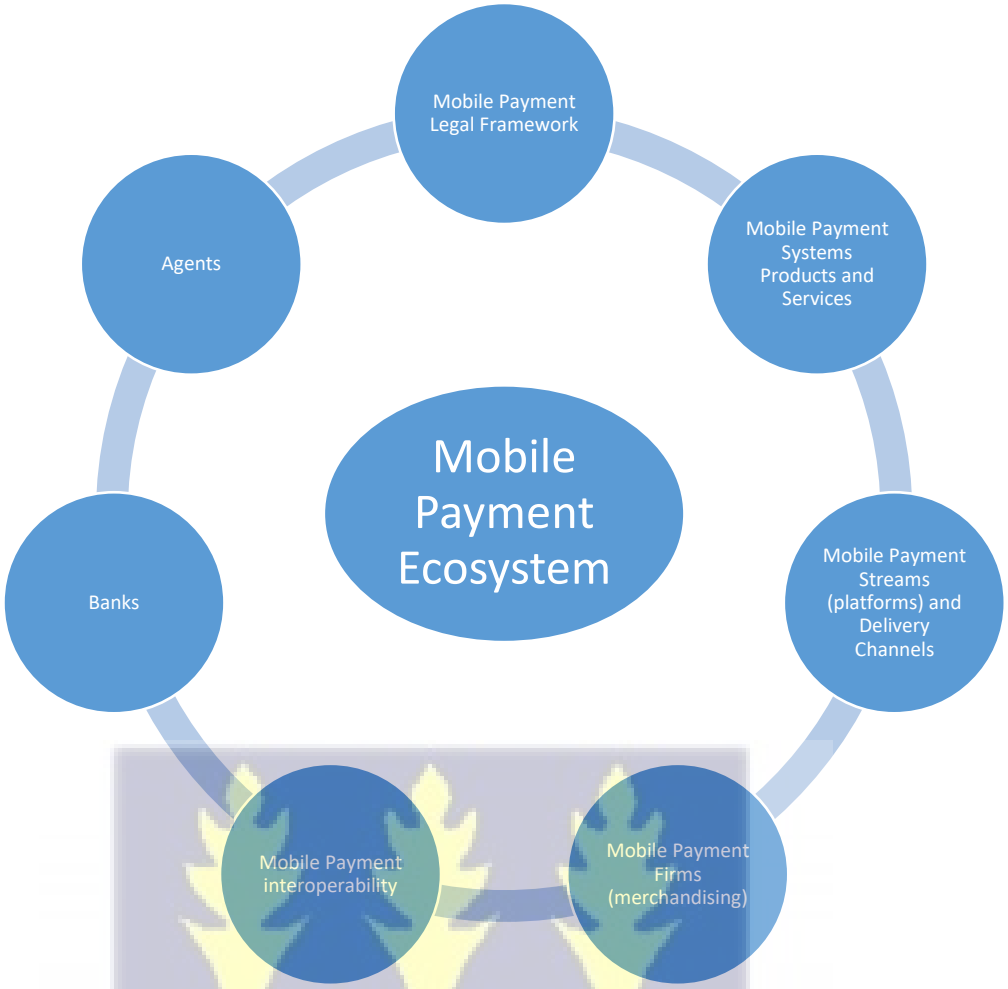


Figure 6. 1 Mobile Payment ecosystem in Ghana
Source: Authors construct

6.5.1 Mobile Payment Regulations in Ghana

Ghana has had one of the most favourable payment system regulations among its counterparts in Africa. Regulations of the mobile payment system fall under the ambit of the Bank of Ghana and are supported by the National Communications Authority (NCA), which oversees the supervision of the telecommunications industry in Ghana. The NCA oversees the integrity and security of users' data being processed by data processors such as telecommunications firms. Generally, all payment systems guidelines and regulations in Ghana fall under the Payment Systems Act, 2003 (Act 673). Based on this Act, the central bank first established the Branchless Banking Guidelines in 2008, which provided an avenue for the introduction of mobile financial services in Ghana (NCA, 2019). The Branchless Banking Guidelines faced stiffer opposition from traditional banks since it threatened their

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operations by providing unfettered access to mobile networks to operate mobile money businesses (Global Fidex, 2017). For instance, mobile networks that wanted to engage in mobile financial services were mandated to register with a traditional bank(s) as a strategic partner(s). The Branchless Banking Guidelines birthed the establishment of MTN mobile money and ZAIN Zap (later Airtel money) in 2008 and 2010, respectively.

Given the emerging sophistication in financial technologies, the central bank 2015 withdrew the Branchless Banking Guidelines. It replaced them with two new guidelines: guidelines for E-Money Issuers in Ghana and agents Guidelines which comprise the Dedicated E-Money Issuers (DEMIs) (Mattern & McKay, 2018). These new regulations promoted the acceptance and safety of electronic money payment mediums in Ghana. The guidelines allow mobile network operators to register directly with the central bank as a mobile financial service operator instead of the earlier regulations where they were mandated to partner with a traditional bank(s) (BOG, 2019; Robson, 2016). Perhaps, significant in Ghana's E-Money guidelines is that e-money issuers are mandated to pay interest on 80% of e-money floats to mobile account holders (Kennedy & Kok, 2016). Ghana's 2015 e-money guidelines were profound since it is the first in Africa and perhaps one of the first around the globe to designate a percentage of customers' e-money float to them as interest (Mattern & McKay, 2018). Thus far, the parliament of Ghana, through the BOG, has harmonised all existing payment systems guidelines into one legal framework called "the payment systems and services ACT, 2019 (ACT 987)". This is a result of the emergence of new payment streams evolving in the financial space globally.

6.5.2 Mobile Payment System Products and Services

The 2015 e-money and issuers guidelines gave a major boost to businesses on the affordances of mobile payment. The rate at which MNOs in Ghana keep rolling out new

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products and services in collaboration with banks and non-banking institutions, such as insurance companies, is alarming. The partnership has largely been embraced by commercial entities, educational institutions and other government utility and services providers (Yu & Ibtasam, 2018). Thus, the payment of bills and utilities, fees and purchase of forms are constantly deployed by MNOs and their partner banks or platform providers. This, consequently, makes mobile payment for services such as digital television (DSTV) subscriptions, water and electricity bills and top-up airtime easier. Ecobank, for instance, was the first bank to leverage MTN and Airtel's mobile money system to sell treasury bills (Mattern & McKay, 2018).

While the payment of goods such as food and clothes via mobile phones and applications persists, loan payment and repayment through mobile technology seem to be gaining momentum among savings and loans and microfinance institutions (Dzogbenuku, 2013; Gupta, 2012; Yu & Ibtasam, 2018b; Apiors & Suzuki, 2018). Yet, the MNOs in Ghana independently provide quick loans and insurance schemes to meet the needs of the poor and the underserved (Bank Of Ghana, 2019). Another novel mobile payment service initiated by the Government of Ghana was the renewal service introduced by the National Health Insurance Scheme (NHIS). The mobile renewal system (shortcode *929#), launched in 2018, allows clients to renew their membership by paying the appropriate subscription fees (Boaheng et al., 2019; Ghana News Agency, 2020). The patronage of the mobile renewal service has increased to about 70% among active members of the scheme (Dalal et al., 2019; Ghana News Agency, 2020). As the value of peer-to-peer mobile financial transactions continues to surge, MNOs in Ghana and their partners will stop at nothing to continuously roll out more customer-oriented mobile services and products to stay in business.

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6.5.3 Mobile Payment Streams and Delivery Channels

The BOG classifies all mobile payments under non-cash or e-money payment streams. Non-cash payment streams have seen significant growth in volume and value since 2010. For instance, between 2014 and 2017, the mobile service transactions outstripped other non-cash payments, such as the E-zwich and the GhIPSS instant pay. In the same period, Ghana recorded some progress in mobile channels and instruments of payment, such as mobile banking (Bank Of Ghana, 2018) (Table 6.1). Since 2015, mobile money transactions have continued to maintain the lead (98.50%) among the non-cash payment streams in Ghana due to the introduction of the E-money Issuers and Agent Guidelines. The same can be said for mobile banking in Ghana, which has also recorded some improvement from 2015 to 2017, as shown in Table 6.2.

Table 6. 1 Mobile Money Transactions in Ghana from 2014 to 2017

Indicators	2014	2015	2016	2017	2017 Change	2017 Growth (%)
Total number of mobile voice subscription (Cumulative)	30,360,771	35,008,387	38,305,078	37,445,048	(860,030)	(2.25)
Registered mobile money accounts (Cumulative)	7,167,542	13,120,367	19,735,098	23,947,437	4,212,339	21.34
Active mobile money accounts	2,526,588	4,868,569	8,313,283	11,119,376	2,806,093	33.75
Registered Agents (Cumulative)	26,889	79,747	136,769	194,688	57,919	42.35
Active Agents	20,722	56,270	107,415	151,745	44,330	41.27
Total volume of transactions	113,179,738	266,246,537	550,218,427	981,564,563	431,346,136	78.40
Total value of transactions (GH¢'million)	12,123.89	35,444.38	78,508.90	155,844.84	77,335.94	98.51
Balance on Float (GH¢'million)	223.33	547.96	1,257.40	2,321.07	1,063.67	84.59

Source: Bank of Ghana Payment Statistics (2018)

Table 6.2 Mobile Banking Transactions between 2015-2017

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Indicators	2015	2016	2017	Growth (%)
Number of registered customers	1,449,374	2,175,644	2,110,984	-2.97
Volume of transactions	5,440,387	6,821,838	7,036,285	3.14
Value of transactions (GH¢)	178,588,021	357,383,111	1,501,372,536	320.10
Average volume of transactions per day	29,729	18,639	19,277	3.42

Source: Bank of Ghana Payment Statistics (2018)

Typically, mobile payment solutions are classified according to how payment is executed and the technology through which it is effected (Lim, 2008). The mobile payment solutions in Ghana are bank account-based and mobile network billing based. In the case of bank account-based, banks, in collaboration MNOs, provide mobile payment solutions to clients by linking their bank accounts to their mobile wallets. The client's account is debited anytime payment is initiated through the mobile wallet. This type of mobile payment solution is also called direct mobile billing. On the other hand, the mobile network billing base usually uses a client's mobile wallets for direct debit of payments (Patrick et al., 2012).

Mobile payment technologies represent the capabilities for the initiation of mobile payment. Essentially, Ghana has many payment technologies being used in its m-payment transactions. Examples include Short Message Service (SMS), Unstructured Supplementary Service Delivery (USSD), Quick Response (QR) code and the Near Field Communication (NFC) technologies (Hayashi & Bradford, 2014). Ghana recently deployed its national QR code payment system supervised by the GhIPSS. The NFC enables mobile phones with contactless stickers or tags to communicate with the merchant's contactless point of sale (POS) device (Haruna, 2012). In March 2017, MTN Ghana launched its NFC technology Tap2Pay (Okine, 2017). This technology synchronizes the client's mobile wallet to facilitate

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the smooth payment of goods and services. Most payment platforms widely use SMS and USSD-based mobile payments in Ghana (Bank Of Ghana, 2018).

Furthermore, Ghana has several mobile platforms that provide mobile payment services to merchants and agents. Some include MyGhPay, GTPay and InterPay. These platforms use various technologies, including NFC, SMS, USSD and QR codes, to interface mobile wallet accounts with a bank account for commercial transactions. Meanwhile, in Ghana, mobile phones and mobile applications remain the dominant mobile payment channels (Bank Of Ghana, 2018).

6.5.4 Mobile Payment Firms (Merchandising)

The 2015 Issuers and Agent guidelines require any person or individual who wants to provide any form of payment stream to acquire a license before operating. This is to ensure that the financial assets of users are not compromised (NA, 2016). At present, Ghana has some firms acting as platforms aggregators, agents, or merchants. These firms also work with mobile network operators and other payment gateway firms. For instance, Ghana's e-payment portals are being facilitated by firms like Payall Payment Network, DPO, Hubtel, eTranzact, and ExpressPay. These firms integrate their platforms with merchants in Ghana and abroad to facilitate the payment process. Besides, they also serve as the gateway to banks and other e-cash agents to provide them with seamless mobile payment methodologies. Note that platforms do not operate in isolation.

First, mobile networks play a key role in the mobile payment system. For instance, those utilising mobile wallet channels have to integrate their systems with the mobile money account. Hence, mobile networks can't be ignored. Second, traditional banks also play a key role in mobile payment. Several banks are now operating mobile payment platforms to help

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enhance their operational excellence (Cudjoe et al., 2015). In all cases, the firms leverage the available payment technologies such as QR code, SMS, USSD and NFC to reach out to their clients across the country (Osei-Assibey, 2015).

6.4.5 Mobile Payment Interoperability

Interoperability is the exchange of data and information among computer systems for easy communication. Interoperability provides data consolidation across heterogeneous sources (Orgun & Vu, 2006). The initial introduction of mobile money into Ghana by MTN and ZAIN saw a renewed era of e-money services among digital firms. Even though e-cash services had existed in East African countries like Kenya and Tanzania, Ghana's sudden drive for mobile payment services was profound (NA, 2016; Global Fidex, 2017). Following the introduction of the Branchless Banking Guideline in 2008, the BOG mandated mobile money operators through the guidelines to ensure interoperability among banks, agents and the MNOs. At the time, the BOG had envisaged that payment could be made more efficient if banks and MNOs were interoperable (Blay, 2016; GSMA, 2019). Therefore, the central bank prescribed a many-to-many model of transactions where groups of banks and MNOs could partner to share data among themselves (McKay, 2011). However, this system received a lacklustre response due to a lack of infrastructural investment, ineffective guidelines and the lower rate of mobile money transactions (GSMA, 2019).

Nonetheless, the 2015 E-Money Issuers and Agent Guidelines changed the mobile payment landscape in Ghana. The guidelines provided the much-needed regulations, fortifying the provision of non-cash payment, and delivered an enabling environment that fostered more investment in mobile money services (GSMA, 2019). Further, the guidelines abolished the many-to-many model and allowed MNOs to establish their subsidiaries to facilitate e-money issuance under the supervision of the BOG (Muthiora, 2015).

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Given this development, there was a corresponding increase in fintech firms and start-ups coming with novel means of payment using mobile devices. Subsequently, through a survey, the BOG identified 71 FinTech who were providing both front and back-end services to banks and other non-financial institutions across the country (BOG-Payment System Report, 2017). These firms offer payment platforms and gateways of varied functionalities to mobile networks, merchants, banks and individuals' mobile users. As this development and diffusion of digital innovation were going on, mobile transactions were predominantly limited to the same networks or mobile applications. Thus, users of one payment platform or mobile network could not send or receive from other platforms. The challenge was that mobile payment services platforms could not share data among themselves. The situation challenged most retail payment users who frequently use mobile platforms for domestic and foreign transactions (Gupta et al., 2017).

Consequently, Ghana launched its national interoperability systems in May 2018 (Ozyurt & Beck, 2019). The interoperability system allows for mobile financial transactions across disparate mobile payment service platforms. For instance, payment can be sent from an MTN mobile wallet to AirtelTigo digital wallet, an inter-network payment service previously unavailable. Since the introduction of the interoperability system, payments across platforms reached Gh¢ 308 million by the end of March 2019 (Ozyurt & Beck, 2019). Ghana's mobile money interoperability system is set to provide an avenue for a market-driven solution for the 'cash pain' experience endured by individual customers and businesses while fostering the easy payment of goods and services.

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6.5.6 Banking Institutions

The banking institutions have been phenomenal in the mobile payment ecosystem. Until recently, traditional banks were reluctant to undertake mobile payments due to their rivalry and telecommunications companies. However, the growing trend in the global financial space has forced banks to be an integral part of the mobile payment process in Ghana (Haruna, 2012). The current electronic money regulations instituted by the BOG recommend that merchants and agents be registered with a financial institution to provide a credible mobile payment merchant to subscribers (Jimoh, 2013). The BOG licensed GCB bank Ghana limited to operate a mobile digital wallet service in March 2020. Being the first of its kind in Ghana, the GCB G-Money mobile service and wallet has become an agnostic mobile payment system facilitating the payment of goods and services. The G-Money system allows customers to receive money, buy goods, transfer funds, and pay for services (GCB, 2020).

6.5.7 Agents

Mobile payment agents serve as the intermediaries between the MNO and the customers. They are primarily the point of contact for the customers and provide several services on behalf of the MNO and the merchants. Their services include registering mobile accounts for clients and dispensing and receiving cash. The cash-out and the cash-in, for instance, have consistently become the most frequently accessed services by customers from the agents. It must be noted that the agents provide services that are key to the sustenance of the mobile payment system because of their direct relationship with the clients. As a result, clients tend to be closer to the agents and hold them in high trust compared to their orthodox banks (Pricewaterhouse Coopers, 2016). Mobile service providers often contract them to provide the required services to customers. The E-money Issuers Guidelines (EMIG) provide rules for operating as mobile money agents to deliver alternative financial delivery

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service channels outside the orthodox banks. As part of their guidelines, agents must undertake mobile money services in real-time upon a pre-funded account held by the agent (BOG, 2018).

6.6 Challenges of Mobile Payments in Ghana

Despite the rapid improvement and impact of mobile payment on Ghana's socio-economic development, sight cannot be lost on the seeming challenges besetting mobile payments among actors in the mobile payment sub-ecosystem. These challenges include:

i. *Digital divide:* The NCA (2019) reports that Ghana's mobile connectivity percentage of the total population is 130%. With this figure, it is expected that a significant amount of the population will be active mobile payment clients. This seems not to be the case as some parts of the country still face acute mobile network infrastructural challenges, especially the rural areas (Kumaga, 2010). Yet, the rural agricultural farmers are among the notable patrons of mobile payments (Haruna, 2012; Ozyurt & Beck, 2019). Similarly, the absence of internet connectivity in underserved areas also hinders the ability to use internet-based mobile payment channels. This relatively pervasive circumstance disadvantages the unbanked and potential patrons of mobile financial transactions. The MNOs attribute their inability to extend services to a certain part of the country to the infrastructural cost and licensing conditions of International Telecommunication Unions (ITU, 2016). The Ghana Fund for Electronic Communications (GIFEC), the public agency responsible for improving digital presence in rural communities, is also faced with limited resources from the central government (Endert, 2018). Note that Ghana's ability to bridge the gap between the banked, unbanked, and the underserved through mobile technologies is one way to achieve the financial inclusion agenda (Boateng, 2018).

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ii. *Lack of digital and financial literacy:* Beyond the digital gap between the privileged and the underdeveloped areas, digital and financial literacy is a challenge Ghana faces in enhancing mobile payment capabilities. Basic knowledge of the use of a mobile phone will significantly reduce the drawback syndrome of using a mobile device. Similarly, enhancing the acquisition of basic financial literacy skills will improve understanding of basic mobile financial products and services (Osei-Assibey, 2015; Oseifuah et al., 2018; Vicente & Novo, 2014). However, this is a challenge in Ghana. Ghana's financial literacy survey (2017) estimates that about 64% of adults are not financially literate (Klapper et al., 2017). A UNICEF study reiterated a similar sentiment that indicated that young people and start-ups in Ghana have limited access to a reliable and fast internet connection for their businesses (Endert, 2018). The lack of digital and financial knowledge has led many into mobile financial miseries such as wrong payments and investments.

iii. *Poor network connectivity and interoperable failures:* Poor connectivity is a major challenge among users of mobile devices in Ghana. While the underprivileged areas contend with a complete lack of mobile and internet infrastructure, residents in the privileged areas are faced with rampant poor and systemic network failures. For instance, even though internet access via mobile phones has increased by about 45% since 2015, internet coverage is still fragmented, even in urban areas (Endert, 2018). This is despite Ghana's lead in the mobile technology capabilities in the sub-region, with a relatively high cost associated with mobile payment transactions (Karlsson &Cruz, 2018). Given that poor network connectivity hampers smooth mobile payment, charges on mobile financial transactions, through the interoperability, are also high for some MNOs in Ghana.

iv. *Trust and security:* The level of trust and assurances given by the mobile payment service providers contribute to the level of participation. The 2019 Ghana Banking

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Survey maintains that the high rate of mobile payment subscriptions results from trust users associate with the service (PwC, 2019). Nonetheless, security for mobile payment customers is a force to contend with (PWC, 2018). Arguably, the security infrastructure of MNOs, FinTech firms and partner banks is vital to enhance the safety of the user's financial resources. However, this success story is yet to be celebrated due to the continuous use of mobile payment as a conduit to swindle mobile money account holders (Akomea-Frimpong et al., 2019). In Ghana, for instance, prevailing mobile money fraud is "social engineering", which psychologically manipulates someone to divulge some vital information. Thus, the scammers use anonymous calls and text messages, false promotions, the elusive text of awards from networks and false cash-out SMSs to lure users into granting their requests (Akomea-Frimpong et al., 2019).

v. *Ineffective mobile payment regulations:* Ghana's National Communications Authority (NCA) is responsible for securing customers' data and ensuring confidentiality, integrity, and accountability. At the same time, the bank of Ghana serves as the overall regulator of the financial space. Ghana's maiden payment systems and services ACT, 2019 (ACT 987) seems to assure all actors in the mobile payment sub-ecosystem while establishing controls to alleviate its associated risks. However, concerns are still rife about its effectiveness in providing the needed security, especially for mobile money customers, from unintended consequences. Again, compliance with the procedure in the regulations for MNOs and their partner banks and fintech firms is heightening in the wake of rising mobile money transactions. This issue can be exasperated since each actor works with multiple partners generating disagreement on roles and responsibilities, problems of infrastructural investment and unfair competition (McKay, 2011). For instance, the advancement of loans and credit facilities to clients

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via mobile platforms by MNOs is a major concern to banks for which the new law does not effectively address.

6.7 Stimulating and Releasing Conditions of Mobile Payment Adoption in Ghana

This section seeks to understand the pertinent contextual factors that drive or constrain merchant mobile payment platforms' affordance actualisation in Ghana. This section is required to advance this study's fourth objective, which is to explore the enabling stimulating and releasing conditions that affect merchant mobile payment platform's affordance actualisation. This understanding will improve our knowledge of factors that could enable or constrain mobile payment platforms' affordances actualisation for future affordance actualisation sustenance and merchants' continual use of mobile payment platforms for organisational benefits.

The enabling, stimulating and releasing conditions are factors inherent in the environment (contextual factors) that offer meaning to the artefact in affordance perception and actualization. This is because affordance is a characteristic of an environment (Majchrzak & Markus, 2013). The environment could present enabling, stimulating and releasing conditions. The stimulating conditions are enablers that foster affordance actualisation, i.e. allowing actions of affordance to take place (Majchrzak & Markus, 2013). On the other hand, releasing conditions can act as constraints that could limit the merchant from realising the desired outcomes using the technology (Majchrzak & Markus, 2013). These contextual factors are classified in the affordance literature as the techno-organisational context and are referred to as structures in critical realism. These contextual factors, according to Bygstad et al. (2015, p. 5), "consist of networks of human, social and technical objects, which in various combinations enable (or create the potential for) action (i.e., affordances) or constrain". In the merchant's decision to adopt mobile payments, several contextual factors

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could stimulate or release conditions. These factors may include the organisation and its resources, competitors, industry, government policies, and cultural and political issues that could be enabling, constraining or releasing conditions for the merchant mobile payment adoption. These factors will be classified as stimulating and releasing conditions.

6.7.1 Releasing Conditions

Releasing conditions are particular decisions that release constraints either to prevent the adoption of mobile payments altogether or act as impediments to mobile payments for some categories of products or services (Mallat & Tuunainen, 2008.). Among the factors reported as constraints for the uptake of mobile payment by merchants in the industry include the linkages among technological skills, the complexity of the technology (which also leads to privacy concerns) and security concerns for the merchant. For example, the security concerns related to data breaches and data security which are regarded as significant releasing conditions that could affect the merchant's willingness to leverage mobile payment affordance. On the other hand, privacy concerns border fraud, particularly in the peer-to-peer transfer sector. Fraudsters can access merchant accounts, defraud them and abscond with millions of Ghana cedis belonging to unsuspecting customers. In Ghana, for example, the regulatory framework on mobile payments is not very well developed and firmed up. As such, most merchants do not understand where to address an issue regarding fraud and security-related issues. This confirms the suggestion by Mallat (2007) that users' perception of 'lack of security and 'trust in payment systems are among the vital problematic issues to e-commerce/m-commerce transactions.

Furthermore, some merchants' lack of technological skill serves as releasing conditions that significantly constrain the merchant's decision to actualise mobile payment affordance, especially among the less educated merchants (see Boateng, Afeti-Yeboah & Afful-Dadzie,

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2019; Musa et al., 2016; Dauda & Lee, 2015). This is because they perceive the use of technology as severe and usually develop a negative impression of mobile payment. More so, varying institutional factors, cultural and market restrictions, economic factors and social dynamics have also been identified in the literature to release constrain or enable the merchant to adopt mobile payments (Odoom & Kosiba, 2020). For example, the culture of cash ingrained in the minds of merchants and consumers with the perception of risk for digital options, using a mobile payment poses a constraint. For example, in Ghana, as Odoom and Kosiba (2020) reported, culturally, customers and merchants are comfortable conducting business transactions in cash. Institutional structures in the merchant environment have the potential to act as releasing conditions to constrain merchant interaction with the technology to achieve a goal.

6.7.2 Stimulating Conditions Enabling Affordance

According to Bygstad et al. (2015), stimulating conditions are the typical environmental activities that make it conducive for an organisation or individual to act to enable affordance. Stimulating conditions are enablers that foster affordance actualisation, i.e. allowing actions of affordance to take place (Majchrzak & Markus, 2013). There are enabling conditions such as the growth of technology, the advancement of mobile technologies, and the reduction of barriers (see de Luna et al., 2019). Ghana's payment systems are influenced by economic, financial and public policy factors, a growing local ICT industry and global trends in payment systems' development (Haruna, 2012). Latent demand for convenient, cheaper and safer financial services is considered to have given impetus to mobile payment innovations in developing Ghana (Van der Boor et al., 2014; Muwanguzi & Musambira, 2009). One of the key attributes that drive mobile payment in Ghana is a well-developed and structured telecom industry. There is nationwide network accessibility and oversight regulatory framework, and the quality of the service is regarded as playing a major role in

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the innovation of mobile payments in Ghana (Van der Boor et al., 2014; Demirgüç-Kunt et al., 2020). For example, mobile payments in Ghana, which telecom companies largely operate, leverage technological capabilities to provide these innovative financial services.

Moreover, COVID-19 concerns, as a contextual factor, demonstrated that risk from a disease perspective could influence user intention to actualise the affordance of a technology (Koch et al., 2020). This was because cash and banknote use and contact-based transactions were regarded as contributing to the spared of the disease. The shifting of consumers and merchants from contact-based transactions to contactless digital payment methods in financial activities influenced serious changes in the way people all over the world performed their usual daily transactional activities (Durr, 2020). It was observed that the rapid prominence of merchant interaction with mobile payments platforms in Ghana was a witness at the height of the historic COVID 19 crisis due to the health risk implication of using cash and other payment platforms (Mastercard, 2020). Therefore, the pandemic was seen as an influencing mechanism facilitating, enabling and stimulating the merchants to interact with mobile payment platforms to actualise affordance.

6.8 Chapter Summary

In its mobile payment system, Ghana has made quite steady progress since the inception of the 2008 Branchless Banking Guidelines. While the initial adoption of mobile payment services was slow, a renewed trend has evolved due to multiple factors. They include revised regulations, novel mobile payment products and services, multiple payment streams, and interoperability. The 2015 EMIGs further reinforced the need for unlimited opportunities in the mobile payment sub-ecosystem. The 98.5% in mobile money transactions alone as of 2018 among non-cash payments is no surprise.

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While Ghana celebrates the achievement of its mobile payment journey so far, some challenges persist. These include (1) the challenges of the digital divide, where some parts of the country do not have access to mobile and internet resources due to network challenges; (2) the lack of digital and financial literacy (users of mobile devices do not have the needed knowledge of its application and at the same time lack the basic knowledge to make an informed decision on their financial resources); (3) poor network connectivity and interoperability issues (describes the challenges associated with poor access to mobile and internet resources for smooth mobile payments); (4) trust and security (which seems to be a major concern in the wake of sophistication in mobile technologies and the prevailing fraudulent schemes used by fraudsters to socially engineer mobile money users for their money) And (5) ineffective mobile payment regulations (existing law on mobile payment appears to protect the issuers and agents, to the neglect of customers who are end-users of the services).

This chapter discussed the context of the study, including a general overview of the mobile payment system in Ghana. The chapter started with a brief historical background of Ghana and a chronological discussion of the mobile payment system, its adoption, its ecosystem and its relevance in Ghana. The chapter finally enumerated the contextual factors acting as enabling, stimulating and releasing conditions that enable or constrain benefits afforded by mobile payment platforms. Some notable challenges besetting the mobile payment system in Ghana were also discussed.

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CHAPTER SEVEN

RESEARCH METHODOLOGY

7.1 Chapter Overview

The previous chapter developed a proposed conceptual framework for this research work based on the research gaps identified. This chapter seeks to detail the research paradigm, the philosophical assumptions, and the research methodology underpinning this study to understand the affordances of the mobile payment platforms. First, the chapter examines the various research paradigms in information systems and adopted critical realism as the research paradigm for this study. Second, the chapter looks at the research design, case selection procedure, sampling and unit of analysis. The chapter finally discusses the data collection methods and the mode of analysis used in the study.

7.2 Paradigm or Philosophical Assumptions

Literature has employed several classifications to distinguish different research paradigms (Creswell, 2014; Guba, 1990; Schnelker, 2006). These classifications share three common elements, or philosophical assumptions, known as ontology, epistemology and methodology. These elements, or philosophical assumptions, are the basis for the differences among these paradigms. A paradigm is a set of beliefs, values and a choice of appropriate methodologies shared by a group of researchers, which guides the underlying nature of a phenomenon under investigation (Orlikowski & Baroudi, 1991; Kuhn, 1970; Myers & Avison, 2002). Paradigms play a critical role in Social Science research by orienting the thinking and allowing the drawing of correct inferences to answer the various research questions. Besides, paradigms enable the understanding of the nature of reality and the overall perspective of the phenomenon under study (Blaikie, 2018).

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These elements or philosophical assumptions are the basis for the differences among the different paradigms. These three philosophical assumptions have been explained in the literature. Ontology simply relates to the nature of reality researchers' study and deals with the physical and social reality beliefs regarding a phenomenon under study (Creswell, 2014; Morgan, 2007; Kuhn, 1970; Guba & Lincoln, 1994; Guba, 1990). Epistemology relates to what constitutes knowledge and how a researcher validly generates this knowledge to be understood and used (Lewis et al., 2003). Methodology, on the other hand, refers to the overall strategy of conducting research, such as research design, selection and adoption of research methods and techniques, as well as arguments for knowledge construction and justification within the context of a specific research paradigm (Cecez-Kecmanovic, 2001; Morrow & Brown, 1994). Some scholars, including (Krauss, 2005; Sarantkaos, 1998; Wahyuni, 2012), have also defined a research methodology as a particular practice or model and an outline used to conduct research to attain knowledge of a specific phenomenon.

Researchers have argued that these philosophical assumptions demonstrate a relationship of interdependence that enables a foundational understanding of the assumptions underlying a specific paradigm. Therefore, there is a consistent and unique relationship between ontology and epistemology and then between epistemology and methodology. Further, these relationships enable a researcher to conduct, interpret, and utilise research practically. In other words, these philosophical assumptions serve as a framework that guides different approaches to research (Guba & Lincoln, 1994; Creswell, 2014).

A critical review of social science research demonstrates the existence of various paradigms. However, the most discussed paradigm in Social Science research that showcases the theoretical directions in management research includes the positivist, the interpretive and the critical realism paradigms (Orlikowski & Baroudi, 1991; Sarantakos, 1998; Dobson,

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2002; Myers & Avison, 2002). These three, being the most prevalent, are discussed in subsequent paragraphs.

The positivist paradigm believes that in research, much emphasis should be placed on the scientific method, statistical analysis and generalisable findings, with the purpose of proving or disprove a hypothesis (Mack, 2010). The positivist paradigm maintains that the researcher can research by observing independently. This means that the phenomena under study are independent of the researcher. From the positivist perspective, knowledge is discovered and verified through direct observation or measurement of the phenomena (Mack, 2010). The ontology of positivism is based on the assumption that reality exists objectively and is external and independent of the researcher (Trochim, 2000). Epistemologically, the positivist believes that science is the way to know the truth and to understand the world, to enable accurate description, prediction and control and that only observable phenomena can provide credible data and facts. Positivism focuses on causality and law-like generalizations breaking phenomena to the simplest elements (Trochim, 2000). In other words, in positivism, the researcher views reality as objective, tangible, and single to explain strong predictions. Further, the researcher focuses on general laws to generate absolute knowledge. In addition, the researcher's relationship with the phenomena is one of rigid separation (Chon, Pizam & Mansfeld, 2012).

Another research paradigm that is common in IS research is interpretivism. The main belief of interpretivism is that phenomena can never be objectively observed from the outside. Instead, they must be observed from the inside through the direct experience of the people. Therefore, the role of the scientist in the interpretive paradigm is to "understand, explain, and demystify social reality through the eyes of different participants" (Cohen et al., 2007, p. 8). Researchers in this paradigm seek to explain the stability of behaviour from an

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individual viewpoint (Lythcott & Duschl, 1990). The ontology of the interpretive paradigm is that reality is socially constructed with multiple meanings and may change over time. Epistemologically, the interpretivist believes that true knowledge is discovered through subjective meanings. Their focus, therefore, is on the details of situations and the reality behind these details. The action of the researcher is motivated by subjective meaning. Interpretivism research uses the inductive approach beginning from a fragmentary detail to a connected view of a situation. Through the inductive, the researcher can build general themes and conclusions from the data that have been analysed to observe the emergence of patterns that suggest relationships between variables. These observations may be possible to generate new concepts and ideas, generalizations, relationships, or new theories (Strauss & Corbin, 1998).

Critical realism (CR) is considered an alternative to the positivist and interpretivist paradigms and combines elements of both to provide new approaches to developing knowledge (Zachariadis, Scott & Barrett, 2013). From the perspective of Orlikowski and Baroudi (1991), CR is a paradigm that critically evaluates the status quo and exposes the inherent structural contradictions within society, and, by so doing, enables transformation in the isolated social conditions. Also, Cecz-kecmanovic (2007) sees CR as a paradigm that examines economic, historical, cultural and political situations which outline IS development and its adoption in organisations to explain and understand multifaceted human, physical and social consequences. CR research conducts investigations using a retroductive process, which starts from empirical observation of events and concludes with a conceptualisation of trans-factual conditions (Easton, 2010).

Furthermore, critical realism believes in the multi-level study and accepts that social relationships and interrelationships can influence individuals, groups and organisations,

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hence multiple perceptions about a single mind-independent reality. Critical realists appreciate that the concept of reality goes beyond the self or consciousness, which cannot be wholly known or be discovered (Scott, 2005; Healy & Perry, 2000). The use of critical realism in qualitative research enables a coherent and rigorous philosophical position that gives credence to the study by providing a helping hand to the development of theory and the research process. Again, using CR creates the desire to provide a comprehensive understanding of reality based on relatively enduring structures and mechanisms. CR seeks not to predict but to explain the phenomenon (Elster, 1998). Hence, this research uses CR to examine and explain the relatively obscure reality of factors influencing merchant decision-making path in mobile payment adoption and explore the specific affordances merchants leverage with mobile payment platforms to create benefits in their business transactions.

As far as this research is concerned and considering the discussions in the previous chapters and the study's underpinning research question and objectives, the research paradigm guiding the study is the critical realist (CR) approach, with its roots in the critical theory family. Consequently, the study adopts critical realism to better understand relative enduring structures and mechanisms of social realities. In this case, the study seeks to explain, and not to predict, a social phenomenon.

7.3 Critical Realism as a Research Methodology

CR is an emerging and viable philosophical paradigm for conducting social science research. The paradigm is considered a credible alternative to the more prevalent paradigms of positivism and interpretivism (Wynn &Williams, 2012). It is largely based on the writings of Bhaskar (2013) and extended by others (Lawson & Morgan, 2020; Archer et al., 2013; Fleetwood, 2001). Specifically, CR acknowledges the role of social actors' subjective

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knowledge in a given situation and the existence of independent structures. Moreso, the critical realist philosophy proposes the existence of three layers, the empirical", the actual and the "real" (Bhaskar, 2013). First the empirical layer, which relates to what could be observed and perceived; thus, the observable and empirical phenomenon that can be perceived and be investigated. Then, the actual layer relates to events and non-events that result in the empirical layer. The third is the real layer which relates to the mechanisms and structures that generate the actual events.

CR allows for a degree of epistemological relativism, which suggests that gaining scientific knowledge is historically emergent, political and imperfect (Smith, 2006). As such, a CR-based study allows descriptions based on an analysis of the experiences observed and interpreted by users. The resulting knowledge claims would be focused on specifying the mechanisms behind actors' experiences (Wynn & Williams, 2012). This makes it particularly attractive for the study of IS, which is primarily a practice-based research domain encompassing aspects of both natural science and social science (Mingers, 2004; Venkatesh, Brown& Bala, 2013). It allows the provision of an ontology that helps to analytically separate structure and agency and, to a considerable extent, provides more coherent and consistent research (Dobson, 2001).

Similarly, the methodologies used in CR-based research give new opportunities for researchers to investigate complex organisational phenomena in a holistic manner (Venkatesh et al., 2013). Furthermore, CR-based research effectively responds to systems-oriented theories that identify the mechanisms which connect "chains of unspecified events and complex interactions" (Tan et al., 2008, p. 45). This allows researchers to develop in-depth causal explanations for the outcomes of specific socio-technical phenomena that take into account the breadth of information technology, social, organisational and

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environmental factors that may have played a causal role in their occurrence (Markus & Silver, 2008). Similarly, the methodologies used in CR-based research give new opportunities for researchers to investigate complex organisational phenomena holistically (Venkatesh et al., 2013).

7.4 Research Design and Methods

According to Remenyi et al. (1998), research methodology is the procedural framework that guides a researcher in conducting research. Again, it is the tool kit available to the researcher to investigate a phenomenon. It is of utmost importance for a distinction between research methodology and research methods. Research methods refer to the tools of data gathering and analysis related to all the procedures that are at the researcher's disposal when conducting research (Krauss, 2005; Sarantkaos, 1998; Wahyuni, 2012). On the other hand, research methodology is a systematic way of solving the research problem. In other words, research methodology may refer to the scientific and systematic study of research. These research methodologies have been broadly categorised into quantitative, qualitative, and mixed methods (Creswell, 2014). Choosing an appropriate research methodology is mostly influenced by the research paradigm underpinning the study, the research topic, and the specific research question being posed. All these go a long way to influence the research methods a researcher will adopt (Mukherji & Albon, 2014). As mentioned in previous sections, the philosophical underpinning of the research is critical realism, and the qualitative methodology is adopted for this research. This is to help unearth the structures and mechanisms of factors that influence merchant decision-making path in mobile payment adoption and explore the specific affordances merchants leverage with mobile payment technology in creating benefits in their business transactions.

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This will help bring a deeper understanding of merchant practice to enable important contributions to developing and engaging scholarship within the mobile payment ecosystem (Mathiassen & Nielsen, 2008). However, scholars have criticised qualitative research for its lack of theoretical contribution and uncertainty about its role in generalization. Though it is widely known for its support for context-sensitive issues and deep insights into complex IS practices, many researchers believe it is impossible to generalise from qualitative studies.

7.4.1 Case study as a Research Method

Research methods refer to the tools of data gathering and analysis (Krauss, 2005; Sarantkaos, 1998; Wahyuni, 2012). A case study is an in-depth empirical inquiry which helps to explore a contemporary phenomenon, such as merchant adoption of mobile payment, within its real-life context, especially when the boundaries between the phenomenon and context are not clear (Yin, 2013). Case study, as a research method, has been acknowledged by several researchers as an approach that explores the interaction of structures, events, actions and context to establish and explain fundamental mechanisms (Miles, Huberman & Saldana, 2014; Wynn & Williams, 2012; Ackroyd, 2010; Easton, 2010; Mingers, 2004). According to Easton (2010), a case study includes investigating one or a small number of social entities or situations. Ackroyd (2010) also describes a case study focusing on a sustained consideration of activities and behaviour in a particular location. To sum up, the case study inquiry copes with the technically distinctive situation in which there are many more variables of interest than data points. It relies on multiple sources of evidence with data, leading to a triangulating fashion.

Research from the philosophical perspective of CR has an opportunity to adopt a considerable variety of design methods, including case studies, ethnography, action research and design science research. This research was designed based on a case study. From Yin

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(1994), a case study is particularly appropriate when the phenomenon under consideration is contemporary, and the researcher does not have much control over the situation or when the phenomenon under investigation is new, and there is not much theory to explain issues adequately. More importantly, when the research is largely exploratory and addresses the "how and why" questions, it is appropriate to use the case study method. Again, Yin (2003) argues that the case study, as a method, provides researchers with the needed tools to undertake a study of a complex phenomenon within its context. More so, the use of the case study gives researchers opportunities to describe or explore a phenomenon in context, using a variety of data sources (Yin, 2003). The case study then becomes a valuable method that enables the researcher to develop theory, evaluate programs and develop interventions due to the rigour and flexibility it provides (Baxter & Jack, 2008). One of the significant advantages of a case study is that an issue is not explored through one lens but rather through a variety of lenses, which allows for multiple facets of the phenomenon to be revealed and understood (Yin, 2003). This research seeks to explore mobile payment, specifically from a merchant adoption perspective in a developing country, as a contemporary issue or phenomenon.

Additionally, as indicated in earlier chapters, the phenomenon is comparatively different from the number of rooted contextual factors that can influence it. Hence it must be studied within its context. Therefore, considering the nature of the studies and the underpinning research question, the case study is emphasized as the most appropriate approach for this research.

Various classifications have been used to differentiate the types of case studies. From the perspective of Yin (2013), case studies can be categorised into explanatory, exploratory, or descriptive. Further, the author distinguished between single, holistic case studies and multiple-case studies. A case study can be explanatory when the researcher seeks to explore

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a question that sought to explain the presumed causal links in a real-life phenomenon that is too complex for the survey or experimental strategy. On the other hand, an exploratory case study seeks to explore situations where the issue being evaluated has no clear, single set of outcomes. It seeks to search for explanatory theories (Yin, 2003). Conversely, the descriptive case is a type of case study that seeks to describe an intervention or phenomenon in its real-life context in which it occurred (Yin, 2003). Further, the descriptive case study approach allows the theory to guide the data collection process. A multiple case study is where the researcher explores differences within and between cases to appreciate the differences and the similarities between cases. Multiple case studies enable the researcher to replicate findings across and within to predict similar results across-cases or contrasting results based on a theory (Yin, 2003). A holistic case study explores some issues with embedded subunits, where researchers examine sub-units situated within a larger case, and data can be analysed within the subunits separately. On the other hand, a single case study deals with a single organisation.

Stake (2013) categorised case studies as intrinsic, instrumental or collective. The intrinsic case study is used when a better understanding is sought because of the researcher's genuine interest in the case. The interest drives the researcher to understand better the case, which helps him/her to build a theory. On the other hand, the instrumental case plays a supportive role in facilitating an understanding of a case by providing insights that help refine a theory. In addition, collective case studies are similar and provide descriptions of multiple case studies (Stake, 2013; Yin, 2003). The study is guided by the rational choice theory and the technology affordance and constraints theory. This study adopted a descriptive case study approach, specifically a multiple case study. While a holistic case study with embedded units only allows the researcher to understand one unique/extreme/critical case, using multiple cases enabled the researcher to analyse the case within each setting and across the

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case. In addition, adopting multiple case studies allowed the researcher to understand the similarities and differences between the cases. This enhanced the robustness and reliability of the study (Yin, 2003). However, using multiple cases as a research design can also be extremely time consuming and expensive to conduct. Nevertheless, Yin (2003) advised the need for specific propositions since they help guide the study to stay within feasible limits and place limits on the scope of the study. This, he argued, increases the possibility of completing the project on time. Propositions may be generated from literature, personal /professional experiences, theories, or generalisation based on empirical data.

More importantly, there is wide acceptance for the case study as a research strategy, and it is the most common qualitative method used among scholars in the field of IS. This is due to its widely-known support for context-sensitive issues and deep insight into complex IS practices (Alavi & Carlson, 1992; Orlikowski & Baroudi, 1991). As far as the methodology is concerned, of the 156 journal articles reviewed in relation to mobile payment research methodologies utilised in the literature, 6 applied design science methodology, while the majority of the papers (131) were based on interviews with a survey questionnaire. Among the 131 journal articles, 95, constituting 61% of the studies, used quantitative methods by mainly analysing data statistically via structural equation modelling (SEM), partial least squares (PLS), multi-group analysis, factor analysis and PLS algorithm. Qualitative studies recorded 36 articles, representing 23%, out of which 32 used panel data and case studies through interviews and the remaining (4) used real case scenarios. It must, however, be emphasised that scholars in developing countries, especially in the area of mobile payment, have called for more case studies to study the phenomena. As this research sought to explore from the critical realism point of view, a case study approach is the most appropriate way to unearth the historical and social dynamic interweaving process between the new technology and the social/ organisational setting.

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7.4.2 Case Study Design

This research is guided by Yin's (2003) guidelines in rigorously designing, collecting and analysing qualitative data. Based on the case study classification suggested by Yin (exploratory, causal and descriptive), the study adopted a descriptive case study approach. Using a descriptive case study allows theory to guide data collection and must be determined far in advance, be clearly stated and be reviewed to form the basis of the design of the descriptive case study. The research depended on the propositions developed from the theoretical framework discussed in the literature review as a guide for the data collection and the design of the case study. The research design was based on multiple case studies to enable the researcher to explore the strategic and non-strategic factors that can influence merchant decisions to adopt mobile payment platforms. Secondly, it also helped the researcher to explore how mobile payment platforms afford or constraint benefits to the merchant. A multiple case study was adopted due to its advantage of aiding researchers in building or explaining a theory (Galliers, 1992; Benbasat et al., 1987; Dobson, 2001; Dobson, 2002). This approach can enhance the development of a more compelling and robust theoretical framework that brings a rich explanation of the phenomenon being studied. Again, as Danemark et al. (2002) emphasised, comparing different cases affords an empirical foundation for retroduction, a basis to sort contingent differences to arrive at the common and more universal. Nevertheless, care must be taken because multiple case studies may require extensive resources and time beyond the means of a single independent researcher.

7.4.3 Selecting Case Organisation

The strategic selection of a case study is vital because qualitative researchers have argued that a case's strategic selection enhances the external validity rather than their statistical

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consideration. To do this effectively, the researcher must have prior knowledge about the characteristics of the case before beginning the actual case study. The approach regarding this research was to draw on a wide range of merchant firms that have successfully adopted mobile payment. The researcher gathered insights from a pilot study from November 10 to December 31, 2019. The actual data collection took place from January to March 2020. Data were collected from leading, knowledgeable and experienced merchants from a wide range of industries who had successfully adopted mobile payment (Klarner et al., 2013). The pilot study aimed to ascertain the appropriateness of the research questions and propositions to obtain clarification for the research design conceptually. Secondly, the preliminary insights, from November to December 2019, offered an opportunity to identify the appropriate organisation that has adopted mobile payment and is leveraging its affordances for the actual study. This gave credence to the theoretical propositions. The preliminary study helped to appreciate the extent of merchant assimilation of mobile payment and what informed their decision to select a mobile payment platform apart from risk and benefit analysis. The selected organisations were from the Kosmos Energy Business Incubation Centre, a hub for start-up organisations and referrals from the biggest mobile network operator in Ghana.

The initial stage of the study profiled 400 merchants based on their business activities and their relevance in impacting the national economy from a business incubation project. The Kosmos Innovation Centre is a private sector-led organisation that invests in young entrepreneurs and small businesses to empower entrepreneurs and turn their ideas into viable, self-sustaining businesses. The innovation centre works alongside promising businesses to help them scale up and reach their full potential. Therefore, 150 small merchant firms were initially contacted for the pilot study. Out of the number contacted, only 25 initially consented to be part of the research. However, five companies were

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interviewed for the project because of availability. In addition, three other merchant firms that were not from the business incubation centre were selected through a snowballing sampling approach, following the recommendations of the leading mobile network provider. The total number of interviews conducted for the pilot study was 20, and this was achieved with eight firms. Two consultants, mobile payment service providers, regulatory agencies and customers were interviewed for the pilot project.

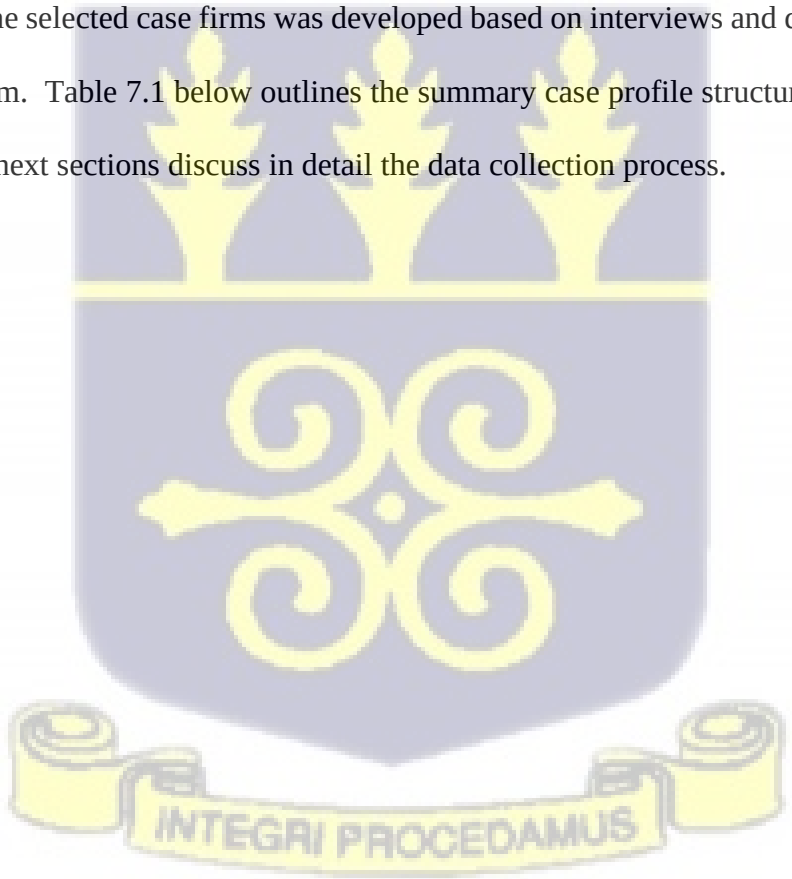
Regarding the main study, three main retail merchant firms, a manufacturing company, a sales and marketing distribution company and an urban retail fashion company who had adopted mobile payments for more than one year and were leveraging mobile payment affordances beyond making and receiving payments were interviewed for the research project. The selected companies were renamed for confidentiality. The companies are:

1. Sky Drinks Company Limited
2. Pelinam Marketing Solutions, a sales and marketing distribution company
3. Albrandz Company Limited, an urban fashion company

From the decision above, the number of cases might not be enough for the case design. However, De Vaus (2001, p. 241) stated, “the more complex our predictions, the more confident we can be in the single case where our predictions are replicated". Nevertheless, it is significant to mention that the research is CR research with an objective to generalise the ability of constituent properties (underlying causal mechanisms) to explain a particular occurrence of a phenomenon within a particular case study before engaging in cross-case comparison. Hence, it is important to affirm that the study is not quantitative research that seeks statistical significance. Therefore, the study focused more on strategic cases to explore, understand and test the research questions rather than having a large number of cases. More importantly, looking at the constraint of time and resources, the researcher took

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a view of what is practically possible within the resources and the time frame. Even though the study adopted strategic case selection focusing on underlying causal mechanisms, the study did not compromise on data triangulation. The triangulation was to establish a validated detail and necessary account of mobile payment adoption and usage in each firm (interviews were conducted with different managers in each firm, and there was a review of project reports and documents). There was also an external triangulation in each firm where other stakeholders and commentators were interviewed. Additionally, there was a methodological triangulation through observation and document analysis. These measures were undertaken to facilitate the internal and external validity of the case, and they provided the rigour and comprehensiveness needed for analysis from a CR perspective. The case profile of the selected case firms was developed based on interviews and document reviews for each firm. Table 7.1 below outlines the summary case profile structure for the selected firms. The next sections discuss in detail the data collection process.



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Table 7. 1 Summary Case Profile

	Company A	Company B	Company C
Industry	Manufacturing	Sales and distribution	Urban Fashion retailing
size (employees)	100	50	25
Revenue 2018 (GHS)			30,000 to 50,000
Year of establishment	2003	2009	2010
Firm type	Processing	Fast-moving consumer goods	unbranded fashion
Market focus	Global	Local/ National	Local
Interviews	8	7	5
Scope of case study data			
Position	Commercial manager/ Finance manager/General manager/ Sales operative (2) /Distributors (2)Account clerk	CEO/ Partner distributors (3) Operations Manager /Account clerk Sales and Marketing manager	CEO, Finance Manager/Marketing manager/ shop attendants (3)
Leadership experience	17 years	11 years	10 years
Education	Masters - Diploma	Masters/Diploma/ SS Certificate	Masters - Diploma
Payment platform type	Operator platform/smartphone	Operator platforms/ smartphone	Operator platform / smartphone

Source: Author's construct

7.4.4 Sampling Technique

Selection and studying a part of a population is known as sampling. Sampling enables generalisations to be drawn in relation to the entire population (Emmel, 2013). In qualitative studies, there are laid down procedures that guide participant selection and responses. This is to enable comprehension of the phenomenon under investigation (Marshall & Rossman, 2014). For instance, uniformity of participant groups in multiple-case studies is important (Padgett, 2016). Adherence to uniformity helps in achieving appropriate data for analysis. In addition, the state of data fullness is an important highlight in a data collection activity (Miles & Huberman, 1994). These standards were followed to ensure reliability in outcomes as a qualitative study, and purposeful sampling techniques were adopted to obtain detail-laden data to avoid time spent on unreliable data. Purposive sampling is a qualitative method for indicating and choosing suitable participants in resource-constrained research (Emmel, 2013). This procedure was used to maximise research completion due to the time-dependent nature of the project. This sampling approach targets individuals and groups with technical know-how and practice in relation to the phenomenon under study (Creswell & Plano Clark,

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2011). It also considers the availability and willingness of participants and their communicative aptitude (Yazan, 2015).

7.4.5 Reliability

Based on recommendations from Yin (1994) to increase the reliability of case studies, the researcher ensured the case's reliability by designing a case study protocol with an interview guide for data collection. Among the data collected were semi-structured in-depth interviews, participant observation, examination of artefact and review of historical documents of the case firms. The interview guide was initially drafted and given to three qualitative academics in the subject area who critically reviewed the comprehensiveness of the questions and commented on the questions. Their recommendations helped modify the interview guide to suit their proposal. Again, an industry expert who is a consultant (who was not part of the study) was contacted to review the question in the interview guide. His comments and suggestions were also incorporated, which led to further modification of the interview guide. The interview guide was organised into five sections based on the research objectives. The first section asked questions about the background of the organisation and the respondents. The second section was about the factors that influence the merchant's decision to adopt mobile payments (Decision-makers only). Section three focused on mobile payment platform's affordance and constraints. Section four was about the mobile payment interaction outcomes (benefits). Finally, section five was about the enabling conditions, stimulating conditions and releasing conditions affecting mobile payment platform's interaction. The decision-makers in the case firms were specifically asked questions from all five sections, while other interviewees were asked questions from section 3 in addition to section one. (See interview guide in Appendix B). The researchers took critical notice and sequentially documented all the data collection; the interviews were recorded with the participant's permission and later transcribed for data analysis. The researcher adopted

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standard procedures for qualitative data analysis based on (Miles, Huberman & Saldaña, 2014) approach to data analysis. (Section 7.5.5) explains the detailed analysis methods for each research question.

7.4.6 Construct Validity

Construct validity of this study was ensured by gathering several data sources to facilitate data triangulation (Wynn &Williams, 2012; Yin, 2014). For instance, the information collected through interviews was corroborated with data obtained from participant observation, artefact examination and historical documentation review on each case. For example, the researcher witnessed the transaction process and participated using the case firm's platforms for transactions anonymously from the case firm. The validity of the data was determined by the reliability that existed between interview data and the other source. Further, the findings of this study were submitted to scholarly book chapters and conference papers reviewer's feedback confirms the validity and soundness of this study's results.

7.4.7 Internal Validity

Internal validity relates to how a study's conclusions about the causality of the observed relationship can be justified (Boateng, 2020; Sørensen, 2000). Also, qualitative research is valuable in predicting how phenomena operate (i.e. processes) and developing preliminary causal hypotheses and theories. This study adopted two strategies to enhance the internal validity of the case study. First, causal links based on the Theory of Affordance and Constraints were established (Bygstad et al., 2015) to explain how mobile payment platforms afford or constrain benefits to merchants. The Theory of Affordance and Constraints enabled the explanation of contextual conditions that affect merchant platform's interaction and resulting generative mechanisms which afford or constrain benefits. This explanation is illustrated in Section 4.7. Secondly, the match between patterns predicted by

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the theory and those in the case study was observed, and the possible causes for any observed differences were identified. For instance, the merchant interaction with mobile payment platforms enables a primary affordance of strategic information, enabling secondary superior affordances that generate organisational benefits.

7.4.9 External Validity

External validity is how research findings, primarily drawn from a case study, are transferable to or fit other contexts (Miles et al., 2014). the study used a predefined selection criterion to obtain a theoretical sample from many merchants who have adopted mobile payment platforms to enhance transferability. Also, this study used Miles and Huberman's qualitative data analysis method, which involves three levels of coding, i.e. open coding, axial coding and selective coding (Miles et al., 2014). The general usability of this coding and analysis method also improved the external validity of this study's findings.

7.4.10 Data Collection Methods

Primary data was collected from multiple sources as required by case study research (Benbasat et al., 1987). A number of face-to-face, in-depth interviews were conducted with key managers in the merchant firms selected as case studies. The key officials interviewed included three CEOs, two distributors, a partner distributor, managers of key units in the case firm, a customer, six sales operatives and three account clerks: a regulatory compliant officer and a local mobile payment consultant (Yin, 1994, p. 78). Twenty-five (25) persons were interviewed based on the study's interview guide attached in Appendix B. (see a detailed breakdown of interviewees in Table 7.2 below. Identifying the Potential interviewees was in two phases. The researcher in the first phase attended a practitioner workshop held in January 2020 for large to small-scale business owners in Accra organised

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by a mobile payment service provider. The workshop's focus was on how businesses can take advantage of digital technologies after the COVID 19 pandemic.

After the workshop, the researcher approached the 3 case CEO, who agreed to grant an interview. They also recommended other key managers in their respective firms with considerable knowledge to explain how their respective businesses leverage mobile payment platforms for strategic benefit. In the second phase, a follow-up email and instant messaging interviews were conducted with the CEOs of the case firms and their key operatives. Further, 20 additional interviews were conducted with customers, partners in trading, regulatory agencies, service providers and consultants in the mobile payment industry. This helped the researcher gather information from different perspectives or obtain more in-depth insights to further corroborate evidence and verify the data obtained from the case firms (Pan & Tan, 2011). A semi-structured interview guide was used, and this was designed based on the study's objectives. Each interview guide had a standard core of questions about the influencers of merchant decision-making processes, affordances and constraints and the outcomes of mobile payments affordance actualisation. Except for the follow-up interviews, all interviews were face-to-face taking into consideration COVID 19 protocols. The interview was diligently recorded, took an average of 60 minutes, and later transcribed, about 15 pages of notes. The notes after an in-depth review were expanded as a full case study and were coded manually for analysis.

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Table 7.2 Detailed Data Collection Methods, Timelines and Durations

Case Firms	Participants interviewed	Method of data collection	Date and duration of the interview
ONE	Commercial manager Finance manager Sales operative 1 Sales operative 2 Distributors 1 Distributors 2	In-depth interview	9th Jan. 2020; 55 minutes 22nd Jan. 2020; 43 minutes 14 Feb.2020; 30minutes 14 Fed. 2020 40minits 13th March 2020, 43 minutes
TWO	CEO Partner distributors 1 Partner distributor 2 Partner distributor 3 Operations manager Account clerk Sales and Marketing manager	In-depth interview	8th August 2019; 63 minutes 2nd August 2019; 50 minutes 28th July 2019; 48 minutes 6th Nov 2019; 33 minutes 1st Oct 2019;49 minutes 13th July 2019;43 minutes 31st May 2019; 55 minutes
THREE	CEO, Finance manager Marketing manager Shop attendant 1 Shop attendant 2 Shop attendant 3	In-depth interview	13th October 2019; 60 minutes 13th October 2019; 58minutes 16th Nov. 2019; 40minutes 17th October 2019; 35 minutes 17th October 2019; 40 minutes 17th October 2019; 45minutes
Service Providers	MTN MMO commercial manager Hubtel Customer service manager	Interview Interview	30th March 2021; 60minutes 2nd April 2021; 45minutes
Customers	Sixty (60) mobile payment consumers	Survey	8 October 2021, 45 minutes
Regulators, Bank of Ghana	Electronic money complainant officer	Interview	8 March 2019; 55 minutes
Researcher	Seminar for MTN mobile money stakeholders	Participant observation	20 July 2021; 3 hours
Researcher	Engaging in business transactions in the case firms	Participant observation	16 November 2018; 4 hours

Source: Author's construct

7.4.11 Unit of Analysis

The most basic unit of investigation in a study is known as the unit of analysis. The unit of analysis defines what is being studied, which may be individuals, groups or organisations. Since this study is based multiple cases, the study will adopt a macro-level analysis to holistically assess the firm's decision path in choosing mobile payment platforms, the mobile payment platforms themselves, their affordances and constraints in creating benefits for merchants in the retail industry (Frenken & Boschma, 2017).

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7.4.12 Mode of Data Analysis

Data Analysis is the process of transforming, cleaning and displaying data collected in research into meaningful information that responds to the research questions (Creswell, 2014). The data analysis in this research followed Miles and Huberman's data analysis approach (see Figure 7.1) (Miles, Huberman & Saldana, 2014). The approach was considered appropriate because it allows for retroduction. This enables the critical realist researcher to explain the generative mechanisms that are causal structures in explaining empirical outcomes as the underlying reason for the critical realism approach to research (Bygstad et al., 2016). Additionally, Miles and Huberman's qualitative data analysis approach subscribes to an iterative process that begins from data collection to data condensation, data display and finally to conclusion drawing or verification. Data collection and analysis do not have a rigid separation but an iterative process of a cycle of data collection and analysis with the notion that the findings of the analysis will aid in the subsequent data collection (Boateng, 2014). During the data collection process for this research, the analysis began with the researcher taking notes. The data collection process identified some key concepts necessary because the researcher may be unable to recollect every detailed activity or event. According to Miles, Huberman, & Saldana (2014), data condensation is "the process of selecting, focussing, simplifying, abstracting, and/or transforming the data that appear in the full corpus of written-up field notes, interview transcripts, documents, and other empirical materials (Miles, Huberman & Saldana, 2014, p. 12).

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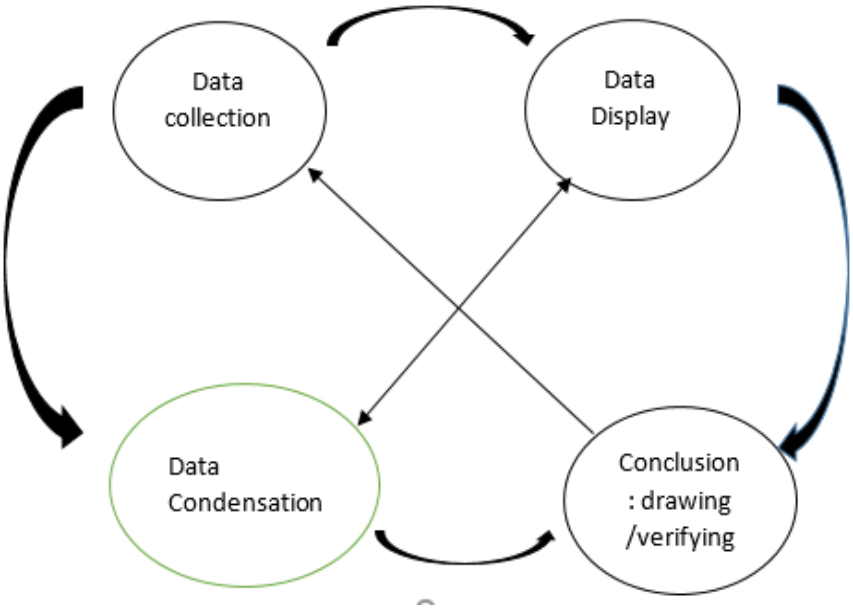


Figure 7. 1 Component of Data Analysis
Source: Adopted from Miles & Huberman (1994)

7.5 Data Analysis Approaches to Answer Research Questions

7.5.1 Approach for Research Question One

Research question one sought to explain the strategic and non-strategic factors that influence merchant decisions to adopt mobile payment platforms. To understand the strategic and non-strategic factors that influence the merchant decision to adopt mobile payment platforms in Ghana. Leaders who are strategic decision-makers in the three merchant firms and their partners listed in table 7.1 were asked questions that prompted them to explain the factors that influence their decision to adopt mobile payment platforms. The data analysis followed the procedure illustrated in Figure 7.2 to help answer the research question. The analysis process started with open coding as the first step. The open coding consisted of breaking and naming interview data into different codes (Miles et al., 2014), leading to an output of first-order codes. The first-order codes enabled descriptive labels for the various interview responses gained from the interviews. Some of the conditions identified from the interview responses include “fraud issues", "privacy issues"," information security issues", "security breaches,” “Technology usefulness”, “ease of use”, “service necessity", and "business

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partner demand," "partnership loyalty," "new business model," "sales clustering", brand reputation, "merchant knowledge," "gradual personal use," At this stage of the analysis, the data was mainly descriptive. The researcher ensured that the codes and sub-codes were very descriptive with operational descriptions. Secondly, axial coding, an inductive, recursive process, was performed as the second step. Similar first-order codes were combined as a set of more abstract second-order constructs (Strauss & Corbin, 1998). For instance, "fraud issues", "privacy issues," "information security issues", and "security breaches." "were labelled collectively as risk assessment. Technology usefulness", "ease of use", and "service necessity" were labelled as "benefit assessment". Again, "business partner demand" and "partnership loyalty" were labelled partnership dependency. "New business model", "sales clustering", and "brand reputation" were also labelled as "business" development. lastly, "merchant knowledge", "gradual personal use", "developed knowledge", and "business transfer were collectively labelled as "incremental use." Codes were revised or removed throughout this stage, and additional codes and sub-codes were created as new themes emerged from the data. Selective coding was then applied as the third step. This was about working and grouping similar second-order constructs into more meaningful aggregate theoretical dimensions. Consequently, "risk assessment." and "benefit assessment" were collectively labelled as "rational decisions". Chapter nine of this study illustrates the actual outcomes and complete analysis of research question one.

7.5.2 Approach for Research Question Two

Research question two aimed at explaining the affordances and constraints that mobile platforms provide merchants in Ghana's retail industry. The resulting affordances and constraints were further categorised based on the merchant firm because affordances are context-specific and dependent on the specific goal of the merchant from the case description. Some of the affordances identified include "strategic information, new business

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model, fraud detection and business development and Revenue generation". The data analysis followed the procedure illustrated in Figure 7.2 to help answer the research question two from the in-depth interviews. The analysis process started with open coding as the first step. The open coding consisted of breaking and naming interview data into different codes (Miles et al., 2014), leading to an output of first-order codes. The first-order codes enabled descriptive labels for the various interview responses gained from the interviews. Some of the conditions identified from the interview responses include "sales trends", "sales tracking", "agent performance", "sales team performance", and "agent performance." At this stage of the analysis, the data was mainly descriptive. The researcher ensured that the codes and sub-codes were very descriptive with operational descriptions. Secondly, axial coding, an inductive, recursive process, was performed as the second step. Similar first-order codes were combined as a set of more abstract second-order constructs (Strauss & Corbin, 1998). For instance, "sales trends", "sales tracking" "were labelled collectively as measuring "sales performance." "agent performance", and "sales team performance" were labelled as "measuring team Performance". Codes were revised or removed throughout this stage, and additional codes and sub-codes were created as new themes emerged from the data. Selective coding was then applied as the third step. This was about working and grouping similar second-order constructs into more meaningful aggregate theoretical dimensions. Consequently, Sales performance and team management were collectively labelled as "Performance Measurement." The actual outcomes and complete analysis of research question two are illustrated in chapter nine of this study.

7.5.3 Approach for Research Question Three

Research question three aimed at explaining the forms of value-generated benefits as an outcome created by merchant interaction with mobile payment platforms affordance in Ghana's retail industry. The value-generated benefits and its structures were conceptualised

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in section 3.5 and illustrated empirically in Chapter Nine, which presented and analysed how merchant interaction with mobile payment platforms is contributing to value-generated benefits in Ghana's retail industry. To understand the forms of benefits created especially for the merchants. The merchants listed in table 7.1 were asked questions that prompted them to explain the benefits they obtained from interacting with the mobile payment platforms. The data analysis followed the procedure illustrated in Figure 7.2 to help answer the research question three from the in-depth interviews. The analysis process started with open coding as the first step. This starting coding was based on the research framework and the literature to facilitate the analysis (initial deductive approach). The open coding consisted of breaking and naming interview data into different codes (Miles et al., 2014), leading to an output of first-order codes. The first-order codes enabled descriptive labels for the various interview responses gained from the interviews. Some of the conditions identified from the interview responses include “sales expansion,” “business niche,” “business expansion,” “new service model,” "organisational learning," "stakeholder interaction," "bigger platforms," and "strategic partnership" “efficient service delivery,” “expanded coverage”. At this stage of the analysis, the data was mainly descriptive. The researcher ensured that the codes and sub-codes were very descriptive with operational descriptions.

Secondly, axial coding, an inductive, recursive process, was performed as the second step. Similar first-order codes were combined as a set of more abstract second-order constructs (Strauss & Corbin, 1998). For instance, "sales expansion," "business niche," "business expansion," and "new service model" were labelled collectively as “business development”. “Organisational learning," "stakeholder interaction," "bigger platforms," and "strategic partnership" were labelled as “new opportunities” Again, "efficient service delivery" and "expanded coverage" was also tagged as “Operational excellence” Throughout this stage,

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codes were revised or removed, and additional codes and sub-codes were created as new themes emerged from the data. Selective coding was then applied as the third step. This was about working and grouping similar second-order constructs into more meaningful aggregate theoretical dimensions. Consequently, "Business development," "New opportunities," and "Operational excellence" were collectively labelled as “Strategic benefits”. The actual outcomes and complete analysis of research question three are illustrated in chapter nine of this study.

7.5.4 Approach for Research Question Four

With reference to section 1.4, research question four was to explore the enabling, stimulating and releasing conditions that affect value-generated benefits created from mobile payment platforms interaction. These environmental factors were discussed and conceptualised in sections 6.7, 6.7.1 and 6.7.2. As an empirical illustration in chapter six, the mobile payment context was discussed as a techno organisational context that creates enabling, stimulating and releasing conditions that create opportunities for merchant interaction with mobile payment platforms. These factors in the merchant environment can enhance or constrain affordance perception and actualisation, respectively. To understand the context, and more specifically, to identify the relevant conditions, the respondents listed in Table 7.1 were asked questions that prompted them to explain their reasons for using mobile payment platforms and their goals in the retail industry. The data analysis followed the procedure, as illustrated in Figure 7.2, to help answer the research questions from the in-depth interviews conducted. The analysis process started with open coding as the first step. The open coding consisted of breaking and naming interview data into distinct codes (Miles et al., 2014), leading to an output of first-order codes. The first-order codes enabled descriptive labels for the various interview responses gained from the interviews. Some of the conditions identified include "technology pervasiveness", "critical mass," "COVID 19 pandemic,"

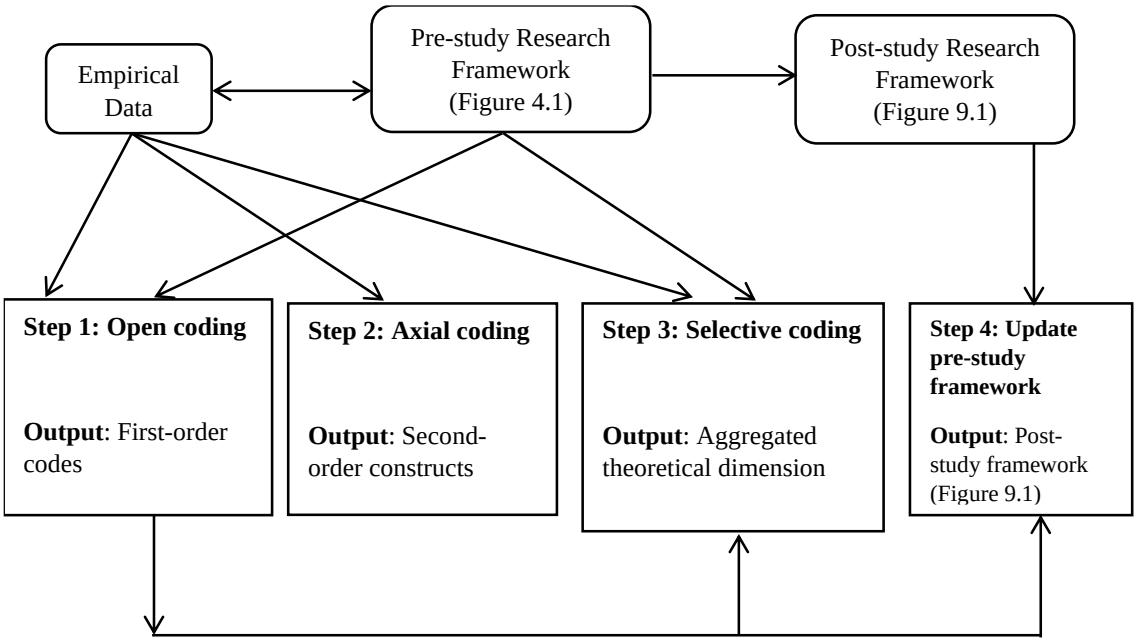
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"new normal," "multi-currency", "third party support", "government legislation," "operational accreditation," "inter-operability", "usage from other firms," "changing consumer preference." At this stage of the analysis, the data was mainly descriptive. The researcher ensured that the codes and sub-codes were very descriptive with operational descriptions. Secondly, axial coding, an inductive, recursive process, was performed as the second step. Similar first-order codes were combined as a set of more abstract second-order constructs (Strauss & Corbin, 1998). For instance, "technology pervasiveness, "critical mass," and "COVID 19 pandemic" were collectively labelled as "adoption environment". "New normal," "multi-currency", "third party support" were also collectively labelled as "Prevailing payment culture". "Government legislation," "operational accreditation," "inter-operability" were collectively labelled as "regulatory factors." "Usage from other firms," "changing consumer preference, " collectively labelled as Competitive pressure." Codes were revised or removed throughout this stage, and additional codes and sub-codes were created as new themes emerged from the data. Selective coding was then applied as the third step. This was about working and grouping similar second-order constructs into more meaningful aggregate theoretical dimensions. Consequently, the adoption environment and "Prevailing payment culture" were collectively labelled as "Adoption readiness." And "Regulatory factors" Competitive pressure" were labelled as "Stakeholder direction". The actual outcomes and complete analysis of the research question four are illustrated in chapter nine of this study.

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Figure 7.2 Step by Step Approach to Data Analysis for Research Questions



Source: Adapted from Tzeng (2018, p. 639).

7.6 Ethical Consideration of Study

The ethical consideration aimed to comply with standards that will ensure quality research conduct and outcomes. First and foremost, ethical clearance was sought from the Ethical Review Board for the Humanities at the University of Ghana. Going forward, permission was sought from each selected institution for the primary data collection before engaging with potential participants. The participants were informed of the purpose of the study to appeal to their good intentions. Participants were not coerced to be part of the research. Their participation was done willingly at their own discretion. The anonymity of the respondent's identity with regard to provided information was assured. Convenient periods for participants were followed to ensure impartial responses and a relaxed atmosphere during interview sessions. Principles of CR research were followed for objective analysis of the data collected, and findings were impartially reported. More importantly, all existing studies providing support, insight and clarification for this study have been appropriately cited in accordance with the rules and regulations of the University of Ghana.

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7.7 Chapter Summary

The chapter mainly focused on the methodology and the philosophical assumptions adopted in explaining the merchant adoption path aside from utility/ Risk trade-off, affordances and constraints of merchant's interaction with mobile payment platforms for organisational benefits. In addition, a comprehensive description of data collection and the procedures used in the data analysis were also presented.



CHAPTER EIGHT

EVIDENCE OF LEVERAGING MOBILE PAYMENTS AFFORDANCE: THE CASE OF GHANAIAN MERCHANT FIRMS

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8.1 Chapter Overview

The preceding chapter looked at the methodology for this study and indicated the selection of three merchant firms as case studies for this research. This chapter outlines the case description of the various merchant firms involved in this research. The merchant firms selected are Sky World, an international fruit juice manufacturing company; Pelinam Company Limited, a marketing and distribution network of fast-moving consumer goods; and Albrandz Fashion World, an online and brick and mortar fashion retail shop. This chapter aims to document the evidence of factors that influence merchant decision path to adopt mobile payments, aside from the utility/risk trade-offs. In addition, it establishes proof that helps construct an understanding of the contextual conditions of mobile payments platform's affordances and constraints, as well as the notable benefits they generate for merchant firms. Therefore, the insights of the field research in the selected merchant firms are presented in this chapter.

8.2 Sky World Products Ghana

8.2.1 Firm Profile

Sky World Products Ghana Ltd is a global manufacturing firm producing fresh fruit products since 1998. The company was established under the free zone act (Act 504) in 1998 and incorporated in that same year as a subsidiary of the mother company in the UK. The company is a multi-award winning agro-based multinational company founded by a British entrepreneur. The company was born out of the founders' vision to offer fresh fruit salads and juices, necessitating the establishment of the factory at the source of the raw materials in the Eastern Region of Ghana. They deliver ready to eat ‘fresh from harvest' fruit salads, freshly-squeezed juices and dairy-free ice-creams for consumers globally. The company started by exporting premium quality freshly-cut fruits to supermarkets in Europe before eventually diversifying to supply the local market with freshly-squeezed 100%

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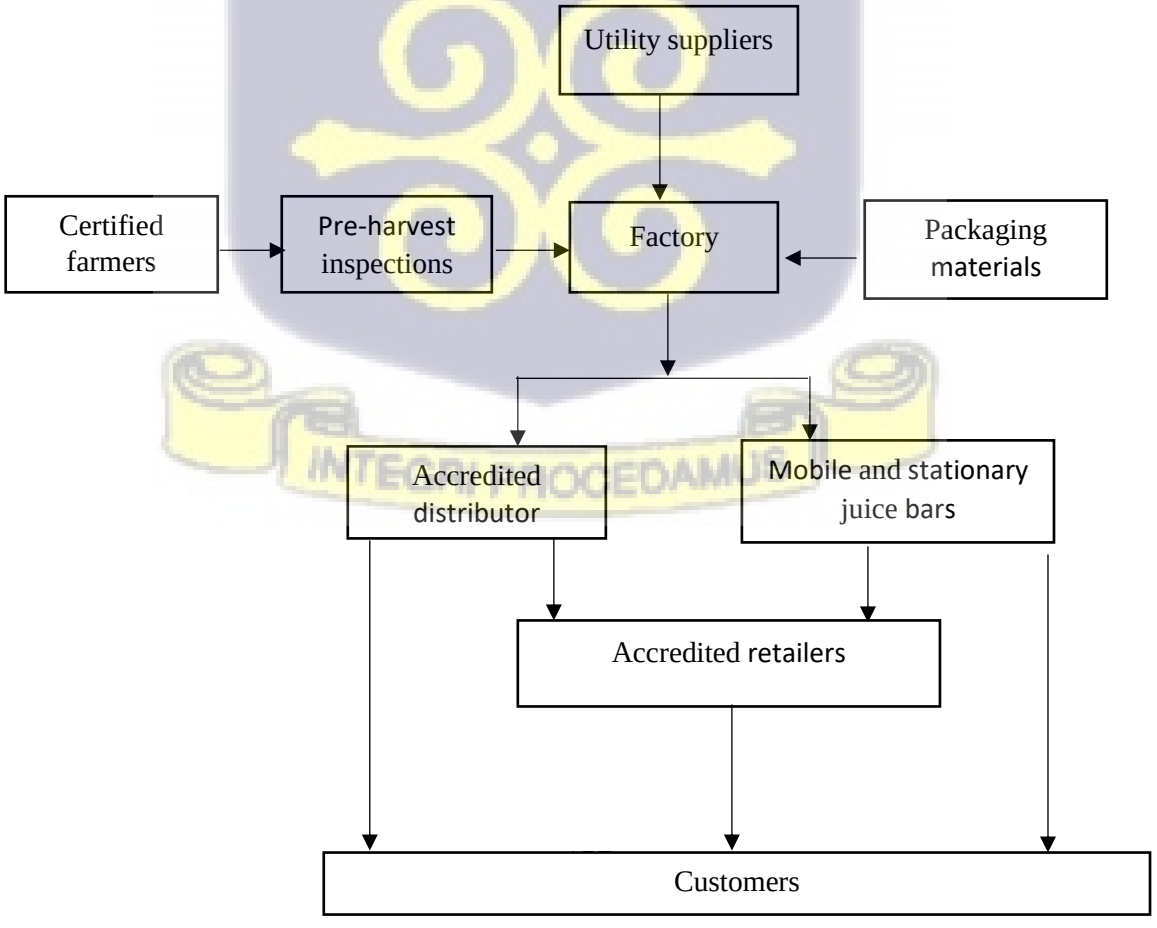
natural juices. The company's mission is to build together a profitable enterprise where people respect each other, care for the environment and inspire a legacy for the future.

As a free zone company in Ghana, by law, the company must sell 30% of its produce locally in the Ghanaian market. Based on that, the company 2003 established a subsidiary, taking advantage of the Free Zone Act and registered as a separate company in 2003 and incorporated in the same year as a subsidiary of the Ghana branch. Over the past seven years, the Sky Drinks Company has established a vibrant Ghanaian fruit juice processing company to satisfy the Ghanaian consumer. The company has over 15 product lines. Among them are pineapple juice, pineapple and ginger juice, pineapple, mango and passion fruit juice, as well as orange mango and banana juice. In addition to the juices, the company produces non-dairy ice creams and a range of fresh fruit salads with the biggest market share in the Ghanaian market, constituting 3% of the core international business. The company, from a humble beginning, has grown its ability to supply the highest quality fresh produce, in large volumes, to several outlets, including supermarket chains, restaurants, hotels, distribution outlets, individuals and other stand-alone petty trading outlets. The company's annual turnover is about 2 million pounds.

The main raw material for the company, which is pineapples, is sourced in Ghana all year round using an out-grower scheme and own-cultivated farms. The other fruits like mango, pomegranate and pawpaw that are seasonal are sourced globally when they are in season. The company procures other raw materials like bottles, labels, and covers from the UK through the company's head office. The company's products are very perishable, with six days shelf life. Hence, the company goes through a strict process flow to ensure all the critical control points are followed during production. The aim is to attain quality fresh fruits and juices for the Ghanaian market.

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Due to the perishable nature of their products, purchases are based on pre-orders and confirmation by making payments to the company. All such orders placed by customers, retailers and distributors, when paid for, pave the way for the commercial manager to authorise the production manager to produce the orders that have been confirmed. The production process from fruit harvesting, washing, and dispatching final products is constantly inspected by quality assurance officers to ensure good quality raw materials are used for production. They also ensure the right process flow is followed and ensure the finished products meet the specification and quality standards of the company. The quality assurance team is responsible for identifying and removing bottles that are half-filled, improperly capped /uncapped and wrongly labelled. The team further ensures that the products attain the right temperature before dispatching. The final products are shrink-wrapped and placed in refrigerated storage for distribution to customers who have placed orders and made payment. This process is illustrated in Figure 8.1



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Figure 8. 1 Sky World Products Process Flow Diagram
Source: Interview and document review

The company is run by its executive director, who is the founder of the organisation and supported by seven managers who constitute the management team. The managing director is a trained soldier and holds an MBA degree from the London School of Economics (LSE) and an honorary doctorate from the Henley Business School in the UK. The general management of the organisation in Ghana is headed by a General Manager who has a bachelor's degree in Process Engineering and a Master's in Business Administration. The General Manager is supported by a management team consisting of the Commercial Manager, the Production Manager, the Financial Manager, Procurement and Supply Chain Manager and the New Product Development Manager. These respective functional managers have postgraduate qualifications as well as professional certification, which relate to their managerial functions. The finance department is in charge of all the accounting and payment-related issues. The company employs over 500 permanent staff and about 300 casual workers.

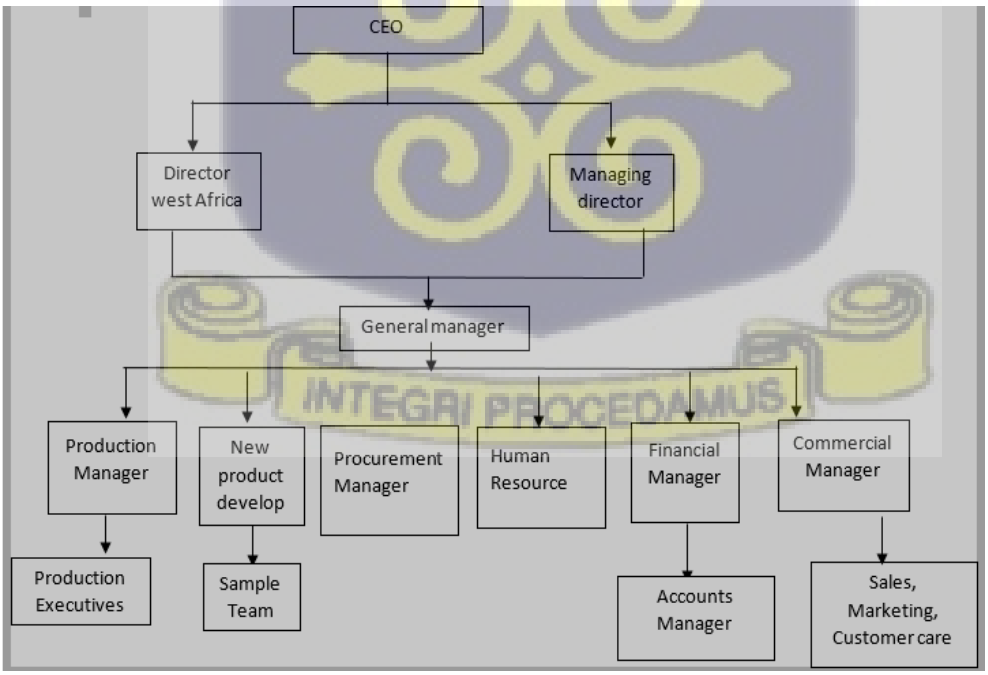


Figure 8. 2 Sky World Products Organisational Chart

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Source: Interview and document review

8.3. Addressing Company Needs

Sky World Product Ghana is a multinational organisation. However, it does not operate a typical multinational business model, where all company products are sold to distributors down the value chain to customers. Due to the perishable nature of their products and special attention to maintaining a cold chain, Sky Drinks Company uses a slightly different model of sales and distribution. They operate a business model where the company sells to distributors, retailers, key accounts and directly to individual consumers through their juice bar sales or van sales. Therefore, all forms of customers have to place orders, make payments by cash at the factory or make deposits into the company's bank account and show proof of payment at the factory. Customers obtain a receipt before orders are confirmed to be produced for the client. Before the adoption of mobile payment, the company's standard payment procedure was for an individual to pay through cheques, cash or bank deposit. Although the company operates an open sales policy, the fruit processing business is very complicated due to the product's perishability and short shelf life. Hence, the company's products are made to order and not to stock. The ordering process could take the client about three hours to complete the cycle of ordering products in the Sky Drinks Company. The method of paying for products was inconvenient to clients who wanted to buy directly from the company and were not within the catchment area. Also, the company realised that revenue for direct sales was dwindling as customers kept complaining about the cumbersome procedure of ordering and paying for products. Therefore, the company needed an innovative payment procedure to complement its existing payment structure to make payment convenient for its customers. The most challenging part was that the system was originally set up for clients to pay for products into a specific bank account before their orders could be confirmed.

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Management realised that individual sales were going up, but there were a lot of customer complaints about the mode of payment, which did not include any form of mobile payment. The marketing manager stated that even though sales were increasing regarding ad hoc sales, but for the complaints, they suspect sales would have grown to 50 % of the entire daily sales. Nevertheless, after a resurgence following a tough 2017, a comprehensive market analysis of their business pointed to the fact that there was room for the company to sell more to the growing middle class, who already constituted 15%-25% of the company's weekly sales. However, management needed to strategically incorporate a wave of change in their sales delivery to ensure the sustainability of their business, protect the growth of its core accounts, expand into new territories and launch new products. Therefore, to deliver ongoing high service and keep their business in good shape, management took a responsible decision to vary the company's business model. The company deployed social media, online selling, and mobile payment and delivery strategies to customers using their distribution vans or a courier directly to the customer. Using the online sales strategy as part of their business model necessitated the company's decision to adopt mobile payment. The organisation adopted mobile payment in 2017, using MTN mobile money (MOMO) without a third party or an app. The company adopted MOMO because they claimed it was the most viable online alternative for payment in Ghana. According to the company's financial director, introducing online sales in the business was a ground-breaking solution. Mobile payment became a game-changing solution from which the company still benefits.

More importantly, management needed to satisfy their teeming customers pushing for mobile payments. Company sales operatives initially took mobile payments using their personal mobile payment accounts, even though this was not the company's approved payment channel. For lack of a better alternative, the sales operatives adopted this approach

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to satisfy the customer on the field and for a higher commission to augment their individual sales figures. Nevertheless, the unapproved mobile payment receipts became a bottleneck and a major challenge for the business. The sales operatives could not account for all the sales anytime the typical reconciliation was done. Sometimes the sales manager had to spend so many weeks tracking ad hoc sales before sales operatives were questioned regarding their sales figures and the orders credited to their accounts. Tracking ad hoc orders and individual purchases paid through operative mobile payment accounts at the end of the week was becoming very murky and a bottleneck. According to the commercial manager, revenue meant for the organisation ended up in people's back pockets, and the company was losing a lot of money through ad hoc sales.

Furthermore, the company faced a challenge regarding when the sales van man began work. According to the organisation, he would leave very early at 6 am, two hours before the administrative staff would report, and return at 7 pm. He would then make the excuse of not being able to account for all the mobile payments he received because the mobile money vendors had closed. It was a major problem, and sometimes for weeks and months, the money would not be paid into the company's account, leading to the company losing income. More importantly, the company was consistently queried in yearly audit reports about the organisation's inability to trace payment of ad hoc sales.

As intimated by the commercial manager, *"It became important to look at other means of satisfying our customers, meeting audit demands and tracking ad hoc sales and payments. There was a need for accountability, and if we didn't do that, we could lose internal control and face audit issues, leading to bigger challenges."*

(Interview with Commercial manager April 2020)

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8.3.1 Decision-Making Path to Adopting Mobile Payment Platforms

The company officially adopted mobile payments with the official company documents in January 2017. In trying to resolve the challenges the organisation faced, they considered several mobile payment options available on the Ghanaian market to appreciate and recognise the risks associated with their company adopting and using mobile payment. The company's finance team, led by the Finance Manager, discussed on several occasions at management meetings to understand the risks the company would be exposed to when it finally decided to adopt mobile payment. Among the risk factors, they considered were conceivable unscrupulous behaviour. This was to avoid the service provider exploiting the company's weakness and available company information. The company also considered the risks concerning transaction security, threats of anonymity and confidentiality, including the risk of financial losses and privacy losses. This was done because of m-payment. The probability of fraudulent transactions occurring was relatively high, and the company ensured its transactions were conducted in a safe and reliable environment.

The company's financial team had a long deliberation, lasting several months, with the service provider and their bankers to ensure it was safe for the company to adopt mobile payment. They assessed the risks and concluded that the service provider was capable of mitigating the risks involved. Measures such as encryption, authentication, firewalls, digital signatures, privacy seals and third-party certifications would ensure security and privacy. As a result, the service provider recommended a special merchant SIM with a PIN accessible to only the Finance Manager and the General Manager.

Additionally, the account was set up only to receive, such that no person could withdraw from it. Again, their bankers advised the company to mitigate risks by directly linking the mobile payment account to their bank account to have daily, real-time reconciliation and

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instant mobile payment statements. Management, after considering the risks, concluded that the provider's reputation, coupled with the fact that lots of other companies had begun to use the MOMO option and the fact that customers were demanding it, were more compelling reasons to adopt the technology rather than deciding against the technology because of the risks involved.

As intimated by the Finance Director*: "Management would not have given in and probably opened up to MOMO if it was a new idea. However, weighing the pros and cons and perhaps seeing how far MOMO has come, coupled with what other companies have done with it and customers asking for it, weighed more in favour of having that done than looking solely at risk. I am sure we can mitigate the risk to some extent."* (Interview with Finance Manager, May 2020)

Also, as commented by the Commercial Manager*: "The decision to adopt the mobile payment drag on for some time even before I joined the organisation, but in the end, what happened was that when we looked at the fact that there was so much inconvenience with respect to payments with an individual, it seems that removing the inconvenience in other to make the sales and generate income from that stream tipped the scale. However, it was not at one meeting that management decided to adopt. We did a lot of discussions on how safe it was, who is taking our information etc. Still, the banks came in to assure that the risk was known, and that was why people discarded the idea of going for a normal MOMO chip, so going for the special merchant chip was more assuring*." (Interview with Commercial Manager, July 2020).

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8.3.2 Enabling, Stimulating and Releasing Conditions for Merchant Interaction

In resolving the challenges, the company faced around their payments. In an attempt to improve payment systems in their company and satisfy their customers, Sky Drinks' management decision was influenced by several environmental factors that facilitated its decision to adopt mobile payment. Firstly, the company appreciated that mobile payment is gradually becoming a recognised payment mechanism comparable to any other form of payment in Ghana, and consumers have shown a willingness to pay using their mobile money. COVID-19 concerns in the form of news, and safety measures, often communicated through traditional media sources, social media, and other means, influenced serious changes in how the Ghanaian consumer performed their usual daily transactional activities. The company saw the consumer's interest as a big motivator. According to management, the comfort levels for the consumer to use mobile payments served as enabling conditions that influenced the management's decision to interact with mobile payment platforms.

Secondly, the examples that abound in the business environment were another motivator. Thus, other companies were successful with mobile payment in supporting their business transactions which served as a driving force for the company to initiate its mobile payment adoption to replicate the success story of other companies. Management also emphasised that the regulatory environment served as an institutional element that assured them that a third party was regulating the service provider. When compromised, the service provider could lose its operating license. The company was also confident that with their bank's assurance and a specific merchant account code, daily sales could be tracked and transferred safely into the company's account.

Thirdly, the company mentioned that the initial cost implication of setting mobile payment was not much, and all the company needed was a mobile phone. They also stated that the

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technology was easy to use because the individual managing the process understood its use and required minimal training. Finally, the company believed that the technology was widespread, and its adoption was useful for the business. For example, the commercial manager narrated an incident where the manager had to speak to a customer complaining that she had placed an order with Sky Drinks for a wedding. The customer was told to go to a specific bank to make a payment of about Nine Hundred Cedis, and the customer thought it was absurd for the company to have such a payment arrangement with customers in this day and age. The company had to send a van and a salesperson to Spintex road, a suburb in the capital, to collect the payment because the customer was unwilling to go to that bank that was not in the customer's locality to buy a few bottles of fruit juice.

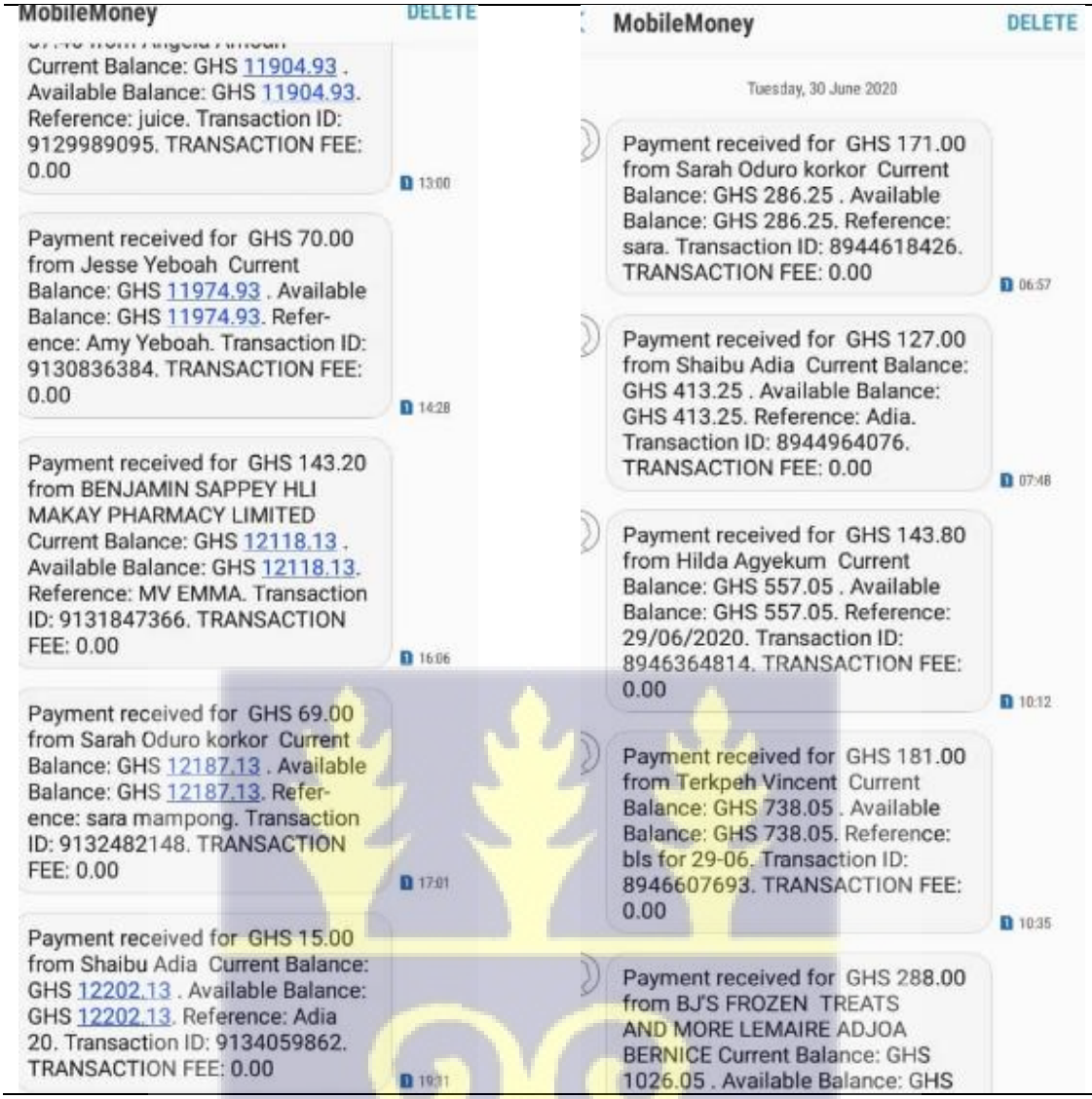
> *"This could have been avoided if the company had the MOMO and saved the operational cost." As commented by the sales team leader, according to the General manager, "it was becoming operationally problematic to manage ad hoc sales." (Interview with sales team leader and general manager July 2020)*

8.3.3 Merchant Interaction with the Mobile Payment Platforms

The company interacts with the payment system by receiving payments from their customers, as demonstrated in Table 8.1, transferring cash directly into the company's bank account, tracking daily ad hoc sales, and understanding sales trends of their products in the market.

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Table 8. 1 Evidence of Merchant Interaction with Mobile Payments Case A



Source: Company archives

8.3.4 Affordance and Constrains

At Sky Drinks, it was established that the merchant interaction with the mobile payment platforms generated some affordances and constraints. First, with respect to affordance, the interaction with the platforms enables Sky Drinks Company to capture essential data processed into strategic information. The strategic information facilitates ease of seeing certain trends in their sales space. For instance, through a notification, Sky Drinks has created a database of all customers who have ever purchased from the company using mobile payment. This enables them to engage with customers as individuals, send

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information to them regarding new products, and link up with the customers to address products and customer challenges.

More importantly, Sky Drinks' interaction with mobile payment platforms allows the merchant to tighten internal controls. Through tracking of sales and matching orders, the Sky Drinks management can detect fraud and potential problems. Since the records on mobile payments are used to match and map each transaction with an order, it enables fraud detection when the sales operative reports more sales than the order recorded. This is recorded against the operative's sales account, which gives management an indication that there is a corruption problem. Management is more confident that there are no leakages anywhere because of the affordance of tracking and matching sales. It was also identified that the strategic information enabled new business development through business niches and strategic drive for partnership. For example, new courier businesses are springing up around the factory.

Also, Sky Drinks has established a strategic alliance with their bank such that cash is transferred daily into the company's account by linking the mobile payment wallet to the bank account. The strategic information affordance enabled the firm to capture sales trends and performance. As customers purchase the products and pay using mobile payment, it enables an automatic build-up and calculation of sales through the notification. This automatic build-up of total sales enables the Sky Drinks Company to track the performance of sales much quicker. This provides affordance of a simpler alternative for the merchant to perform their weekly reconciliation of orders and purchases sold by the company's sales representative. For example, the affordance and convenience of mobile payment sales to the consumer served as a fundamental reason informing management's decision to modify their business model. The company didn't have to wait until the end of the quarter, a half year,

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or a full year to add sales up to understand sales and performance trends. Through mobile payment sales, the company can measure sales performance in real-time and the sales team's performance. This is what the commercial manager had to say regarding the real-time calculation of sales:

> *Once we can track momo payments, we can see growth in ad hoc sales to make the right decision for sales expansion and adjust the business model.* (Interview with the commercial manager, April 2020).

On the other hand, there are some constraints that Sky World Products have encountered as the company interacts with the mobile payment platform. The constraints prevent the individual sales team members from interacting with the mobile payment platforms. These constraints are outlined as value chain deficiencies and technical challenges. The shortcomings of the value chain are both from the Sky World Company and the service provider. From sky world, there is the challenge of a sales representative calling many times to the factory to confirm payments. These constant calls to the factory are a constraint for sales operative since sales operatives do not have the merchant account on their phone. They also mention the constraint of short battery life causing personal phone batteries to run out, leading to phones going off.

Additionally, it was evident at Sky Drinks that information overload acted as a constraint, making it difficult for operatives to interact with the payment platforms. This so because the company is not a typical multinational company. It sells to all kinds of customer segments; therefore, matching sales and relating to the data presents some constraints. For these reasons, operatives have to do a daily and constant reconciliation when the message comes through. Otherwise, they are unable to handle the data. The service provider issue is the

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issue of network availability. Mostly sales operatives complain of a lack of network for customers to be able to pay using mobile payments platform

8.3.5 Outcome of Merchant Interaction with Mobile Payment Platforms

The company derived the benefit of a positive image with the introduction of mobile payments, which adds to their brand-building process. From the customer's point of view, the company is seen as going with the trends. Since it was quite frustrating for the street consumer when the company did not have any form of mobile payment, it was almost unacceptable when from the consumer's point of view, the company did not have the option of paying through mobile payment. This affected the image of the company and was branded as unserious. *As stated by the commercial manager:*

> *It was quite absurd to tell customers to go to the bank to pay 300 hundred or 400 hundred cedis at a specific bank which was quite inconveniencing. So in terms of the company's consumer perception, we are open-minded. April 2020*

Introducing mobile payment has also brought about efficiency in the company's operations. According to the General Manager, the company no longer uses precious man-hours to track ad hoc sales and reconcile orders with payment. The company no longer pays overtime for staff who spend days matching orders with sales. Payment through the company's mobile payment account can track and check orders with sales and dates, helping in efficient records keeping. This helps to further tighten internal financial controls to preventing revenue leakages leading to sanity in the accounting process. Adopting mobile payment has led to the benefits of transaction speed and convenience, leading to speed in the ordering process. This represents convenience, ubiquity and time-saving. The company, through mobile payment, has brought further convenience to their customers, who will have less trouble and worries when ordering their products. The customers can rely on mobile payments to place

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an order and have it delivered to the customer without making a trip to the factory and to save cost. One other benefit of mobile payment to the company is improvement in sales and profit. The company generated more than seven (7) million pounds in profits using the mobile payment platform. The use of mobile payment has helped the company improve its customer service.

Strategically the adoption and use of mobile payment in the organisation has led to the benefit of developing a new business model of direct van sales where the organisation sells most of its products online using social media and leveraging the availability of mobile payment. The company is able to pull all such orders together and deliver them to the individual customers at a point for a fee. This process is springing a business start-up around the factory where independent informal courier service is also developing, and they deliver products to customers at a fee. The accounts manager indicated that "*looking at the MOMO, we somewhere from last year adopted a new method of selling". (Interview with Accounts Manager, April 2020)*

8.3.6 Summary of Case

From the case study, the management decision to adopt mobile payment in case" A was an assessment of the potential cost and benefit of adopting a mobile payment platform. Beyond the cost-benefit analysis, management assessed the firm strategy and how the mobile payment technology will support their business model. Further, Case A interacted with the mobile payment platform partially for receiving payments from customers only, doing bank transfers and tracking sales as part of risk-mitigating factors. Nevertheless, a distributor who is a partner to the case firm and a merchant adopted mobile payment as a strategy for a continued business relationship with the partner firm the merchant's interaction with the mobile payment platform captured customer information. The strategic information was

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later developed into a database for further interaction to actualise specific affordances in the merchant firm. Factors such as mobile payment and mobile phone pervasiveness, third party support, competitive pressure, and COVID -19 pandemic, among other factors, served as enabling stimulating and releasing conditions for affordance perception and actualisation. Case "A" and its distributors faced constraints such as short battery life span, unreliable network, fraudsters attacks, and e-levy implementation. Finally, the affordance actualisation produced an outcome for case "A" and its distributors. Among them are increased revenue generation, new business development, efficient planning, improved accountability, ordering efficiency, strategic reputation, efficient service delivery and strategic partnership.

8.4 Pelinam Marketing Solutions

8.4.1 Firm Profile

Pelinam's Marketing Solutions (PMS), the second case, is a Ghanaian company that distributes fast-moving consumer goods, mainly in the health and beauty retailing industry. The company was founded in 2010. PMS promotes personal care via products such as shower gels, lotions, diapers and other household accessories. Since entering the Ghanaian market, the company's product lines have expanded. The number of its distributing outlets and agents has also expanded to almost 300 outlets nationwide and enjoys about 15 % of the bath and shower market with nearly GH¢50 million in annual turnover.

The company began as a general-purpose merchant in 2010, selling all kinds of consumables in the Ghanaian market by moving from market to market to distribute physically to retailers. The company was officially registered in 2012 and incorporated to become a

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Limited Liability Company. Its mission is to provide a healthy and beautiful lifestyle to all the families in the country by providing a large variety and assortment of merchandise of fast-moving consumer goods for retailers conveniently and at relatively affordable prices. Like most companies in its departmental layout, the organisation has departments such as Finance, Accounting, and Information Technology. They also have basic departments like Purchasing, Warehousing, Sales and Transportation.

The company's brand visibility and reputation across the county are laudable. Most of their products are sourced globally but mainly from China. The company continues to seize opportunities and keeps growing with constant improvement in technology, value-added, and quality products with the individual consumer in mind. After ten years of operations and the rapid development of technology, the company decided to remodel its business. It rolled out its back-office technology system that allows retailers, agencies, and corporate consumers to be networked and linked onto their virtual ordering platforms. In 2015, the company varied its business models to leverage technology. The company introduced an enterprise system called the front office and incorporated direct payments using MTN mobile payments purposefully to enhance the company's sales operations and provide fast, safe, convenient and easy ordering and paying for goods for the company's customers.

As such, all agents and stockers of the company were registered and given accesses code and customer ID to be able to order their goods without coming to the company warehouse directly to place an order and make payment. Through a special arrangement with MTN mobile money, all company agents were also made to register with MTN as merchants with merchant sim and merchant ID to enable agents to order directly on the company website and pay directly using their mobile payment. Secondly, until the adoption of mobile payments, the company's credit sales payment was mostly paid through direct deposit at the

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bank, cash or cheque. After the agent shows proof of payment, the agent's payment is verified and credited. It was a very long and winding, cumbersome process that could take days of reconciliations to credit individual agents' accounts. In addition, before the adoption of mobile payment, the company also had a lot of issues with their bankers regarding payments and crediting the company's accounts regularly. The company had to spend huge sums of money employing an account clerk attached to the accounting unit to be concentrating on bank reconciliation to ensure that all payments made by their agents were credited to the company's account. At some point, the company also discovered that the bank was not crediting their accounts on time and considering the time value of money, the company was losing.

The ordering platforms were to allow agents, retailers and distributors to place orders online and pay online and confirm orders and have customers' orders delivered to the customer without moving an inch. Thus, the distribution company was operating a virtual ordering system and a face-to-face ordering system for customers who still wanted to order face to face. As commented by the CEO:

> *The primary activity of Pelinam's Marketing Solution is purchasing several fast-moving consumer items and stocking them in their warehouse and delivering them to Retail shops all over Ghana. The CEO admitted that the company's workload at the distributing chain was enormous because customers spend their days purchasing products for 1000s of retailers. However, dealing with stock-out and their old buying systems was not efficient—this informed management's decision to move gradually with the incorporation of online ordering and online payment. But considering the online payment systems in Ghana, the company decided to go for mobile money from the largest network as the partner. Using technology to handle the aspect of their business has reduced and controlled high costs.*

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8.4.2 Decision-making Path to Adopting Mobile Payment Platforms

After much deliberation, management adopted the mobile payment platform to complement the company's existing payment system. Management was reassured that because the mobile payment service providers are regulated, they can be trusted to work with the law and not take their customers for granted. One other thing that influenced the company's decision was the company's ability to link their mobile payments with their bank account, so the money did not sit on the mobile payment wallet of the company. Monies received on the mobile money wallet were transferred daily directly into the company's account with a bank which is also reflected in the company's account as soon as the transfers are done. There was not much deliberation concerning the security issues regarding mobile payment. Though the company was aware that there are security and risk issues associated with mobile payment, the service provider's reputation, the industry's regulative nature, and the unique merchant code mitigated the risk. According to the managing director, management's focus was the benefits the company would derive from the technology. Nevertheless, from the finance manager, the management team considered a service provider that can offer a payment system that can be trusted. The platform must perform its stated function securely and provide a critical mass of mobile payment services suitable for the company and its network of distributors and customers. As intimated by the operations manager of the company:

> *"Since our customers could order online, our main interest was to have effective digital payment of the products they order. We did not worry about security because each of the companies will have a merchant account and a security code."*

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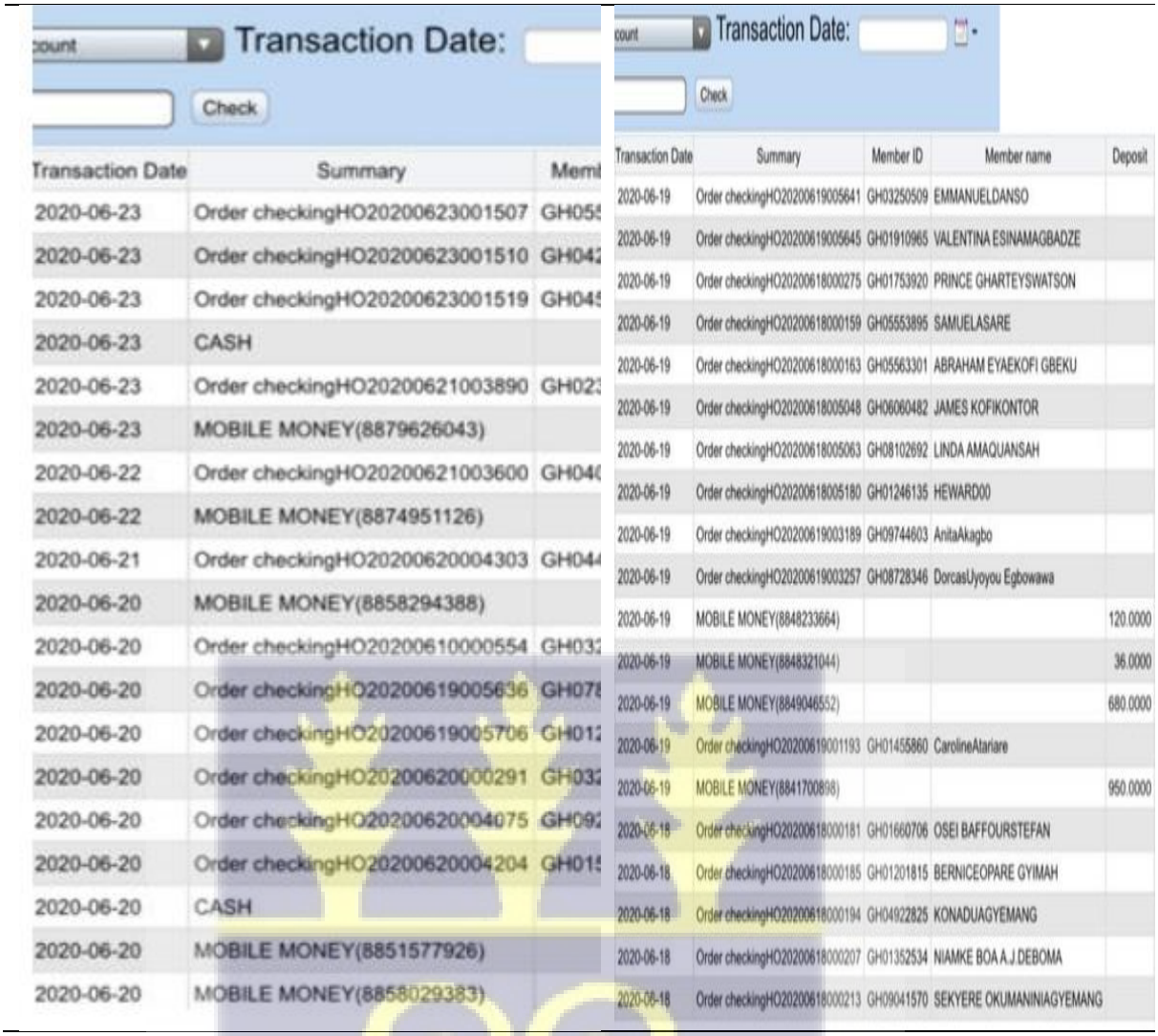
8.4.3 Merchant Interaction with the Mobile Payment Platforms

The company has a selected operative with the capability to operate the mobile payment system by ensuring that the data from the payment is processed into useful information that enables the affordance to be generated. According to the operations manager, the operative working with the mobile payment can operate the system and act appropriately to process all the necessary information to enable affordance actualisation. As a corporate organisation, since they have not worked out the modalities in authorised payments from the mobile payment accounts, the technology is only used to receive payments from customers directly and transfer the money into the company's bank account. However, the other actors, such as their distributors and partners in their distribution network, interact with the payment system by receiving and paying from their accounts, as demonstrated in Table 8.2.

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Table 8. 2 Evidence of Merchant Interaction with Mobile Payment Case B



Transaction Date:

Check

Transaction Date	Summary	Mem
2020-06-23	Order checkingHO20200623001507	GH05
2020-06-23	Order checkingHO20200623001510	GH04
2020-06-23	Order checkingHO20200623001519	GH04
2020-06-23	CASH	
2020-06-23	Order checkingHO20200621003890	GH02
2020-06-23	MOBILE MONEY(8879626043)	
2020-06-22	Order checkingHO20200621003600	GH04
2020-06-22	MOBILE MONEY(8874951126)	
2020-06-21	Order checkingHO20200620004303	GH04
2020-06-20	MOBILE MONEY(8858294388)	
2020-06-20	Order checkingHO20200610000554	GH03
2020-06-20	Order checkingHO20200619005636	GH07
2020-06-20	Order checkingHO20200619005706	GH01
2020-06-20	Order checkingHO20200620000291	GH03
2020-06-20	Order checkingHO20200620004075	GH09
2020-06-20	Order checkingHO20200620004204	GH01
2020-06-20	CASH	
2020-06-20	MOBILE MONEY(8851577926)	
2020-06-20	MOBILE MONEY(8858029383)	

Transaction Date:

Check

Transaction Date	Summary	Member ID	Member name	Deposit
2020-06-19	Order checkingHO20200619005641	GH03250509	EMMANUELDANSO	
2020-06-19	Order checkingHO20200619005645	GH01910965	VALENTINA ESINAMAGBADZE	
2020-06-19	Order checkingHO20200618000275	GH01753920	PRINCE GHARTEYSWATSON	
2020-06-19	Order checkingHO20200618000159	GH05553895	SAMUELASARE	
2020-06-19	Order checkingHO20200618000163	GH05563301	ABRAHAM EYAEKOFI GBEKU	
2020-06-19	Order checkingHO20200618005048	GH06060482	JAMES KOFIKONTOR	
2020-06-19	Order checkingHO20200618005063	GH08102692	LINDA AMAQUANSAH	
2020-06-19	Order checkingHO20200618005180	GH01246135	HEWARD00	
2020-06-19	Order checkingHO20200619003189	GH09744603	AnitaAkagbo	
2020-06-19	Order checkingHO20200619003257	GH08728346	DorcasUyoyou Egbowawa	
2020-06-19	MOBILE MONEY(8848233664)			120.0000
2020-06-19	MOBILE MONEY(8848321044)			36.0000
2020-06-19	MOBILE MONEY(8849046552)			680.0000
2020-06-19	Order checkingHO20200619001193	GH01455860	CarolineAtariare	
2020-06-19	MOBILE MONEY(8841700898)			950.0000
2020-06-18	Order checkingHO20200618000181	GH01660706	OSEI BAFFOURSTEFAN	
2020-06-18	Order checkingHO20200618000185	GH01201815	BERNICEOPARE GYIMAH	
2020-06-18	Order checkingHO20200618000194	GH04922825	KONADUAGYEMANG	
2020-06-18	Order checkingHO20200618000207	GH01352534	NIAMKE BOA A.J DEBOMA	
2020-06-18	Order checkingHO20200618000213	GH09041570	SEKYERE OKUMANINIAGYEMANG	

Source: Company's archive

8.4.4 Enabling, Stimulating and Releasing Conditions for Merchant Interaction

The environmental factors that served as enabling, stimulating and releasing conditions that allowed affordances of merchant interaction with mobile payment include the modification of the business ordering system, the availability of the mobile payment technology, the customer requirement and the fact that the customers of the company were already using mobile payments platforms. Management also mentioned that the COVID-19 outbreak opened their customers to use mobile payment. They said this directly influenced the company's intention regarding mobile payment platform uses because cash and banknote

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use and contact-based transactions were regarded as unsafe. The pandemic and other environmental factors were seen as an influencing mechanism for more rapid interaction with the mobile payment platforms for affordance actualisation. For example, the company's initial set-up did not include mobile payments; however, the modification of the company's business model necessitated the inclusion of mobile payments. Mobile payment was critical to the success of the company's new business model. As mentioned by the Operations Manager:

> *"As soon as we moved our distribution service online, we knew there would be the need for online payment. The closest, the easiest and accessible was the MOMO".*

8.4.5 Affordance and Constraints

According to the management, adopting mobile payment for their company's operations enables the company's agents, stockers and distributors (network markets) to work at any time without hindrance. The agent's distributors and stockers can place their orders and pay for them irrespective of place and time. Again, the company's management is of the view that one major affordance of their online ordering and payment through mobile payment is that their key staff work from home and can work from any place irrespective of time. This saves the company huge sums of money that would have gone into office renting, reducing operational costs, and incentivising the company and its distributors. The company management disclosed that the payment information at a glance tells management about the sales trends, partner growth and commission calculations. The operations manager stated that whenever an agent makes payment with the payment ID of agents, the company can track sales easily and credit the agent's account with the amount paid. Then the agent can confirm in their system if the payment was for the agent or a partner. This enables their system to calculate the agent's commission and the partner using the transaction ID.

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The advantage is that the agent's transactions and information are delivered in real-time. According to the finance manager, with mobile payment and the online ordering procedure, the agents could sit in the comfort of their homes, order the goods, pay and send dispatch riders to pick up the products for them. At the same time, a stockist who is an agent can pay for a partner (using the mobile payment from the comfort of their home) who is not an agent and confirm the partner's order on the company's system. The partner's order could also be packaged and delivered to the partner without the stockist coming to the head office or the partner going to the stockist's office. Yet, the stockist will receive the commission attributed to the products ordered, and the partner will receive the products without visiting the partner's shop. Mobile payments with the company's back-office technology enable individuals to own businesses without a physical space and contact. As intimated by the operations manager:

> *Anytime our distributors make a payment; they send their payment ID so those at the back office can credit their account. As soon as the customer's back office is credited, the customer can confirm their payment to the company in their front office. This helps partners pay into the agent's account, and the agent can then pay into the company account without movement. (Interview with the operations manager, January 2020)*

Value chain deficiency, technological factors, and man-made factors were identified as constraints to the networked merchant firm. The value chain deficiency mainly came from the network provider, where value transfers are capped for the agent distributors, limiting the cash they can transfer to the parent company. On the other hand, the technological factors consisted of the device's screen size, unreliable network and fraudster attacks. Agents using smartphones to make payments and complete orders complained that the screen size was too small and inconvenient to use compared to other devices. Additionally,

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the merchant affirmed that unreliable network sometimes delays the payment process, which serves as a constraint for their agents and clients to pay using mobile payment. Again, there was the challenge of a fraudster attack where merchants were defrauded, and their mobile payments wallets wiped off from time to time.

Finally, the staff did not want the system to be successful because of a lack of human interface. They usually disrupt the system, and the back office gets disrupted, making it impossible for agents to order and pay for their products using the online system. These factors mainly affected customers who are agents of the parent company and merchants registered with the service provider attached to the parent company.

8.4.6 Outcome of merchant Interaction with Mobile Payment Platforms

According to management, the adoption and use of mobile payment in the company have reduced the cost of doing business for their company and their C2B customers. Before the company adopted mobile payment and their front office technology, all their agents and distributors had to come to its office directly to order their products and pay with cash or whichever means was available. Due to the interconnectedness of the company and its agents through mobile payments with MTN, anytime an agent, a stocker, or a distributor makes a payment, the company can identify using the transaction ID and, in real-time, credit the account of the agent and immediately send notification of payment to the customer. The company's agents also receive payments directly from partners who do not have codes and then transfer on behalf of the partners directly to the company without any of the members in the supply chain going to the company's office. When transactions are completed, the partner also receives payment notification from the agent stocker. If not for mobile payment, the agents and distributors will have to go directly to the office to pay and confirm orders.

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The management also indicates that mobile payments enable their organisation to achieve a competitive advantage through the efficient use of mobile payments for transactions. From the organisation's perspective, mobile payment technologies are allowing their business to strategically use their mobile phones as an infrastructure to store value on an account linked to their handset, transfer funds to their bank account and receive payments for their sales irrespective of their location and time, allowing payment transactions to be made in real-time. Additionally, mobile payments make it possible for the company and their partners to have control over their accounts as they can transfer directly from their wallets to their bank accounts without hindrance. An interview with the stockist confirmed the benefits of mobile payment to her business:

> *Yes, the back office is software developed for sales purposes. I'm a stockist. And I have a password and a code. So once I go to the company's website, I enter my code and my password, and my office is opened to me. I can access it and then get to know how much I'm going to earn at the end of the month. Initially, supposing I wanted my back office to be credited, I'd have to go to a different agent somewhere, make payment to the company or even before the company registered MOMO, you'd have to carry your cash to the office, make payment before your back office is credited. But now, at night, once I have money in my wallet, I send it to the company, they credit my back office, and I can do anything I want even in the middle of the night. (Interview with an agent stockist, January 2020)*

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8.4.7 Summary of Case

From the case study, the management decision to adopt mobile payment in case "B" did go through much deliberation concerning cost-benefit analysis. Though Case B management was aware that there are security and risk issues associated with mobile payment, the

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management was assured that the reputation of the service provider, the regulative nature of the industry and the unique merchant code would mitigate the risk. Additionally, management assessed the firm strategy and how the mobile payment technology will support their business model. Further, Case B interacted with the mobile payment platforms partially for receiving payments only, doing bank transfers and tracking sales as part of risk-mitigating factors. Nevertheless, a distributor who is a partner to the case firm and a merchant adopted mobile payment only looking at how the mobile payment will support the strategy of a continuous business relationship with the mother firm. The merchant interaction with the mobile payment platform led to capturing customer information which was further developed into a database for further interaction to actualise particular affordances. However, the small merchant did not record the data for affordance actualisation, though the merchant perceived the affordance. Factors such as mobile payment and mobile phone pervasiveness, third party support, competitive pressure, and COVID -19 pandemic, among other factors, enabled stimulating and releasing conditions for affordance perception and actualisation. Finally, Case B and its distributors faced constraints such as unreliable network, fraudster attack, transactional capping, and implementation of e-levy. The outcomes obtained as benefits from affordance actualisation in case "B" and its distributor include increased revenue generation, new business development, efficient planning, improved accountability, and ordering efficiency. Strategic reputation, efficient service delivery and strategic partnership.

8.5 Albrandz Company Limited

8.5.1 Firm Profile

The third case, Albrandz, is a fully owned Ghanaian fashion retail company registered with the registrar general in August of 2014 and incorporated as a limited liability company in that same year. Albrandz is a fast-growing fashion retail chain of different private brands. The company retails casual outfits, intimate clothing, accessories and other non-clothing

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gift items. The shop has its headquarters in East Legon, a first-class suburb in the city. The company manages more than five retail outlets in the capital city, Accra and a retail shop in 5 of the regional capitals in Ghana. The fashion company stocks more than 1000 women's speciality items in ten branches. Since entering the Ghanaian fashion market, Albrandz fashion has expanded its retail outlets to almost ten (10) nationwide. The company was founded by an individual who has a passion for fashion and started as a part-time business while working in close relation with Samsung Ghana. The company's vision is to be independent of major fashion companies and be able to offer lower-priced clothing to the general public consistently.

8.5.2 Management Team

The company is managed by the founding director, who has been working as the manager of the retail outlets since 2015. He is responsible for the company's general operations. He holds an MBA in Marketing and a professional qualification from the Chartered Institute of Marketing, UK (CIM-UK). He employs about 20 shop attendants with minimum qualification of secondary school education. These shop attendants act as the customer contact point in the shops and are also responsible for the day-to-day sales at the shop. Additionally, each retail shop has a team leader who is the supervisor who oversees the shop's management internally. The company's turnover is estimated to be between GHS 30,000 to GHC 50,000 monthly. The interview was conducted with the owner-manager, the team leaders and the sales attendants.

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8.6 Addressing a Company Need

According to the owner-manager, before registering the company and adopting mobile payments, the company accepted mobile payment through individual sales attendants and team leader’s mobile payment account and the manager's mobile payment account as

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compliments for customers who wanted to pay via mobile. However, the manager discovered that a lot more customers were requesting to pay with mobile payments, especially in the Accra branches. That was when the business realised that mobile payments could be a game-changer for the company and benefit their customers and help develop their business. The continuous and consistent growth of mobile payment sales in the retail fashion outlet triggered the manager to understand the strategic importance of mobile payment in satisfying a need and an opportunity to create value for the business. The owner-manager emphasised that the company adopted mobile payment because he saw mobile payment adoption for his fashion retail outlet as a compelling business case in the Ghanaian fashion industry. Thus, the business took advantage of the mobile spread and a growing middle class who appreciated the convenience, speed, and proximity that the business could leverage to facilitate the growth of their business. The company realised they could build the capability around mobile payment to gain benefits.

Not long after that, the manager attended a business workshop sponsored by the service provider, who educated the attendees on the benefits of merchant mobile payment accounts to small businesses. After the conference, a service manager contacted the manager in his office for further discussions on adopting the merchant sim. After several meetings, the company took advantage and registered the business after producing the official registration documents of his business and his tax clearance certificate. The company was officially registered as a business with a particular SIM and code on the MTN mobile payment platforms with a display sign to reinforce to customers that the shop accepts mobile payment. Again, the owner-manager mentioned that the company also operates an online shop such that the company or personnel do not interface directly with customers who buy the company's products. Secondly, according to the owner-manager, the company's target customers are middle-class consumers in Ghana who appreciate convenience and make

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ubiquitous purchases irrespective of place and time. Negotiations for the company's products are mainly done online, through WhatsApp and phone calls. Hence, the company's decision to adopt mobile payment was vital and critical for the kind of business model and its target customers.

In addition, the manager stated that the company chose MTN MOMO as a payment platform because of its perceived usefulness, ease of use, and minimal cost for its installation and configuration. As a result, the company's decision to adopt mobile payment was not part of the initial strategic plan for setting the company up, but the changing business environment made mobile payment very vital.

8.6.1 Decision-making Path in Adopting Mobile Payment Platforms

According to the owner-manager, as a director of the company, the development of the company rests on him. The company's decision to adopt mobile payment did not go through any formal management discussion. He relied on his experience with mobile phones and online payment. He understood that using mobile payment as a business comes with considerable risk. The reason is that mobile payment operates in a wireless environment; criminals can steal information from the provider and can, fraudulently access customers' mobile accounts and defraud unsuspecting business individuals. The owner-manager decision was based on the platform's usefulness in supporting their business model.

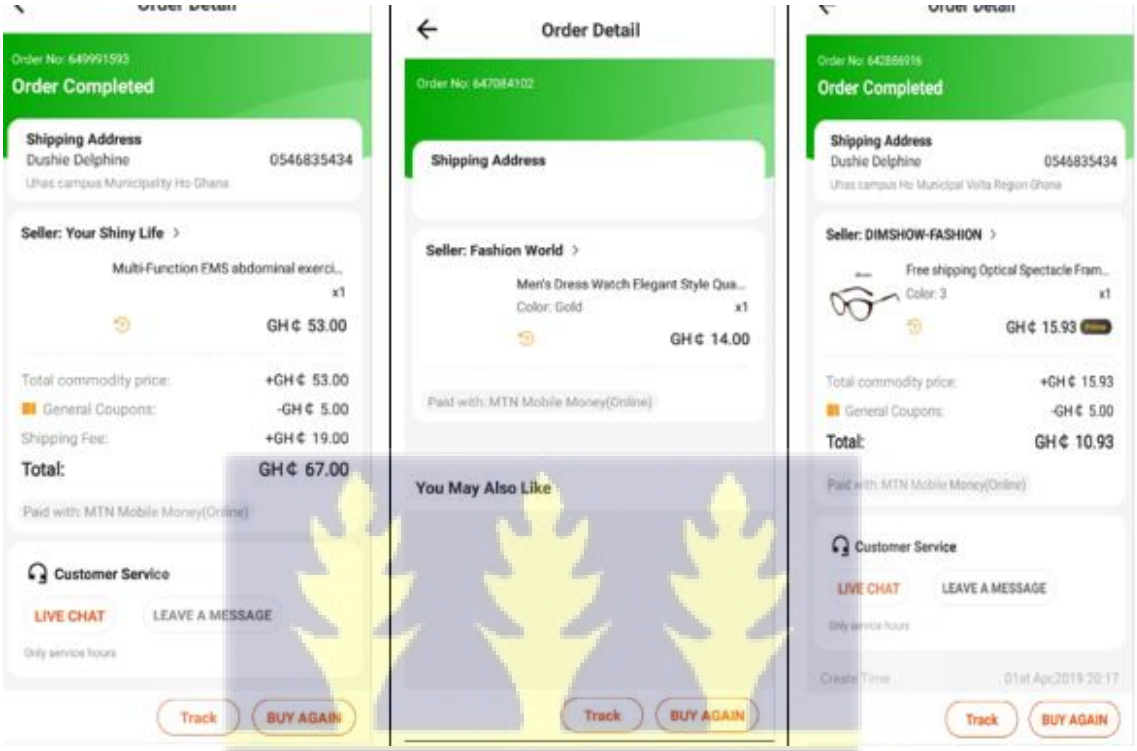
8.6.2 Merchant Interaction with the Mobile Payment Platforms

As an individual company, the owner-manager can directly initiate payment from the mobile payment account using the merchant code and receive payment from their customers. The manager can send money from the company account to pay suppliers. According to the manager, the payments can be made from every location, receiving payments from the customers, paying utility bills, and paying suppliers, simply and cheaply beyond Ghana

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without incurring exorbitant currency exchange fees. As indicated in figure 8.3, this is an example of merchant interaction with mobile payment for international transactions.

Figure 8.3 Evidence of Merchant Interaction with Mobile Payment Case C



Source: Company Archives

8.6.3 Affordance and Constraints

According to the informant, anytime a customer pays through mobile payment, the notification the company receives from the service provider as data is processed into useful information. This has enabled the company to build a customer database of all customers who pay for their products using mobile payment. The company has channelled the customer information into a customer database which the company is leveraging to engage with customers on their preferred platforms. Mobile payment data received directly after customer purchase is being leveraged into a database by the company and is creating informational affordance. Secondly, the insight generated from the data serves as a guide in

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varying the organisation's business model that meets customer expectations. As mentioned by the CEO:

> *Initially, we were deleting the messages, but we realised as management that we could put the information together and begin to contact our clients. We saw that information was critical for us to deliver quality to our customers. So, we started to document customers who purchased from us through any medium. Nevertheless, customers who pay through mobile payment details are recorded automatically. (Interview with owner-manager, January 2020)*

According to the owner-manager, the affordance of mobile payment enables the company to buy their products online and pay online via a mobile payment through MTN due to the multi-currency feature of mobile payment, irrespective of time and place. Even though the company has about ten shops, the opportunity to transact using mobile payments has influenced a change in the business strategy. Management's new strategy is not to stock most of the items physically in the shop but instead stock online using digital platforms and a micro-marketing approach by displaying products on their client WhatsApp pages and, on the company, mobile phone status for customers to make a choice. This served as a cost-effective way of advertising their products individually to their customers using the customer database. Again, the merchant is gaining ubiquity affordance because the business can receive payments and move money cheaply to pay for transactions in their value chain without going to the bank or moving from one client to the other. Also, the CEO was fascinated by the fact that as customers pay through mobile payment, the payments are made in the name of the business, which according to the manager, reduces pilfering in the shops and helps with tracking income no matter the location. Hence, the CEO can know the percentage of sales through the mobile payment account at a glance.

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The constraints that prevent the company from actualising the affordance include the inability of mobile payment to deal with large sums of money. There is a daily quota their business is allowed to transfer and transact depending on the business documentation and the regulatory guidelines. This, according to the respondent, can inhibit larger than normal transactions. As a result, the company cannot realise the full potential of mobile payment, so it is mainly used as a supplement to the traditional payment, according to the manager.

8.6.4 Enabling, Releasing and Stimulating Condition for Mobile Payment Affordance

According to the owner-manager, the environmental factors that influenced the company to interact with mobile payment platforms are that the company did not have to invest huge capital into mobile payment technology. There was also no need for capacity building, new infrastructure development or re-engineering of the company's business process. Secondly, the manager attributed this choice to the service provider's critical mass and full reachability and the service provider's ability to transfer money across borders. In addition, the business model and the fact that the organisation can sell using social media meant that there was a need for the company to consider an online payment platform. The best option, according to the company, was mobile money. Management confirmed that their customers were knowledgeable about mobile payment platforms, but the COVID-19 outbreak directly influenced their frequent interactions for affordance actualisation.

8.6.5 Outcome of Merchant Interaction with Mobile Payment Platforms

It was identified that the merchant SIM does not come with extra charges for both the customer and the merchant. According to the manager, interacting with the mobile payment platform has allowed the company to facilitate efficient business transactions and innovative business solutions, which serves as a vehicle to uniquely position the business to provide value-added services for their customers. From the owner-manager, the improvement in

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mobile payment solutions, which includes a multicurrency wallet, facilitates payment worldwide. This multicurrency feature presented a significant benefit that enabled the company to import products online and pay with MTN mobile money without going to the bank to change the cedis into dollars. The company can order clothes online, pay through mobile payment, and the items are delivered to the company within two weeks of ordering without extra charges.

According to the manager, the company's mobile payment adoption has provided the company with the leverage of convenient business transactions with value-added services for a competitive advantage in their business environment. The multicurrency features are helping the small fashion retail company to make payments to their business partners and payments to suppliers who are not in Ghana. Besides, the manager mentioned that his online client buys their products online and pay with mobile money. According to the client, this has led to the client starting a small-scale delivery company with a motorbike and expanding the online business using all forms of social media to reach the customers since customer traffic is now online." As stated by the shop owner:

> *With mobile payment and the internet with the App, I can buy online and pay. Before, I was buying in bulk from an importer locally, but now I buy myself online no matter the quantity they are willing to deliver. This has simplified doing business,* and *I make* a profit *than before because the prices online are competitive. For example, a nightdress delivered to me at the shop cost 18ghc while my distributor was selling to me at 25gh. With such a price, I can sell more at lower prices to my customers* (Interview with owner-manager, January 2020)

Also, the owner-owner had this to say about the use of online platforms for business:

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My official registration with the service provider enabled me to use my mobile money account to buy clothes online without hassle, which was impossible before I adopted mobile payment. As soon as I place the order, I can pay via mobile payment without changing my cedis into dollars. The beauty is that with the App, the prices are quoted in cedis, and I pay without foreign exchange issues. I do not have to go to China or go to Accra central, the capital city of Ghana, to sort among large bails of clothes. I use the Kiku app to shop online and order the items. My clients have selected from the list posted on their various WhatsApp pages and pay with MTN Momo. In two weeks, I have my orders delivered to me, and I also deliver to my customers who can pay by cash on delivery or mobile money directly into my company mobile payment account" (Interview with owner-manager, January 2020)

8.4.7 Summary of Case

From the case study, the management decision to adopt mobile payment in case "B" did go through much deliberation concerning cost-benefit analysis. Though Case B management was aware that there are security and risk issues associated with mobile payment, the management was assured that the reputation of the service provider, the regulative nature of the industry and the unique merchant code would mitigate the risk. Additionally, management assessed the firm strategy and how the mobile payment technology will support their business model. Further, Case B interacted with the mobile payment platforms partially for receiving payments only, doing bank transfers and tracking sales as part of risk-mitigating factors. Nevertheless, a distributor who is a partner to the case firm and a merchant adopted mobile payment only looking at how the mobile payment will support the strategy of a continuous business relationship with the mother firm. The merchant interaction with the mobile payment platform led to capturing customer information which was further developed into a database for further interaction to actualise particular

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affordances. However, the small merchant did not record the data for affordance actualisation, though the merchant perceived the affordance. Factors such as mobile payment and mobile phone pervasiveness, third party support, competitive pressure, and COVID -19 pandemic, among other factors, enabled stimulating and releasing conditions for affordance perception and actualisation. Finally, Case B and its distributors faced constraints such as unreliable network, fraudster attack, transactional capping, and implementation of e-levy. The outcomes obtained as benefits from affordance actualisation in case "B" and its distributor include increased revenue generation, new business development, efficient planning, improved accountability, and ordering efficiency. Strategic reputation, efficient service delivery and strategic partnership.

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8.7 Chapter Summary

Table 8. 3 Summary of Cases findings

	CASE ONE: SKY DRINKS COMPANY LTD	CASE TWO: PELINAM MARKETING SOLUTIONS LTD	CASE THREE: ALBRANDZ FASHION COMPANY LTD
Influencers of merchant choice	**Security consideration**: Fraud, Verification codes, Payment details, **Risk Implication consideration:** Privacy issues, Information security, Security breaches, **Technology Performance**: Technology usefulness, Ease of use, Service availability, **Organisational Assessment**: Organisation strategy, **Management support**. Organisational goals, Infrastructure	**No risk considerations:** Essential requirement, Provider reputation. **Security Implication awareness:** Fraudster attack **Technology Performance**: technology usefulness, ease of use, service availability, the benefit of service **Organisational assessment**: Organisation strategy, management support, organisational goals	**No security consideration**: Need satisfaction, Company reputation, verification codes, Risk mitigation, and Transaction notification. **No-Risk consideration**: Privacy issues, information security, security breaches, Previous experience. **Technology Performance**: Technology usefulness , ease of use, Service availability **Organisational capacity**: M. Business environment, Human resource capacity, Organisation strategy, Organisational goals, Consumer enthusiasm, Previous knowledge and service provider training.
Enabling conditions	**Adoption readiness:** Systems Pervasiveness, Technology competence, New method of payment **Competition**: Competitive pressure, losing sales **Stakeholder directions:** Government legislation, company registration Changing payment culture	**Adoption readiness:** Systems Pervasiveness, Technology competence, New method of payment **Stakeholder directions**: Government legislation, Safe operation, Company registration **Changing Payment culture**: customer status,	**Adoption readiness:** Systems Pervasiveness, Technology usefulness. **Prevailing payment culture**: New normal, Critical mass, multi-currency. **Regulatory factors**: Government legislation, Operational accreditation, Company registration **Competitive pressure**: Behind the competition
Stimulating conditions	**Customer factors**: Customer complaints, Customer knowledge **Economic factors**: Sales increase, Impulse buying **Organisational factors**: Sales team desire, Sales tracking challenges, Accountability, Audit queries, lover investment **Branding factors**: Customer satisfaction, Organisational image	**Organisational culture**: leadership support, Agents' involvement, positive risk attitude **Operational challenges**: Inefficient operations, customer convenience, reconciliation challenges, Payment difficulty **Business innovations**: Online operations, Organisational goal, Delivery concept, Sales clustering, Customer knowledge.	**Customer factors**: Customer request, Customer satisfaction, customer readiness **Organisational enablers**: Merchant knowledge, Business model, Target market, Ease of use, Lower investment.

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Interaction	Internal interaction receives payments, Bank transfers. Tracking sales	**Internal interactions**: Incoming payments, Bank transfers, Tracking sales **External interactions**: Receiving payments, Making payments	**Internal:** Receiving payments, Bank transfers **External:** Paying suppliers, Paying bills.
Constrains	1. **Value chain deficiency**: confirming payments 2. **Technological factors**: short battery life span, unreliable network.	**Value chain deficiency**: Balance capping, Fraudster attack. **Technological factors**: Screen size, Unreliable network	**Value chain deficiency**: Confirming payments **Technological factors**: Spending limitations E-cash shortage, short battery life, unreliable network, Fraud Susceptibility.
Affordances	1. **Business Trends**: Sales trends, Sales performance, Informed decision 2. **Customer satisfaction**: Personalisation, Customer feedback, No extra charges, Ubiquity/immediacy 3. **Business development**: Business niche, efficient planning, strategic drive	**Business Trends**: Performance trends, Informed decision **Customer satisfaction**: Operational ubiquity, Timeous information **Business Development**: business niches, business innovation, strategic drive.	**Strategic information**: database, personalisation, customer feedback, Performance measurement **Business support**: Disintermediation, ubiquity advantage, No extra charges, increased conveniences, Quarterly incentives. **Business Development**: New opportunities, Business Innovation, Business niches, Strategic drive.
Outcomes	**Revenue generation**: Sales growth, Cost savings Increase profitability, Financial control. **Business development**: Sales expansion, Business niche, Business expansion, **Increased productivity**: Efficient planning, Improved accountability, Ordering efficiency. **Strategic reputation**: Efficient service delivery. Customer satisfaction. Enhanced corporate image **Strategic partnership**: Bank Partnership, Business start-ups, Bank integration.	**Increased productivity**: Fast transactions, Cost savings, Increased profitability, Efficient service delivery, Customer satisfaction. **Operational efficiency**: Business development, Business niche, Business expansion **Operational capabilities**: Efficient planning, Improved accountability, Ordering efficiency. **Strategic partnership**: Bank Partnership, Business start-ups, Bank integration, Partner success	**Operational excellence**: Efficient sales delivery, Reduced operation cost, Effective operations, effective task performance, Cost savings **Business growth**: sales growth, growth in market share, Sales expansion, Increased Profitability, increased productivity. **Customer excellence**: Efficient service delivery, Customer satisfaction, Enhanced corporate image. **Strategic partnership**: Bank Partnership, Business start-ups, Business bank integration, Trade facilitation.

Source: Authors construct

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CHAPTER NINE

ANALYSIS, DISCUSSIONS AND FINDINGS

9.1 Chapter Overview

This chapter seeks to analyse the case study presented in the preceding chapter based on the rational choice theory, the technology affordance theory and concepts from the e-commerce benefits framework. The chapter is structured to cover findings concerning merchant decision-making pathways in adopting mobile payments platforms, enabling conditions, merchant interactions with mobile payment platforms, stimulating conditions, releasing conditions, platforms affordances and constraints and how the platform's affordances helped to achieve benefits. Subsequently, there is an attempt to explore further how the unearthed processes agree or contrast with the established research propositions in relation to the conceptual framework. The study will establish additional findings that are not captured in the research proposition but offer an insightful explanation. The discussions of the analysis and findings will consider the research paradigm underpinning the study.

9.2 Merchant Decision Pathways and the Influencing Factors in Adopting Mobile Payment Platforms (RQ1)

Choice is the behaviour where an individual makes a deliberate, thoughtful decision by organising relevant information and defining alternatives that will maximise the individual's utility by comparing the perceived utility against the perceived risk. Existing studies on merchant adoption of mobile payment (Li, 2018; Liébana Cabanillas et al., 2016, 2017; Możdżyński, 2018) have considered the merchant's decision to adopt mobile payments based on risk /utility trade-off without considering other factors that could influence the merchant decision to adopt mobile payment platforms. Existing studies give the impression and measure overall merchant's intention to adopt mobile payments based on cost and

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benefit analysis. Though these factors are valuable, they tend to overlook the merchant decision based on other factors aside from the risk-utility trade-off. Cost and benefit analysis is important, but we must not lose sight of other strategic factors that may influence the merchant's path in choosing mobile payment. As a result, this study seeks to uncover how the merchant balances the decision based on other factors aside from cost and benefit or utility risk trade-offs regarding mobile payment adoption. Choosing mobile payment at the firm level poses several risks to merchants, making it a complex and expensive decision. Literature from strategic management suggests that such complex and risky decisions are more likely to involve much deeper management deliberation, including risk-benefit analysis (Hsiao, 2019; Li, 2018; Iman, 2018; Bouwman et al., 2019). This understanding implies that merchants can adopt different paths to choosing mobile payments. From the three cases and with reference to Figure 9.1 and Table 9.1, the study identified three main pathways by which merchants adopt mobile payment platforms in Ghana. Among them are (1) Rational choice, (2) Strategic choice and (3) Experimental choice.

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Table 9. 1 Factors Influencing Merchant Decision Pathways to Mobile Payment Adopting

Second-Order Construct and First Order-Codes	Illustrative Quotations	Relative Stakeholder Interviewed
1. Security and risk concerns Fraud, Hacker attacks, Privacy issues, Information security, Security breaches	Case A: Management, led by the finance director, discussed the risk associated with mobile payment at length, especially the financial risk and the company information security. Several discussions were held with Telcos to assess the risks inherent in the environment. The company knows that the payment platforms can be subjected to hacker attacks and information theft, or our service provider selling our information to competitors. The company did a lot of discussion on how safe it was and who is taking our information, but the banks came in to assure that the risk was known and could be mitigated The decision to adopt mobile payment was critical, involving several key managers, including approval from the UK. Customers are calling for it. Our sales team is taking it without permission, and it's creating problems, so we have to adopt it, as it is what we need. Our bankers with the merchant account will help to mitigate the risk. Although the technology has some risks, its benefits outweigh them, and therefore the technology was adopted. Case B: Due to mobile payment fraud, the discussion about adopting the same took several months because we wanted to be sure that the company would be safe. We could not say because of the risk; we will not adopt it, and we need it more than the risks it poses. That is why we are using a merchant account with a verification code.	Commercial manager Finance manager General manager Operations manager, CEO Commercial manager Finance Manager CEO
2 Non-risk benefit analysis	Case C: The company knew that mobile payment is risky, but we were sure the service provider was credible enough to provide secure service. Because we need mobile payments for our business, it is critical. We did not do any cost/benefit analysis. I was using mobile payment as a customer. I had used it for many years without any security challenge, so I presumed it was safe before transferring it to my business. I also received training from the service providers on how to keep my account safe. I did not do any risk calculations. Distributors for Case B We cannot develop our sales without mobile payments because they're part of developing the individual sales, about 3% of our total sales. Therefore, the mother company asked us to do so. The strategy of online business and the introduction of deliveries called for mobile payments because we don't interface with our online customers. We did not consider the risk or benefits. We just decided we needed it. That is all. We have to use mobile payment because our parent company has changed the ordering procedure, so all agents must use mobile payment.	Owner Manager Owner Manager Distributor 2 Distributor 1

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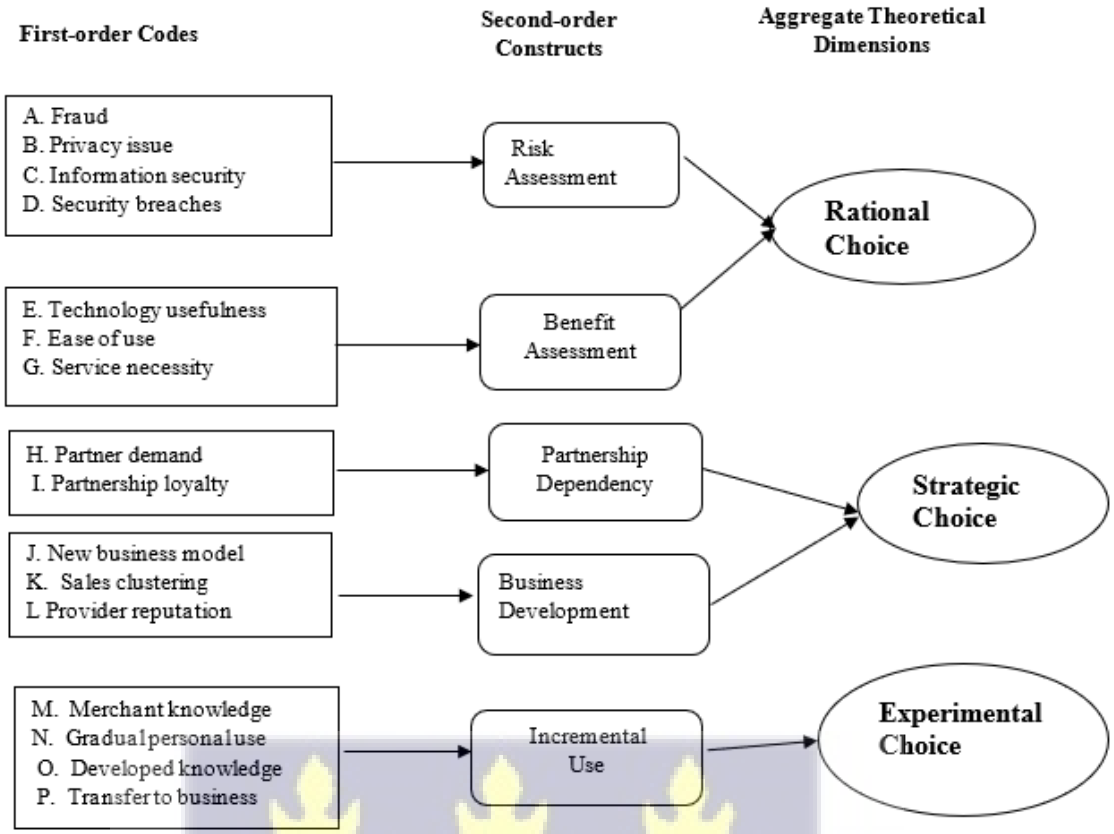


Figure 9.1 Typology of Merchant Adoption-pathways to Mobile Payments Platforms from a Developing Country Context

Source: Author's construct

9.2.1 Rational Choice (Risk /Utility Trade-off)

From the cross-case analysis, Sky Drinks Company Ltd. and Pelinam Marketing Solutions performed risk-benefit analyses before deciding to adopt mobile payment. Key managers scrutinised and discussed the risk implications and the benefits the company would gain in adopting mobile payment platforms. Among the key security and risk issues discussed by both merchants include fraud, privacy, information security and security breaches. In addition to the risk consideration, both Sky Drinks and Pelinam Marketing Solutions considered the ease of use, perceived usefulness, and the technology's necessity (refer to Figure 7.1) in their firms. The merchants, driven by the benefits and the perceived utility of the technology, decided to maximise their utility by making conscious and calculated trade-

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offs in adopting mobile payment. Both Sky Drinks Company and Pelinam Marketing Solutions estimated that the perceived utility of mobile payment to their firms outweighed the risk; therefore, they were invariably willing to disclose the personal information of their respective merchant firms and forgo concerns regarding privacy and security risk. The perceived benefits outweighed the perceived potential privacy and security risks. This demonstrates that the average merchant is willing to adopt and use mobile payment platforms as long as a technology's perceived utility exists. The discussion above leads to the first finding.

Finding 1: *Merchants usually conduct risk-benefit analysis in adopting mobile payment platforms; however, the risk does not significantly deter the merchant firm from adopting mobile payments when there is perceived technology utility.*

This finding is consistent with existing research; though merchants confirmed that mobile payment transactions have higher security and privacy risk implications (see Gao & Waechter, 2017), the negative attributes of risk powered by insecurity associated with mobile payments did not significantly prevent the merchants from adopting mobile payment platforms as suggested by existing research (see Koenig-Lewis et al., 2015). Perceived security risks might act as a fear-based mechanism and increase the cost of adopting mobile payment. Nevertheless, the merchants considered the expected rewards and cost and chose mobile payments based on perceived rewards (Gupta & Kim, 2010; Bailey et al., 2017; Li & Li, 2020). This implies that the extent to which mobile payment provides benefits in performing payment tasks is significant to mobile payment adoption (Morosan & DeFranco, 2016; Miltgen et al., 2013). Similarly, Ndlovu and Njenga (2013), in their study in South Africa on rational choice, risk and utility in mobile banking, confirmed that an individual's

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willingness to adopt mobile banking services is primarily driven by the perceived utility of the service, while privacy risk is not a significant deterrent.

> *The first finding confirms the study's first proposition. The merchant's decision to maximise utility from mobile payment platforms will invariably be prepared to disclose organisational information and ignore concerns regarding privacy and security whenever the perceived benefit outweighs the potential perceived risk.*

9.2.2 Strategic Decision

Beyond the rational decision consideration, this study found that (ref. Figure 9.1) merchant decision to adopt mobile payment is related to the extent to which the mobile payment technology enables possible capability. From the cross-case analysis, it was evident that the second cluster of merchants (owner-managers) decided to adopt mobile payments platforms, considering how the technology would support their business model, improve sales clustering and build a reputation for the merchant firms. It was evident that because the distributors depended on the mother company (Pelinam Marketing Solutions) for survival in running their business, the latter influenced the distributors to adopt mobile payment by acquiring knowledge about their partners strategically. This includes their resource needs, capabilities, strategies and other relationships to promote more efficient collaboration and cooperation among partners without considering the risk implication, leading to finding two:

Finding 2: *The merchants' decision path in adopting mobile payment is influenced by strategic considerations such as developing a business model and partnership survival.*

This finding is equally supported in the literature, as Kauffman, Liu, and Ma (2015) emphasised that decision-making regarding technology adoption or making technology investments goes beyond purely technical issues to those involving strategic issues. The

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literature also believes that the merchant adoption of mobile payment platforms faces the challenge of developing infrastructure and considering changing transaction costs and many "cost unknowns" (Singh et al., 2020). Nevertheless, this study did not show that the merchants faced such complexities in their mobile payment choice path. This contradiction in the study can be explained by the technology the merchant adopted in Ghana, the remote payments technology. Existing research has confirmed that remote mobile payment technology enables merchants to save costs by not investing in expensive equipment or adhering to restrictive rules (Pisani & Moormann, 2018).

From the discussion above, finding 2 supports the proposition 2 of this study which states:

Proposition 2*: Merchants' decision to adopt mobile payment could also be influenced by strategy and multiple benefits.*

9.2.3 Experimental Decision

Finally, on the merchant's decision to adopt mobile payment, it emerged from the cross-case analysis that case C, Albrandz Fashion World, adopted mobile payment in addition to the strategic consideration as an experimental process (ref. Figure 9.1). The merchant gradually acquired knowledge through personal use by following new trends in the market, testing the application and exploring the technology's potential to incrementally develop mobile payment knowledge, which was transferred to the merchant's larger business. It was evident that mobile payments' gradual positive outcome influenced and informed the merchant's decision to adopt mobile payment officially and legitimise the technology in their business. This process was made possible because the owner-manager's straightforward decision-making structure depended on the owner and the business manager. This finding of experimental learning is corroborated by literature on dynamic capability, where Wang and Ahmed (2007) mentioned that firms continue learning through experiments. This equips

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firms with the expert knowledge that helps them identify new strategies. As an emerging finding from this study; finding three, therefore, states that:

Finding 3*: The merchant's mobile payment platforms' adoption goes through an experimental phase where the merchant incrementally develops capabilities in adopting and using mobile payment.*

Table 9. 2 Cross-case Analysis of Merchant Adoption Decision-path to Mobile Payment Platforms

Decision-pathways to merchant adoption	**Cost-benefit analysis based on a risk-utility trade-off**	**Strategic decision**	**Experimental decision**
Merchant Firms			
Sky Drinks Company Limited	✓	✓	X
Pelinam Marketing Solutions	✓	✓	X
Albrandz Company Limited	X	✓	✓
Distributor 1	X	✓	X
Distributor 2	X	✓	X
Distributor 3	X	✓	X

Source: Author's construct

From the cross-case analysis of the three cases (see Table 9.2), the merchant's decision-making process in adopting mobile payment platforms is influenced by the merchant's expectations of the value derived from the technology to maximise utility. It is also evident that corporate organisations with well-structured management teams tend to evaluate and predict the possible economic outcomes, and consider security and privacy protection, by identifying, categorising and assessing different scenarios, while the small-scale organisations managed by an individual only experimentally-adopt mobile payment without evaluating the risk and security implications. Instead, they use anecdotal evidence based on

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the merchant's perception of mobile payment's benefits as a sufficient explanation for merchant adoption. Even though the owner-managers are very much aware of the security and privacy implications of adopting mobile payment, they do not pay much attention to them.

This study found that the most potent driving force influencing managers' decision to adopt mobile payment platforms is maximising their utility. From the discussion above, the findings point out that the merchant's evaluation mechanisms for adopting mobile payment platforms could be influenced by multiple decision-making processes, which means that the merchants' decision to adopt mobile payment could be rational, strategic or experimental choice. As summarised in Table 9.3, these findings explain that in Ghana, factors that influence the merchant decision of mobile payment platforms' adoption are multidimensional instead of the unidimensional factors identified by previous studies.

Table 9. 3 Summary of Merchant Decision Making Path in Adopting Mobile Payment Platforms from a Developing Country Context

Merchant Decision Making Path	Underpinning Factors
Rational Choice	Cost based on risk • Fraud • Privacy issue • Information security • Security breaches Benefits based on potential • Technology usefulness • Ease of use • Service necessity • Customer needs
Strategic Choice	Partnership Dependency • Partner demand • Partnership loyalty Business Development • New business model • Sales clustering • Provider reputation

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Experimental Choice	Incremental Use • Merchant knowledge • Gradual personal use • Developed knowledge • Transfer to business

Source: Author's construct

9.3 Affordances and Constraints Mobile Payment Platforms Provide Merchants (RQ2)

This section aims to explain the mobile payment platform's affordances and constraints. As defined in Chapter Three already, Affordances are action possibilities in the merchant environment (Leonardi, 2013; Markus & Silver, 2008; Robey et al., 2013; Vaast et al., 2017). The cross-case analysis identified that the merchant's ability to actualise the affordance perception depends on the merchant's perception of the possibility for action using a particular tool (Faraj & Azad, 2012; Majchrzak & Markus, 2013). The analysis shows that the merchant may choose to act upon the perceived opportunity for an action that will lead to the affordance actualisation. Nevertheless, the perception and actualisation of affordances are influenced by certain factors such as (1) awareness of the ability of potential of mobile payment platforms to support organisational transformation, (2) willingness to process the data and (3) skill to manipulate and understand the system.

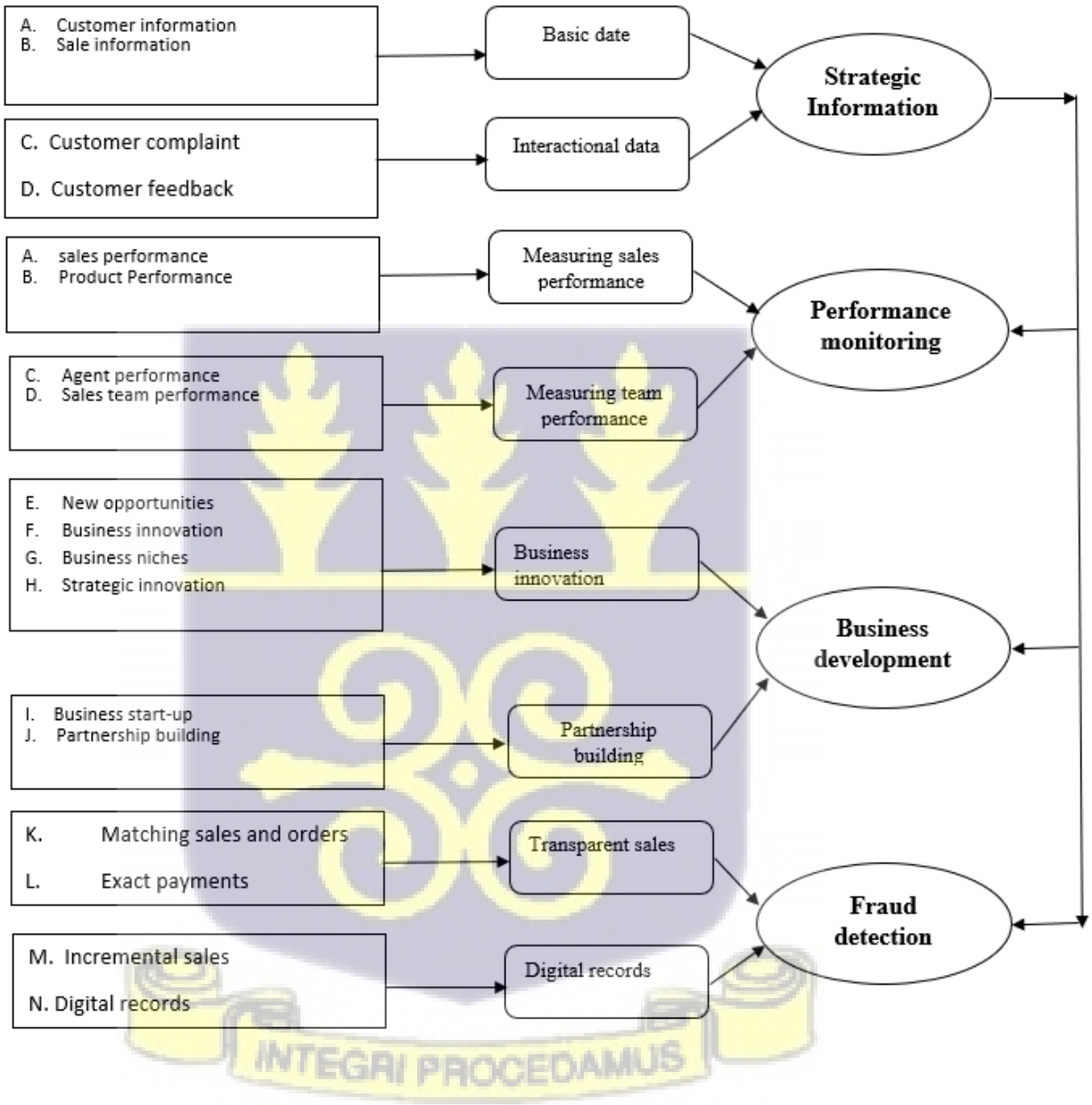
The analysis demonstrates that the interaction between mobile payment platforms and the goal-oriented merchant enables appropriate client data capturing affordance. The interaction provides the merchant with structured data entry forms and a database that provides the merchant firm with robust digital data on customers. The analysis suggests that the transactional and customer data offer insightful and valuable information for merchants to leverage the data strategically as a primary affordance. This primary affordance presents action possibility for other superior secondary affordances to the merchant (Grewal et al., 2018). As indicated in figure 9.2 below, demonstrating the interrelationships between the primary and the secondary affordances.

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This discussion leads to the subsequent finding

Finding 4*: Merchant interaction with mobile payment platforms afford the merchant with strategic information capturing affordance, which can be leveraged for other superior affordances.*

Figure 9.2 Interrelationships between Primary and Secondary Affordances



Source: Author's construct

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From the primary affordance, the study identified three superior affordances such as (1) performance monitoring, (2) business development, and (3) fraud detection affordances, as indicated in Table 9.4 and Figure 9.3

Table 9. 4 Mobile Payment Platforms Affordances

Second-Order Construct and first-order codes	Illustrative Quotations	Relative Stakeholder Interviewed
Strategic information Database	We have developed a customer database using the mobile payment information we receive as transaction notifications. We have compiled customer information to keep records of customers. We keep records of all customers who pay by mobile money through the notification to be able to engage with our customers when the need comes.	Operations manager Case A Office assistant, Case C Operations manager Case B
1. Performance monitoring a. Sales performance/trends	Interacting with the data through sales from mobile payment, the sales manager can easily measure sales trends of our product lines.	Commercial manager, case A
b. Sales tracking	Our company is a network marketing system with mobile payment. We can track payments using the merchant code and when we receive payments.	Operations manager case B
c Agent performance	Automatically the data from mobile payment sales enables management to know our agent performance and calculate bonuses and incentives immediately.	Account manager, case B
d. Performance measurement	I can know at a glance the percentage of my sales that comes through the mobile payment account. These give me an idea about sales coming through my online sales and how the digital sales are performing. The payment information enables tracking of each other's performance in the ecosystem. The monitoring enables individual upgrades in the system.	Owner manager, case C Operations Manager Case B
e. Customer feedback	The information we receive from the payment enables us to call customers for feedback on our products, and if there are service complaints, we address it with the customer	Commercial manager Case A
f. Customer engagement	This allows us to engage with customers on their preferred platforms. We can send our customers information on our new arrivals when we do promotions and reduction sales. This is made possible because of mobile payment. Using the technology lets the company know the category of customers and serve them based on their personalised needs and unique preferences.	Commercial manager Case A Owner Manager, Case C CEO, Case B
g. Personalisation	Using the technology lets the company know the category of customers to serve based on their personalised needs and unique preferences.	Marketing Manager, Case A

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Second-Order Construct and first-order codes	Illustrative Quotations	Relative Stakeholder Interviewed
2. Business development l. Business niche	Capabilities in establishing new niche markets where technology is appealing, which has the potential to grow our business. We have started social media marketing Mobile payments with the company's back-office technology enable individuals to own businesses without a physical space contact. All they need is a phone, and they can move millions.	Commercial manager, Case A CEO case B
m. Business innovation	Our company has developed an innovative sales and distribution ecosystem for our customers. We have the business agents, stockist partners and individual final consumers linked up using the payment system.	Operations manager Case B
n. Strategic innovation	adopting the platform is helping in market-driven innovations; mobile payments solely drive our regional business models, and it is the same account, so the sales are in the central pool	Commercial manager, case A
3. Fraud detection Matching sales and orders	Mobile payment enables management to match sales against orders. You cannot hide any of the sales.	Accounts manager case A
p. Customers pay the exact amount	Because customers are paying through mobile money, they pay the exact price	Owner manager, case C
q. Incremental sales records	As soon as payment is made, there is an incremental add-up, making it difficult for anybody to steal.	Accounts manager case A
r. Digital records	The records are there for verification anytime. Records are not easily tampered with, helping the company control petty stealing.	CEO case B

Source: Author's construct

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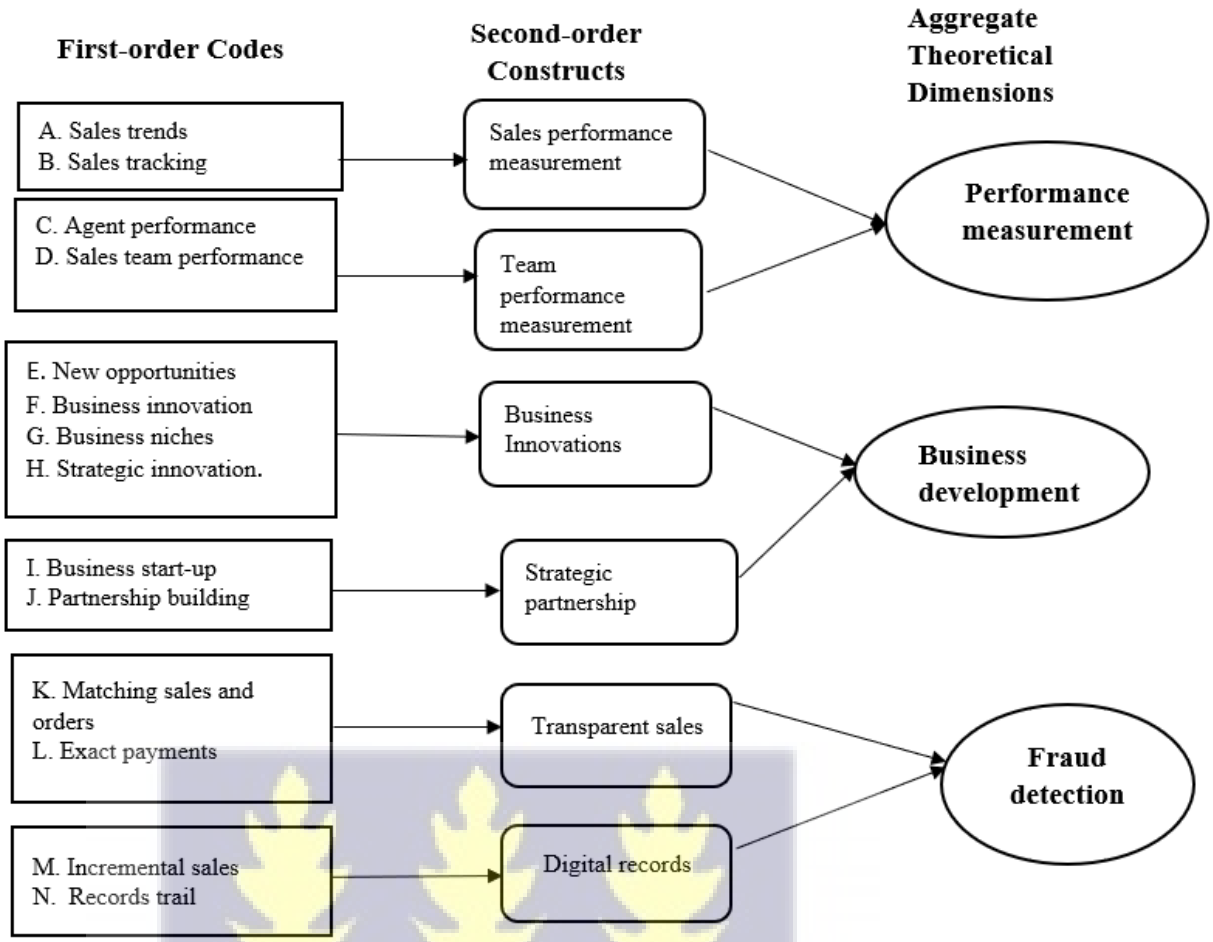


Figure 9.3 A Typology of Mobile Payment Affordances from a Developing Country Context

Source: Author's construct

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Table 9. 5 Cross-Case Analysis of Mobile Payment Platforms Affordances and Constraints

Affordances	Affordance Perception	Affordance Actualised	Primary Affordance	Secondary Affordance	Constraints
Merchant Firms					
Sky Drinks Company Limited	✓	✓	Strategic information	Performance monitoring Business development Fraud detection	Confirming payments Information overload Fraud Susceptibility
Pelinam Marketing Solutions	✓	✓	Strategic information	Performance monitoring Business development Fraud detection	Battery short life Small screen size Fraud Susceptibility Information overload Unreliable network
Albrandz Company Limited	✓	✓	Strategic information Multi-currency	Performance monitoring Business development Fraud detection International trading	Transaction capping Transaction charges E- Levey implementation
Distributor 1	X	X	X	X	Lack of capacity and capability
Distributor 2	X	X	X	X	Lack of capacity and capability
Distributor 3	✓	X	X	X	Lack of capacity and capability

Source: Author's construct

9.3.1 Performance monitoring

From the cross-case analysis, (see table 9.5), the study's findings suggest that as merchants leverage the affordance of the strategic information, it generates performance-monitoring affordance. It enables merchants to automatically trace the performance of sales and the sales team member's performance. In such instances, management knows each member's performance within the eco system in the case of Case B. Concerning Case A, their interaction with the data enables the sales manager to track all ad-hock sales and understand

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the trends of sales among their product lines. The literature demonstrates that most organisations face the challenge of low productivity; therefore, this affordance of monitoring helps organisations undertake corrective actions for productivity gains and recommend improvement (see Brynjolfsson & McAfee, 2012). However, there was no such affordance leveraged by merchant C and the distributors. This outcome is because merchant C is a small owner-manager company that does not have the needed human and financial resources to actualise the affordance identified in the two merchant firms. As mentioned in the literature, small businesses in developing countries such as Ghana face resource constraints (see Meurer et al., 2022; Morgan-Thomas, 2016). They do not have the budget and the human resources to initiate an analysis of the data they receive for organisational benefits. Again, merchant C did not actualise this affordance because they were unwilling to do so. On the other hand, the distributors for Case A and B, owner-managers, have not yet perceived this affordance, even though that affordance exit (see Brynjolfsson & McAfee, 2012; Hein, 2012). The discussion leads us to the next finding:

Finding 5A*: Merchant interaction with mobile payment strategic information afford performance monitoring.*

Finding 5B*: Smaller merchants without the capacity cannot actualise affordance even though they may or may not perceive affordance.*

9.3.2 Facilitating business development

The merchant interaction with mobile payment strategic information also produced business development affordance. The business development affordance of mobile payment platforms facilitated business development in merchant firms through new opportunities, business innovation, business niches and strategic drive. Again, the business innovation affordance gave the merchant opportunity to eliminate business intermediaries in the supply

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chain, leading to better income for both the merchants and the customers. In relation to a niche market, mobile payment's affordance is enabling merchant firms to build capabilities to establish niche markets where technology is appealing and has the potential to grow merchant business. For example, it was evident that the fashion company moved away from brick-and-mortar shops to online shops. Stockist members of the sales network did not have to own a shop to start selling their products. These findings are consistent with Singh and Sinha (2020). In their study on merchants' intention to use mobile wallet technology, they found that merchant interaction with mobile payment technology allows merchants to develop different business models and numerous online services. The study demonstrated that all three merchants shifted some of their business to digital and online to enhance customer experience and reachability and target large markets and consumers for competitive advantage, consistent with existing literature (see Singh et al., 2017). Merchant interaction with mobile payment enables an affordance for developing new businesses and new business models, leading to the next finding:

Finding 7: *Merchant interaction with mobile payment strategic information enables strategic affordance to build new businesses and new business models.*

9.3.3 Detecting fraud

Finally, on affordances, as the merchant firms interacted with the mobile payment strategic information, the merchant firm generated fraud detection affordance. With the fraud detection affordance, it was easy for merchants to conduct a post-sales audit based on each sale through the digital report's trail. This has deterred staff from engaging in corrupt practices or not declaring appropriate sales. Similarly, the study found that fraud detection affordance, through mobile payments, has reduced stealing from sales operatives who used to steal from the merchant because they were using personal mobile payment accounts. With

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the merchant payment account, there is a little avenue to pocket organisational sales, leading to improvement in sales revenue with a lot of gains to the merchant firm. Deducing from mobile payment platforms' role in preventing stealing and corruption in the merchant firms, mobile payment platforms can be viewed as having fraud detection affordance, inspiring our next finding:

Finding 8*: Merchant interaction with mobile payment strategic information enables fraud detection affordance.*

The study's results show support for proposition 3a, which relates to the relational effect of affordance, which states that:

> *Merchant interaction with the mobile payment platforms (IT* artefacts*) is facilitated by expertise within the merchant firm. The merchant firm's strategic objective or goal generates affordances when the merchant undertakes an action to exploit the* artefact*'s potential.*

The affordance generation was facilitated by the merchant's interaction with the mobile payment platforms, the expertise and the merchant's strategic objective or goals to leverage the affordance. The findings in the three cases demonstrate that the affordances derived by the merchants' firms were a result of the merchants' capabilities and the goals to exploit the artefacts for organisational benefits. The extent of the affordance outcome in each of the three cases depended on the expertise and the merchant firm's objectives. This finding is consistent with the existing literature (Faraj & Azad, 2012; Majchrzak & Markus, 2013; Orlikowski, 2010). Instead of attributing certain achievements as having been produced independently by the technology on its own, social materiality logic reminds us that it is the actors' actions and intelligence that shapes technologies in the ways that the actor wants.

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The actor's goals, the context of use, and unique characteristics impact how technology's usefulness is perceived and the many ways the actor will interact with the technology. It was evident from the study that the merchants without much expertise derived minimal affordance or no affordance from the mobile payment platforms.

9.3.6 Constraints

Constraints relate to stumbling blocks that merchants can encounter when interacting with mobile payment platforms. These constraints can hold the merchant back from accomplishing the goals of interacting with the mobile payment platforms (Majchrzak & Markus, 2013). The fact that mobile payment systems are susceptible to hacking, intrusion and breaches, with malicious users having a means of performing fraudulent transactions without being noticed by the system, is a constraint for the merchant to interact with the technology, preventing them from achieving the needed affordance (Mirbabaie et al., 2021). The findings regarding the mobile payment platform's interaction constraints are outlined in Table (9.6) and Figure (9.4).

Table 9. 6 Mobile Payment Platforms Constraints

Second-Order Constructs and first-order codes	Illustrative Quotations	Relative Stakeholder Interviewed
1. Institutional challenges a. Confirming payments	The phones we use are located at the factory; hence sales personnel on the field must call the factory to confirm payment constantly.	**Sales operatives case A and case C**
b. Information overload	The confirmation notifications are plenty and come very frequently, making it difficult to process all the information on time. If you do not work on it daily, you will lose some data.	Accounts Clerks Case A and Case B
c. E-cash shortage	One disadvantage is that sometimes some agents don't have enough money to the tune you want to withdraw.	CEO Case C
2. Technology challenges d short battery life	Sales teams complain of batteries running out and phones going off on the field.	Sales operatives Case A
e. small screen size	Sometimes using the phone is inconvenient because the screen size is very small.	Agent stockist Case B, Sales operatives Case A
f. Fraud susceptibility	The many reports in the media and the testimonies of individuals and companies about the fraudulent activities of some unscrupulous persons who invade customer accounts and attempt to defraud them sometimes discourage us from transferring large sums of money.	CEO Case C, Operations manager Case B

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g. Unreliable network	The issues of the network, intermittent cut in the network. On the other hand, compared to desktop computers, mobile devices, like cell phones, have some restrictions such as small screens, low resolution, and inconvenient input, making it difficult for mobile users to search for relevant information.	Sales operatives Case A
3. Regulatory challenges h. Transaction Capping	The sealing of cash transactions allowed in a day by the network provider can be restrictive.	Agent Stockist
i. Transactional charges	Our partners who do not have merchant accounts charge extra fees when making payments to our accounts.	

Source: Author's construct

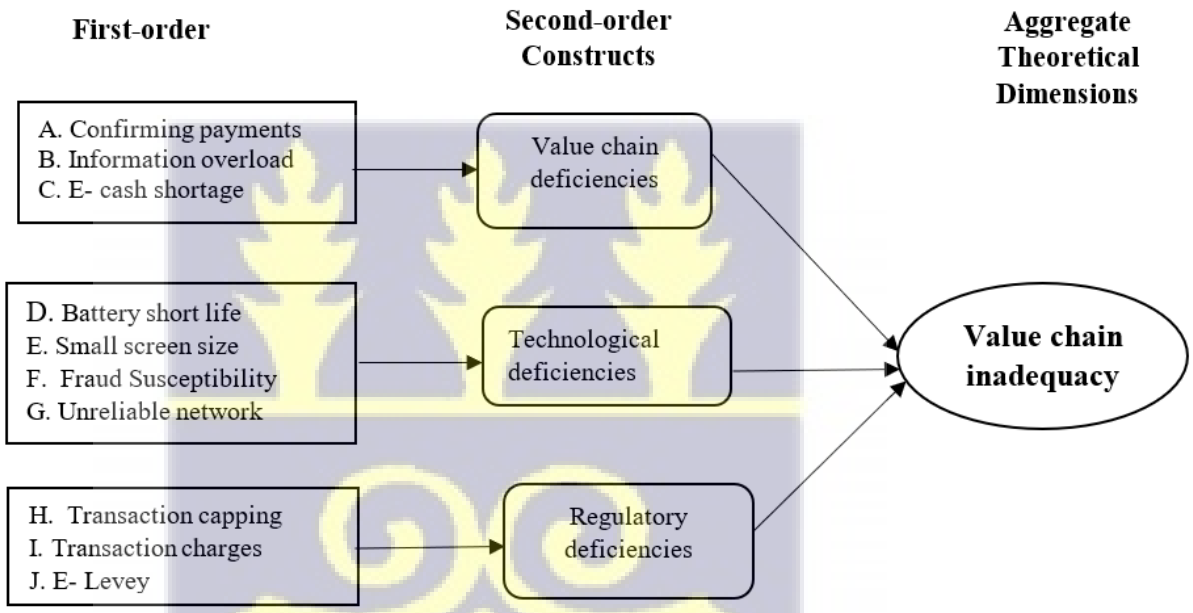


Figure 9.4 Typology of Mobile Payment Platforms Constrains in a Developing Country Context
Source: Author's construct.

With reference to Figure 9.4 and supporting evidence from Table 9.6, the study identified that all three merchants encountered one form of constraint from interacting with the mobile payment platforms. The study classified all merchant constraints as system inadequacy, which was sub-categorised into three. First is the organisation's internal value chain deficiencies. The value chain deficiency is related to difficulties inherent within the organisation that act as an impediment or restraint on the merchant from interacting with

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the platforms (See Mirbabaie et al., 2021; Volkoff & Strong, 2017; Khan et al., 2015). For example, Sky Drinks sales operatives on the field must call consistently to the headquarters to confirm payment receipt. There is also information overload where operatives have to work on lots of data to produce meaningful information out of the data. These two factors were constraining conditions in perceiving the affordance and actualising same. The constant call to the headquarters and the information overload made it stressful for operatives and prevented the operatives from actualising the mobile payment platform affordance. This confirms Pal et al. (2018) assertion that constraints act as barriers to continued usage of mobile payment technology.

The second constraint category is technological factors. These constraints relate to the technology and the service provider. For example, the study identified technical constraints such as spending limitations, e-cash shortage and spending cut-off points that affected merchant usage of mobile payment platforms (see Kishore, 2017; Majchrzak & Markus, 2012; Orr, 2010). Due to the service provider's maximum daily spending based on regulations, it is difficult for large sums to be transferred or received in a particular transaction in a day. Again, the study identified a shortage of e-cash where agents do not have sufficient e-cash to meet the merchant's request. Short battery life and constant battery rundowns of mobile phones were also constraints. Also, an unreliable network and fraud susceptibility were identified in all three cases. In relation to fraud susceptibility, the many reports in the media and testimonies of individuals and companies about the fraudulent activities of some unscrupulous persons who invade customer accounts and attempt to defraud them are most challenging.

This study's third and final constraint category is the regulatory challenges related to legislation, such as charges on transactions and the capping of merchant spending based on

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merchant categorisation by the regulator. The caping constrained the quantum of transaction merchant can undertake on mobile payment platform leading to insufficient e-cash to meet the merchant's request. This leads to the tendency of the merchants and their network of trade partner to abandon the adopted mobile payment platform and revert to cash usage (see Pal et al., 2018; Kishore, 2017; Majchrzak & Markus, 2012; Orr, 2010).

The constraints discussed lead to the next finding:

Finding 9: *Mobile payment platforms interaction presents* system inadequacy such as *technological, value chain and regulatory constraints that could prevent the merchant from interacting with the mobile payment platforms to actualise the affordance.*

Table 9.7 Summary of Mobile Payment Platforms Affordances and Constraints

Mobile payment platform's affordances	**Underpinning Factors**
Primary Affordance Strategic information	Client data capturing • Structured data • Unstructured data
Secondary Affordance	
Performance measurement	Sales performance measurement • Sales trends • Sales tracking Team performance measurement • Agent performance • Sales team performance
Business development	Business Innovations • New opportunities • Business innovation • Business niches • Strategic innovation. Strategic partnership • Business start-up • Partnership building
Fraud detection	Transparent sales • Matching sales and orders • Exact payments Digital records • Incremental sales

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	• Records trail
Constraints	
Value chain inadequacy	Value chain deficiencies • Confirming payments • B. Information overload • C. E-cash shortage Technological deficiencies • Battery short life • E. Small screen size • F. Fraud Susceptibility • G. Unreliable network Regulatory deficiencies • Transaction capping • Transaction charges • E- Levey

Source: Author's construct

9.4 Outcome of Leveraging Mobile Payment Affordances (RQ3)

There is a convincing argument in prior literature that affordance actualisation by organisational actors generates various effects in the organisation (Volkoff &Strong, 2013). In this study, the outcome of merchant interaction with mobile payment platforms is conceptualised as benefits the platforms offered to the merchant. As argued in extant IS literature, firms' adoption and application of technology-enabled resources provide evidence of firms achieving benefits and business value (Jha, Bose, & Ngai, 2016; Marion, Meyer, & Barczak, 2015; Boateng et al., 2014). In other words, the adoption of mobile payment platforms enables the merchant firm to leverage the benefits associated with digital technologies due to their modularity and IT-enabled interactions (Thomas, Autio & Gann, 2014). These IT-enabled interactions facilitate efficient outcomes, such as operational efficiency and customisation, that could add value to enhance merchants' business performance (Bask, Lipponen, Rajahonka, & Tinnilä, 2010). Using literature on e-commerce benefits as conceptualised by Boateng (2016), this section of the analysis aims to enrich an understanding of the forms of benefits (outcomes) obtained as the merchant actualises the identified affordance. This study identified and conceptualized five broad

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benefits obtained from the mobile payment platform's affordance actualisation, which include (1) strategic benefits, (2) operational benefits, (3) transformational benefits, (4) managerial benefits and (5) organisational benefits, as demonstrated in Figure 9.5 and a summary in Tables 9.8 and 9.9.

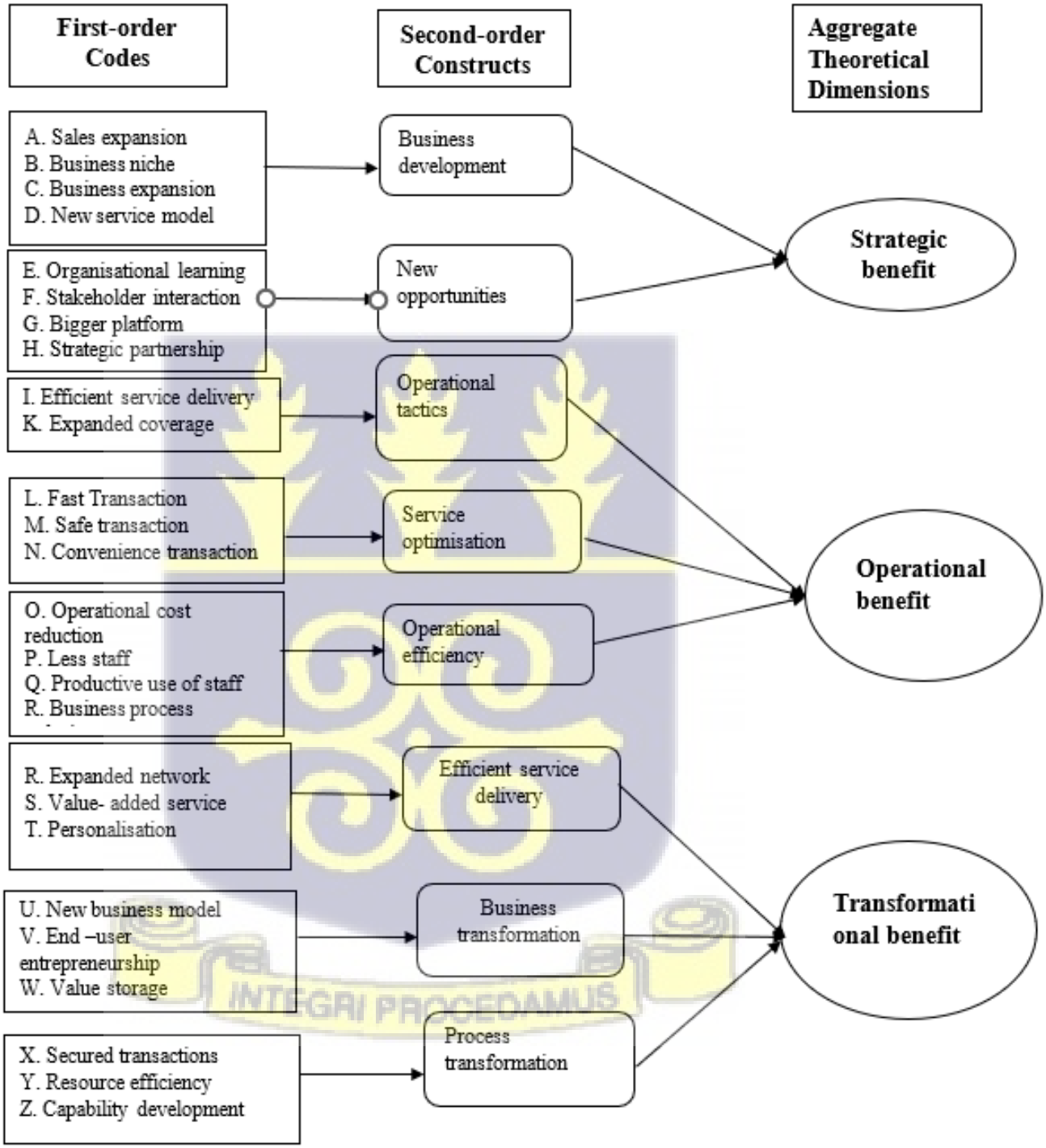


Figure 9.5 Typology of Mobile Payment Benefits from a Developing Country Context

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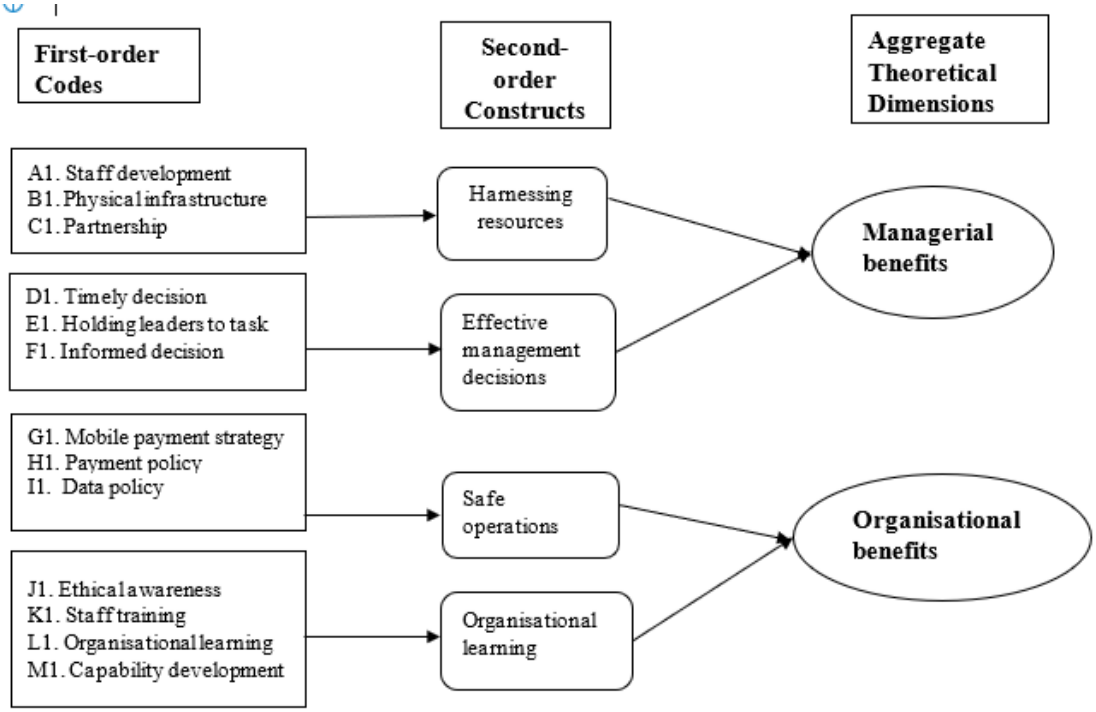


Figure 9.5 Typology of Mobile Payment Benefit from a Developing Country Context (cont'd)

Source: Author's Construct

Table 9. 8 Cross-case Analysis of Mobile Payment Platforms Actualisation Outcomes (benefits)

Benefits	Strategic benefit	Operational benefit	Organisational benefit	Managerial benefit	Transformational benefit
Merchant firms					
Sky Drinks Company Limited	✓	✓	✓	✓	✓
Pelinam Marketing Solutions	✓	✓	✓	✓	✓
Albrandz Company Limited	✓	✓		✓	✓
Distributor 1	X	X	X	X	X
Distributor 2	X	X	X	X	X
Distributor 3	X	X	X	X	X

Source: Author's construct

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9.4.1 Strategic Benefits

Strategic benefits, in earlier studies, have been defined as opportunities for firms to extend their reach and improve revenue through improved customer loyalty and trading partners (Boateng, 2016; Boateng et al., 2014; Molla & Heeks, 2017). This study's strategic benefits from leveraging mobile payment affordance are classified (ref Figure 9.4) as business development and new business opportunities from the cross-data abstraction. First, merchant interaction with mobile payment platforms afforded the firm business development opportunities such as sales expansion through extended customer contact and the development of business niches supporting business expansion. Also, the merchant platform interaction facilitated merchant learning and capability development. It was evident from the cross-case analysis that all three merchant firms that actualising the mobile payment platform's affordance enabled new business opportunities. The unique business opportunity is developed through interaction and actualising platform affordance, facilitating stakeholder engagement and merchant learning. These benefits identified in the study are similar to those reported by Nevo and Wade (2010), Davenport et al. (2004), Shang and Seddon (2002), Staehr et al. (2012) and Harris and Davenport (2006). Mobile payment in the merchant firms allows merchants to expand their business to new frontiers beyond their shops or offices, leading to expanded revenue (see Lema et al., 2018; Boateng, 2016). The next finding is informed by the preceding mobile payment platform's benefit outcome identified in this study.

Finding 10*: Leveraging mobile payment platforms affordance provides strategic benefits such as business development, new opportunities, expanded merchant market and appropriate business innovation models for customer satisfaction.*

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9.4.2 Operational Benefits

The second category of benefits identified as an outcome of merchants actualising the mobile payment platform's affordance is operational. Earlier studies have defined the operational benefits obtained by the firm as reducing transactional costs and achieving operational efficiency (Boateng, 2016; Boateng et al., 2014). In relation to this analysis (ref Figure 9.4), the operational benefit entails service optimisation, operational efficiency and efficient service delivery. This was evident in all the merchant firms interviewed. Merchant interaction with the technology-facilitated service optimisation tailored to suit customers' needs, making transactions fast and safe (Shang & Seddon, 2002; Harris & Davenport, 2006). For example, the merchant's operational costs are reduced in relation to costs merchants incur on labour, given the relatively high staff cost. It was identified that the deployment of mobile payment in the merchant firms led to less staff effectively handling organisational tasks, leading to productive use of staff. More cost is returned to the bottom line for each transaction completed successfully using mobile payment. This has helped brick-and-mortar businesses redeploy staff to perform value-added customer service and personalization to meet customers' needs. The potential to reinvest staff time in the more strategic business task was a key benefit among merchants.

Additionally, through mobile payment platforms interaction, the merchants are witnessing operational efficiencies and greater transparency through the multi-currency feature of mobile payment, allowing merchants to import products online without depending on intermediaries. This has given the merchants greater control over their transactions while enjoying disintermediation. Actor interaction with mobile payment platforms offers prompt and timely payment transactions from their customers in-store and remotely (Du, 2018; Bang et al., 2013; Boateng, 2016; Boateng et al., 2014). This is helping merchants reduce outstanding credit times, risk and cost of handling cash, leading to significant gains in

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operational efficiency and operational turnaround time, giving rise to increases in revenue. These identified benefits inform the next finding.

Finding 11: *Leveraging mobile payments platforms affordance offers operational benefits such as decreasing the merchant operational cost and improving operational efficiency.*

9.4.3 Transformational Benefits

Thirdly, based on the cross-data abstraction, the merchant's transformational benefits were classified as business transformation and process transformation (Jelassi & Martínez-López, 2020). The business transformation relates to efficiency gains and novelties, which strongly impacted the attractiveness of new business models in all three merchant firms (De Kerviler, Demoulin & Zidda, 2016). Again, interacting with mobile payment platforms served as a resource for merchants' capability to operate as a mini bank. The unique merchant account that could be operated as a mini bank allows merchants to receive a higher amount and deposit the same. Further, mobile payment's transformative benefits led to more productive activities such as paying for insurance, making a daily investment and paying for statutory payments using mobile payments. Mobile payments enabled the owner-managers to pay their suppliers and innovatively their employees using mobile payment. These processes save merchants time and expenses. The business transformation is seen when a merchant uses mobile payments to control their business bank accounts, store value right, and convert cash in and out of the stored value on their mobile device, no matter the amount, the place and time. Nevertheless, the corporate merchants could not do that because of organisational policies. On the other hand, the process transformation relates to secured transactions, resource efficiency and capability development (Seddon et al., 2010; Harris & Davenport, 2006).

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Merchant interaction with mobile payment platforms generate an opportunity for value transactions in a secured environment. For example, deploying mobile payments in all three merchant firms removed most physical payment processes that used to be avenues for staff to be corrupt, making the merchant firms achieve some transformational outcomes which would have been otherwise difficult. Existing studies (De Kerviler, Demoulin & Zidda, 2016; Capgemini, 2016; Liébana-Cabanillas et al., 2015) confirm this finding that mobile payment technology provides a transformative impact on the way merchants do their businesses which enables a range of efficiency gains and novelties that have to sustain and enabling implications for business transformation**.** The foregoing discussion on the transformational benefit of mobile payment platform's affordance informs the next finding:

Finding 12*: Actualising mobile payment platforms affordance leads to transformational benefits, such as innovative possibilities, smarter purchasing choices, processing efficiency and merchant control over resources.*

9.4.4 Managerial Benefits

The fourth outcome achieved as benefits of merchants actualising mobile payment platforms affordance is managerial (Schmidthuber et al., 2020). The managerial benefits consist of management harnessing resources effectively and making data-driven effective management decisions (Yan & Pan, 2015). First, the merchant interaction leveraged organisational leaders to effectively and efficiently manage and harness organisational resources: such included staff deployment, physical infrastructure and inter-organisational partnership. A typical example is where, through inter-organisational collaboration, merchants directly and seamlessly transfer daily sales into their bank accounts without having to pay bank officials to do so. All merchants interviewed had their mobile payment accounts linked with their bank accounts and leveraged seamless transfers to save money

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and time. More so, the efficient management decision is related to merchants leveraging mobile payment data in making the right decision and, at the same time, holding leaders to task and making them accountable based on the output required of them.

For instance, management can monitor sales and individual performance in real-time and understand and monitor each product line's performance. More significantly, management benefits from interacting with mobile payment because they can make informed decisions based on data gathered. Management decisions are fast and accurate, not based on guess or intuition but rather on analysed data. For example, some merchants perform basic analytics on the data they receive, helping in effective decision-making and effective organisational planning. This finding is in line with earlier studies in the use of technology (e.g. Kim et al., 2010; Shin & Lee, 2014; Yan & Pan, 2015; Schmidthuber et al., 2020). For example, Schmidthuber et al. (2013) found that leveraging enterprise system in an organisation creates a world of possibilities for managers to better allocate resources for economic and social gains as a new finding in the study. However, this finding is new to mobile payment literature, not much light is shared in this area. Literature on mobile payment benefits has focused on areas such on convenience, ubiquity, immediacy, operational turnaround time, a productivity gains and competitive advantage see (Zhang & Williamson, 2021; Tylor 2016; Kim et al., 2010). Therefore, this is new knowledge and a contribution to mobile payment benefit conceptualisation.

The discussions above on the managerial benefit inform the subsequent finding*:*

Finding 13*:* *Mobile payment platform's affordance actualisation enables managerial benefits such as harnessing organisational resources and making effective decisions.*

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9.4.5 Organisational Benefits

Lastly, the data demonstrated that mobile payment platform's affordance yielded organisational benefits. According to Seddon, Calvert and Yang (2010), organisational benefits are the major business improvements that lead to changes in how the business carries out its work, leading to improvements visible in the business as a business invests in new technologies. The organisational benefits offered the merchant firms an opportunity to incorporate mobile payment strategy and policies on data privacy while creating ethical awareness among staff who have access to customer data. For example, the team handling mobile payments received extensive training in data handling and data protection law.

Again, merchant firms developed policies for mobile payment that outlined the user behaviour and the sanctions if not appropriately used (see. Asiedu, Shortland, Nawar, Jackson & Baker, 2018). More so, all three firms confirmed that mobile payment has opened their organisation to learning and confirmed that their interaction with mobile payment had built a lot of capabilities. Innovative use of mobile payment has also been acknowledged in the literature and has been identified by some scholars as a key driver providing opportunities for innovations leading to organisational benefit (Khrais & Azizi, 2020; Asiedu et al., 2018; Tapscott & Tapscott, 2016). Through organisational learning, management and staff understand how to identify fraud and its prevention in the mobile payment environment, minimising the merchant fraud susceptibility. The organisational benefit again enabled the organisation to learn and build capabilities to understand the multitude of information and draw valuable insights from the data. This process is helping the organisation make better predictions about consumer behaviour and has allowed two merchant firms to design more appealing offers. This finding is in accordance with earlier studies carried out by Seddon et al. (2010). Using technology to improve business drives

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organisational benefits from technology over the long term. From the above discussion, the last finding is reached:

Finding 14: *Mobile payment affordance enables organisational benefit, leading to organisational change (change in the payment process, real-time payment data and opportunity to learn new things).*

As supported by the individual findings on the outcome of affordance actualisation, merchants leveraging mobile payment affordance led to operational efficiency and coupled with inter-organisational collaboration, removed redundant functions and processes, duplicated work, and improved efficiency. This efficiency can be attributed to the transformational outcome of merchants leveraging the affordance of mobile payment. This understanding demonstrates that mobile payments have the potential to generate value that leads to organisational benefits. Also, earlier studies have confirmed that business benefits from technology use are multidimensional, ranging from operational improvements to decision-making enhancement to supporting strategic goals (Markus & Tanis, 2000; Ross & Vitale, 2000; Seddon, Calvert &Yang, 2010). These findings, therefore, support proposition four of this study, which states that:

> *When actualised, technology affordance of the specific technological device generates value that leads to multidimensional organisational benefits.*

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Table 9. 9 Summary of Mobile Payment Platforms Affordance Actualisation Outcomes (Benefits) from a Developing Country Context

Mobile payment platform's affordance actualisation outcomes	Underpinning Factors
Strategic benefits	Business development • Sales expansion • Business niche • Business expansion • New service model New opportunities • Organisational learning • Stakeholder interaction • Bigger platforms • Strategic partnership
Operational benefits	Operational tactics • Efficient service delivery • K. Expanded coverage Service optimisation • Fast Transaction • M. Safe transaction • N. Convenience transaction Operational efficiency • Operational cost reduction • Less staff • Productive use of staff • Business process redesign
Transformational benefits	Efficient service delivery • Expanded network • Value-added service • Personalisation Business transformation • New business model • End-user entrepreneurship • Value storage Process transformation • Secured transactions • Resource efficiency • Capability development
Managerial benefits	Harnessing resources • Staff development • Physical infrastructure • Partnership Effective management decision • Timely decision • Holding leaders to task • Informed decision
Organisational benefits	Safe operations

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	• Mobile payment strategy • Payment policy • Data policy Organisational learning • Ethical awareness • Staff training • Organisational learning • Capability development

Source: Author's construct

9.5 The Enabling, Stimulating and Releasing Conditions that Affect the Benefits Afforded by Mobile Payment Platforms to Merchants (RQ4)

9.5.1 Enabling Conditions

This section of the analysis seeks to explain the enabling conditions that serve as prerequisite environmental factors that influence the merchant to perceive mobile payment platform's affordance. Enabling conditions here constitute the prerequisite environmental factors available in the merchant's environment to allow the merchant to interact with the payment platforms for desirable outcomes (see Li & Li, 2020). These enabling conditions are made possible by large macro-political and economic forces and industry-specific policies and regulations that promote sustainable interaction with the technology (Lara-Rubio, Villarejo-Ramos & Liébana-Cabanillas, 2020; Mallat & Tuunainen, 2008). With reference to Table 9.10 and evidence from Figure 9.6, this study identified two key prerequisite environmental factors as enabling conditions abstracted in this study as (1) Adoption readiness factors and (2) stakeholder directional factors.

Table 9. 10 Enabling Conditions

Second-Order Construct and First-order codes	Illustrative Quotations	Relative Stakeholder Interviewed
1.Adoption environment Technology pervasiveness	Mobile payment is visible and prominent in Ghana. Everybody is using it, including small and big companies.	Operations manager Case B

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Second-Order Construct and First-order codes	Illustrative Quotations	Relative Stakeholder Interviewed
	Almost all our customers use mobile payment. It works with anything. Ghanaian society has embraced it. Mobile payments work with every phone, and the agents are all over the place. You don't struggle to receive cash or load cash unto your phone	Commercial manager Case A Owner manager Case C
Critical mass	There is a high level of critical mass among our network of customers all our customers are using the mobile payment platforms. Many customers are already using the mobile payment, so it was prudent for our company to meet the customers by adopting the same. Mobile payment is readily acceptable because their agents are all over the country, including villages. It is easy to load cash into your wallet and receive payments.	CEO Case B Commercial Manager Case A Owner Manager case C
COVID 19 pandemic		
2. Prevailing Payment culture New normal (customer readiness)	Looking at mobile payment, it has come to stay and is the order of the day. A lot more customers are paying using mobile payment, especially for our delivery side. People are changing the way they make payments. Most people are using their mobile payment, and we adopted it to embrace the new order.	Finance Director Case A Commercial manager case A Office assistant Case C
Third-party payment support		
Multi-currency	The service enables me to import products from outside Ghana without changing my money into dollars or paying extra charges.	Owner-manager case C
3. Regulative factors		
Government legislation	I know the telecom companies work in collaboration with the banks; therefore, it is safe.	Commercial manager Case C
Inter-operability		
Operational accreditation	The mobile payment companies do not operate without a licence from the government, and that makes them credible	Owner manager case C
4.Competitive pressure Usage from other firms changing customer preference	We are in a community where virtually all companies use the technology. Therefore, if a company refuses to take mobile payments, the customer will go to another company that will take mobile payments. There is a lot of market opportunity in adopting mobile payment. We don't want to be left behind, as mobile payment is gaining ground in our fashion delivery industry.	Commercial Manager Case A

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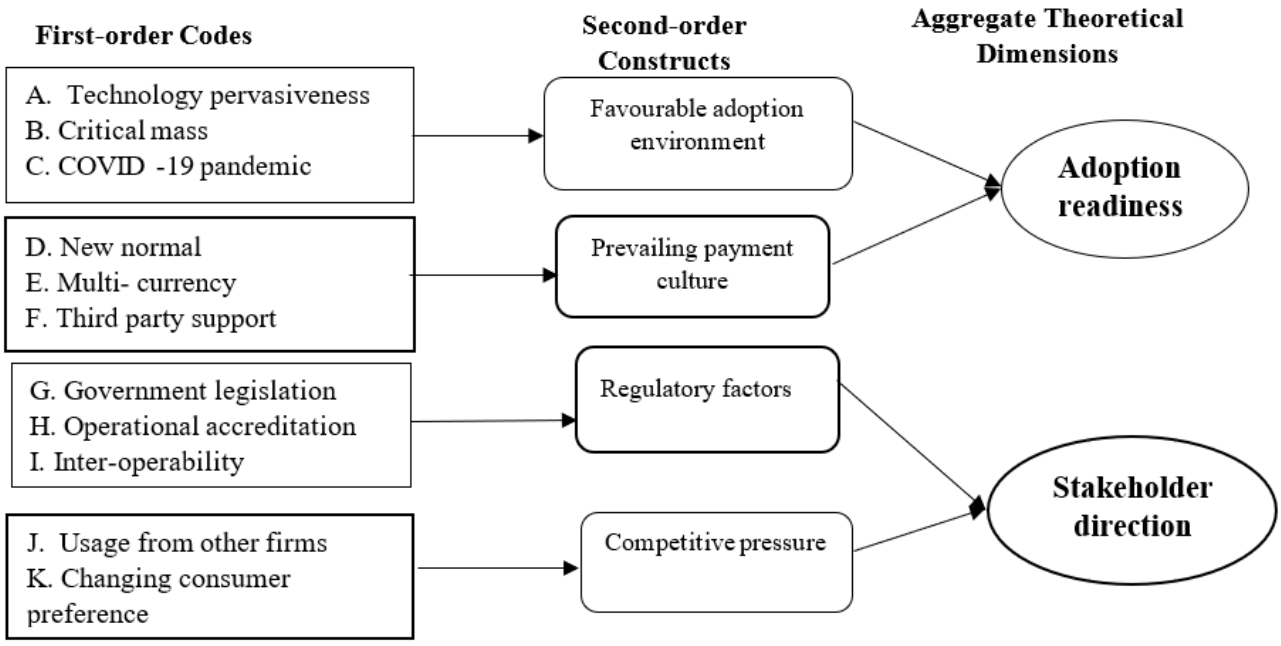


Figure 9.6 Typology of Enabling Conditions of Mobile Payment Platforms Affordance Perception from a Developing Country Context

Table 9. 11 Cross-case Analysis of Enabling, Stimulate and Release Conditions for Affordance Perception and Actualisation

Contextual conditions	Enabling conditions for affordance perception	Stimulating conditions for affordance actualisation	Releasing conditions for affordance or constraints
Sky Drinks Company Limited	COVID -19 pandemic Government legislation Third-party support Changing consumer preference	Market expansion Business model support Revenue generation Pandemic risk mitigation Corporate image	Perceived benefit, Potential benefit Technology capability
Pelinam Marketing Solutions	Technology pervasiveness Critical mass New normal Third-party support COVID -19 pandemic	Market expansion Business model support Revenue generation Pandemic risk mitigation	Perceived benefit, Potential benefit Technology capability
Albrandz Company Limited	Government legislation Inter-operability Changing consumer preference Multi-currency Third-party support COVID -19 pandemic	Market expansion Business model support Revenue generation Pandemic risk mitigation	Perceived benefit, Potential benefit Technology capability

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Distributor 1	X	X	X
Distributor 2	X	X	X
Distributor 3	COVID -19 pandemic	X	X

Source: Author's construct

9.5.1.1 Adoption readiness

In reference to Figure 9.6 and evidence from Table 9.10, the Adoption readiness factors identified by the study as enablers consist of a favourable adoption environment and prevailing payment culture. First, the Favourable adoption environment; the study identified mobile payment pervasiveness, critical mass and digitalisation uptake from COVID-19 pandemic as constituting a favourable adoption environment. The pervasiveness of technology related to the fast-evolving use of mobile payment in Ghana is progressively becoming common in Ghanaian society. The tremendous penetration of mobile phones and mobile money services' phenomenal progress in Ghana is significant for both merchants and consumers (see Heeks, 2017; Tuwei & Tully, 2017). The study identified from the cross-case analysis that all the case studies saw mobile payments as gradually influencing the business landscape and consumers' lives. It was evident from the research that all three merchant firms have built an economy of new businesses around mobile payment proliferation. Secondly, the study identified the critical mass as one of the enabling conditions influencing merchant interaction with mobile payment platforms. Earlier studies such as Mallat and Tuunainen (2008) and Teo et al. (2005) reported that a lack of critical mass was a high-ranked barrier to merchant adoption of the mobile payment platforms.

Nevertheless, the increasing use of mobile payment in Ghana and a broader user base of consumers are putting pressure on merchants to adopt the payment innovation. The mobile payment market, as a multi-sided one, needs a balancing focus on both the consumer and the merchant (Ramos-de-Luna et al., 2019; Ondrus et al., 2015; Slade et al., 2015). Therefore, the consumer's increasing use of mobile payments served as a great incentive for

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the merchant to interact with mobile payment platforms, confirming the findings that critical mass can serve as an environmental enabler for merchant interaction with mobile payment platforms.

Again, COVID-19 as an enabler consisted of the pandemic, fear and the risk of an individual contracting the virus and spreading it. The fear of contracting the disease changed consumers' attitudes toward the use of digital payments. As merchants and consumers sought more secure means for their business transactions, mobile payments in Ghana were perceived as a useful technology to prevent COVID-19 infection and spread. The fear appeal and the risk of contracting COVID-19 served as an influencing mechanism for merchants' frequent interaction with mobile payment platforms for affordance perception. This was the case for all three merchants. Previous mobile payment literature suggests that the basic risk concern that influences individuals' intention to use mobile payment is "privacy and security" risk (Abrahão et al., 2016; El Haddad et al., 2018; Liébana-Cabanillas et al., 2020; Sinha et al., 2019). This finding demonstrates that risk relating to disease can influence the merchant's interaction with mobile payment platforms. The finding is comparable to recent studies on mobile payments and COVID-19. For example, Koch et al. (2020) reported from Indonesia that COVID-19 infection influenced consumers' and merchants' frequent interaction with mobile payment platforms for fear of catching the virus. Again, Revathy and Balaji (2020) found that Indian customers used e-wallets during the COVID-19 outbreak and that the COVID-19 pandemic directly influenced consumers' behavioural intentions regarding online clothing purchases. These findings point to the fact that risk regarding disease can act as an environmental factor that can influence the merchant interaction with mobile payment for affordance perception leading to the next finding:

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Finding 15a: *Adoption readiness, such as the availability of the technology, critical mass and COVID 19 pandemic, served as enablers to merchant interaction with mobile payment platforms.*

9.5.1.2 Prevailing payment culture

The prevailing payment culture relates to mobile payment as the order of the day where many customers and potential customers are on mobile payment. The data shows that the merchant believes that mobile payments have become easy to load as cash on an individual's wallet, making it easy and useful for all payment transactions. The merchant sees mobile payment with its multi-currency features as appropriate and beneficial for online payment transactions. The change in prevailing culture from cash to mobile payment has made mobile payment relevant. The merchants confirmed in all three cases that it is impossible to ignore mobile payments entirely in their business transactions because mobile payment is gradually becoming the new normal. This confirms recent findings by Liébana-Cabanillas et al. (2020) that the world's population is transiting to a cashless society, and over 66% of the world's population has access to at least one mobile phone terminal. This is creating a new payment culture towards mobile phones where the latter is being used as a tool for purchasing and making payments.

The above discussion proves that the revolutionary expansion of mobile phone usage in payment transactions across the country and beyond enables critical transformation in merchant businesses (Hossain et al., 2020; Yin et al., 2019). It also provides them with solutions and avenues to leapfrog the poor non-existing payment infrastructure (Boateng, 2016; Boateng et al., 2019). For example, mobile payment with its multi-currency wallet offers an opportunity for case C to import products and pay using mobile payments without changing the money into foreign currency. But for mobile payment platforms, the small firm would have been locked out by several logistical factors, including technicalities, cost and

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regulations. This affirms a publication in Harvard Business Review in 2016, that, a proper positioning of mobile payments in developing countries would drive most organisational changes in the coming decade (Tapscott & Tapscott, 2016).

The analysis further demonstrates that the merchant acknowledges that consumer adoption and the extensive diffusion of mobile payment acted as a critical driver for business success. Again, all the case firms commented that mobile payments have gradually matured as a means for payment transactions and are leveraging mobile payment to their benefit. More so, there is evidence from the analysis that merchants are adopting mobile payment because of technological growth, especially the advancement of and reduction in the barriers to the use of mobile technologies (see de Luna et al., 2019). The managers of the case firms believe that mobile payment is gradually becoming the means of payment and do not want their businesses to be left out, leading to the next finding:

Finding 15b*: Adoption readiness, such as the changing behaviour of customers in spending cash through mobile payment, creates the anticipation of mobile payments as the next big thing in payment transactions, enticing merchants to interact with mobile payments platforms.*

9.5.1.3 Stakeholder directions

From the analysis, stakeholder direction as an enabler of merchant interaction with mobile payment platforms consists of regulative factors and competitive pressure. First, government legislation and regulatory openness, where telecommunication companies (Telcos) are regulated by two state institutions, the Bank of Ghana and The National Communications Authority, seem to be good. From the data, it was evident that all the merchant firms believed there was a need for sufficient and adequate regulation to ensure

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that mobile payment platforms are secure to avoid being compromised and abused by service providers. The opportunity for interoperability and legislation allowing merchants to pay for statutory payments with mobile payment options was seen as influencing interaction.

Finally, company registration is related to due diligence attached to merchant account opening with Telcos. The data shows that merchants felt safe and comfortable, for example, when regulatory requirements such as Know Your Customer gave the merchant firms sufficient certainty around mobile payments, which afforded the merchants the confidence to invest their necessary resources. This finding is evident in earlier studies that government regulations play a fundamental environmental role that assures mobile payment security, enabling a merchant to interact with mobile payment platforms (see Asiedu et al., 2019). Again, as institutional theory put forward, no organisation decisions are made of free will; external forces can shape or constrain their decision (DiMaggio & Powell, 1983). Literature has continually identified regulations, industry norms and standards, and peer organisational mimetic influencers as external forces influencing organisational decisions. ITs decision is no exception, as researchers have consistently found IT decision to be affected by the organisational environment (Liang et al., 2007; Du, 2018; Zhou et al., 2010). Merchants believe that the government regulation in Ghana is helping to stabilise and protect against the risk inherent in the mobile payment environment, influencing the firm's interaction with mobile payments. This leads to the subsequent finding:

Finding 16 a*: The regulative openness served as an enabling condition where merchants feel protected against the inherent risk in the mobile payment environment.*

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9.5.1.4 Competitive pressure

Regarding the merchants, the competitive pressure was mainly the institutional pressure of seeing their competitors adopt mobile payment platforms, which influenced their decision to interact with the mobile payment platforms. Du (2018) suggested that merchants are more likely to start providing mobile payment services when strong institutional pressures exist. For example, Case C, Albrandz, adopted mobile payments because industry and spatial competitors had adopted it. To avoid being left out, the firm decided to adopt mobile payment. On the other hand, Sky Drinks did not want to lose customers to competitors who had already adopted mobile payments. Hence, they adopted mobile payment to meet the mobile payment demands of their customers. It is evident in the literature that actions taken by other organisations and stakeholders within the same industry gradually exert pressure on other companies in the same industry that may not have yet followed similar actions. The data showed that institutional pressure shaped two merchant firms (The Sky Drinks Company and Albrandz Fashion Company) in two ways. First, mobile payment was highly adopted by consumers (Deloitte, 2011; Niederkorn et al., 2015; PwC, 2016). As customers gradually legitimized the practices of mobile payments, it exerted institutional pressures on the merchants to interact with mobile payment platforms (Magnier-Watanabe, 2014). Secondly, the institutional forces within the sales and distribution industry rely on mobile payment. This enhances their new way of doing business in many ways, making mobile payments attractive to merchants (Liu et al., 2015). This evidence confirms the findings of existing empirical studies on institutional theory in different contexts that early adopters of technology innovation do so to gain efficiency while those who follow do so to gain acceptance and legitimacy from their peers and stakeholders (see Westphal et al., 1997; Westphal & Zajac, 1993). Again, institutional pressures have been identified by many studies as a factor influencing organisations' decision to adopt technological innovations (Teo et al., 2003; Li & Wang, 2018).

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Nevertheless, with case B, the distribution network did not feel competitive pressure to adopt mobile payments. Its business model can explain why competitive pressure did not influence the company to adopt mobile payment. Its customers are predefined and based on network and incentive marketing; therefore, the company deals with specific customers at a time. It can be concluded from the data that the particular aspects of competition that influenced merchants A and C to adopt mobile payment platforms include the intensity of the competition, spatial proximity and organisational proximity to competitors and customer legitimisation of mobile payments (see Yang et al., 2015). This points to the fact that competition can exert external pressure on the merchant and act as an enabler to merchant interaction with mobile payment platforms, leading to the subsequent finding:

Finding 16b*: Competition in the merchant environment exerts external pressure that enables a merchant to interact with mobile payment to meet industry expectations.*

Table 9. 12 Summary of Enabling Conditions of Mobile Payment Platforms Affordance Perception from A Developing Country Context

Contextual environmental conditions that enable affordance perception	**Underpinning Factors**
Adoption readiness	Favourable adoption environment • Technology pervasiveness • Critical mass • COVID -19 pandemic Prevailing payment culture • New normal • Multi-currency • Third-party support
Stakeholder direction	Regulatory factors • Government legislation • Operational accreditation • Inter-operability Competitive pressure • Usage from other firms • Changing consumer preference

Source: Author's construct

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9.5.2 Stimulating Conditions

Stimulating conditions are the usual organisational arrangements that make it easier or difficult to act (Bauer, 2016). The data analysis with reference to Table 9.13 and Figure 9.6, as a second-order construct, identified platform potentials as a key factor that motivated merchant firms to interact with mobile payment platforms. This key condition consists of (1) market expansion, (2) business model support, (3) revenue generation, (4) enhancing corporate image and COVID 19 Pandemic.

Table 9. 13 Stimulating Conditions

Second-Order Construct and First-order codes	Illustrative Quotations	Relative Stakeholder Interviewed
1. Market expansion a. Customer request	Our customers have an increasing request to pay using mobile payment so we know that it can expand our market. Our consumers are demanding new means of payment for our products. As we are online, using mobile payment will help grow our business. Our customers have been requesting it, but mobile payment is expanding our market.	CEO case A Sales and marketing manager Owner manager
b. Market opportunity	We see a lot of opportunities for mobile payments since many of our customers now shop online, and the most convenient way to pay is via mobile payment. Because of the innovative sales and marketing approach we use, mobile payments are the solution for our online sales because it is the most visible in Ghana. Using mobile payments creates new sales opportunities for our business. Our sales through mobile payment are surprising. Mobile payment is expanding our reach to customers outside Accra.	General manager Case A Owner manager Case C Commercial manager Case A Accounts manager Case A
c. Customer readiness.	The technology is available to us as a company and is also available to our customers. The customers already use the technology for other things. Mobile payment is all over the place, so I think we are even late using the mobile payment for our business.	CEO case B Sales Assistant Case C Commercial Manager Case A
2. Support for Business model d. online sales	The company uses the digital space, Facebook, Instagram and WhatsApp, to sell some of its products. Using these virtual marketing tools requires online payment; hence mobile payment was seen by the firm as the most suitable payment option for our business operations.	All cases

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Second-Order Construct and First-order codes	Illustrative Quotations	Relative Stakeholder Interviewed
	Our company has moved away from brick-and-mortar business using only online ordering and payment internationally. The online ordering and delivery model of our business requires mobile payment.	CEO Case B General manager Case A
e. Digital marketing	We use other means to sell. We don't see our customers, and we don't interface with them. Thus, they pay us through mobile payment.	CEO
f. Target market	We mainly deal with middle-class customers who appreciate that time is money, convenience, speed and proximity. They are also knowledgeable and experienced with using technology and mostly pay using mobile payment.	Commercial manager Case A
5. Revenue generation n. Impulse sales	Increase impulse buying.	CEO
o. Reducing cost of operations	We can close sales from everywhere, reducing our cost of operations. It is a cost-effective alternative. I don't have a shop or a warehouse, but I am selling all over Ghana without paying rent charges or moving from one pace to the other. Mobile payment facilitates sales of our products and services to customers at any time and from different locations	Sales and marketing manager case C, Sales operative 1 Case C Stockist 1 Case B Owner manager case B
p. More customer contact points	We can sell to different segments of the market. It is enabling regional sales.	Commercial manager Case A
6. Corporate image q. Legitimate operation	Our operations feel legitimate as many of our competitors have adopted mobile payment.	owner-manager Case C
r. Positive image	Mobile payment gives our company a positive reputation. As one that moves with the trends Customers consider the organisation as going along with the trends	Commercial manager Case A General Manager Case A
s. Meeting customer expectation	Customers have been expecting us to adopt this payment for a long time as not including it has inconvenienced them.	Financial Manager Case A

Source: Author's construct

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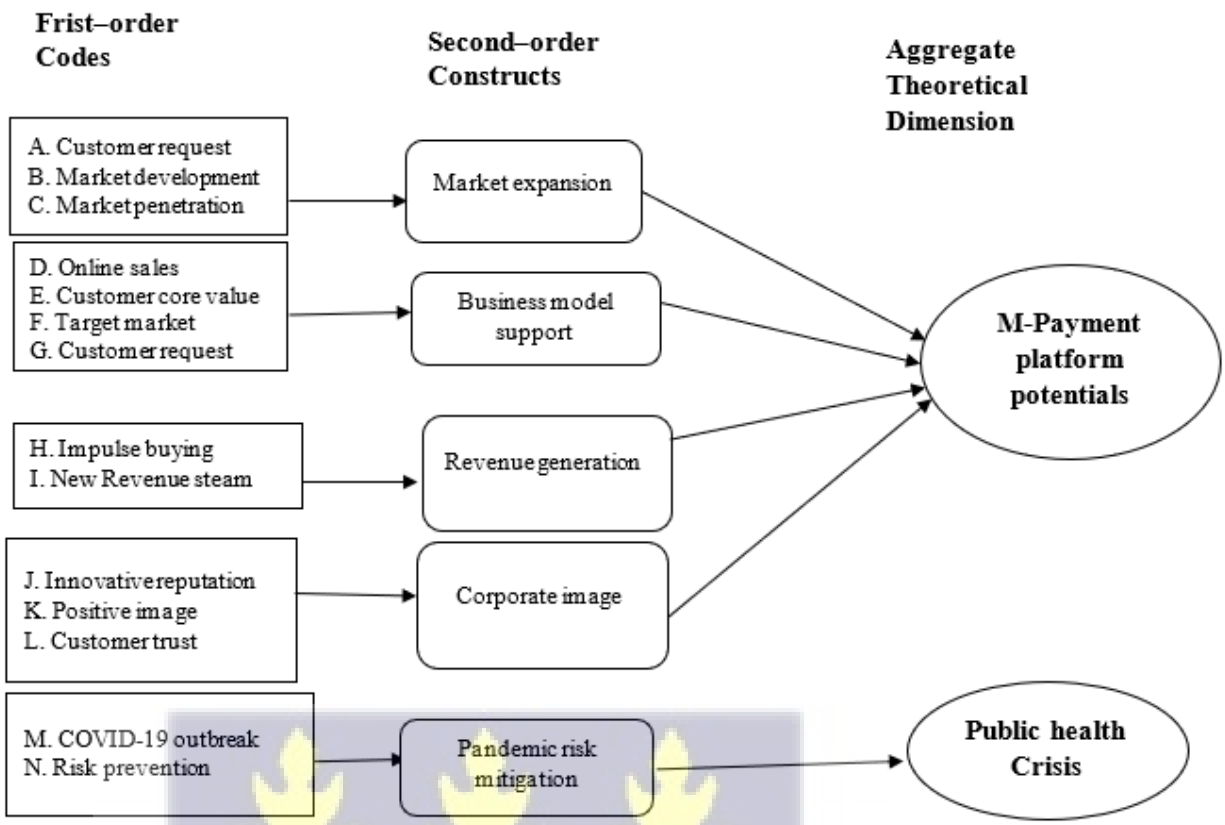


Figure 9.7 Typology of Stimulating Conditions for Mobile Payment Affordance Actualisation from a Developing Country Context

9.5.2.1 Market expansion

Market expansion is the stimulating conditions that make it easy for the merchant to act and interact with mobile payment platforms. The market expansion relates to customers requesting merchants to adopt mobile payment platforms, the readiness of the customer to use mobile payment platforms, and the market opportunity available to mobile payment platforms. These facilitated and created an impression among the merchants that their interaction with the mobile payment platforms would generate market expansion. For instance, in the case of Sky Drinks, their refusal to use mobile payment platforms reduced their ad-hock sales, but adoption led to a significant increase in their sales.

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Similarly, the owner-manager in the fashion firm, Albrandz, had a constant request from customers wanting to pay through mobile payments. The company expended so much into using other social media outlets to sell their brands with mobile payments. Again, with case C, the sales distribution network could act because of mobile payment's opportunities to support their market expansion by developing a new business model.

The findings indicated that the comfort levels for the consumer to actually use mobile payments platforms increasingly high usage of these platforms served as a stimulant for merchants to actualise mobile payment platform affordance to expand their market. The data demonstrated that the merchant's ability to deliver customer value and expand their market made it much easier for the merchant firms to adopt and actualise mobile payment platform affordances (see Iman, 2018). Researchers like Dahlberg et al. (2015) and Evans and Pirchio (2014) have argued that a successful deployment of mobile payments by merchants depends on customer demands, an enabling business environment, and the specific forms of value merchants strive to create with mobile payments. Again, the literature demonstrates that mobile payment represents a specific case of multi-sided markets, where the whole market's functioning relies on the interaction between several players – at least two, i.e. merchants and consumers on a common platform. As a typical multi-side market, it demands that as customers are willing to adopt mobile payment, it stimulates the merchant to interact and adopt the payment platforms, creating a huge market potential to make a business case for the merchant to interact with the mobile payment platforms. This leads to the next finding:

Finding 20A: *The merchant orientation of customer proliferation in mobile payment platforms creates a suitable ground for merchant interaction with mobile payments platforms.*

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Finding 20B*:* *The merchant orientation of the business and their objective in delivering customer value make it easier for a merchant to interact with the mobile payment platforms.*

9.5.2.2 Support for Business Model

Selling online, digital marketing, and target customers, constituted the support for merchant business models. This was the second stimulating condition that facilitated and made it easy for the merchant to interact with the mobile payment platforms. It was identified in the data that merchants who operated part of their business online and adopted digital marketing needed a convenient payment model to support their online and digital marketing sales; this is also evident in literature (see Souiden et al., 2019; Petrova & Wang, 2013). For example, case B and Case C, who operated, aspects of their businesses online and used digital marketing tools, were highly motivated to interact with mobile payment as part of the strategy to support their online business model. However, Sky Drink, case A, which operated a brick-and-mortar distribution network, was not so much interested in adopting mobile payment initially but was made to adopt it because the target customers, mostly middle-class consumers, were calling for mobile payment to be introduced in the merchant firm. The customers' needs or the middle-class consumers who appreciate the convenience and do ubiquitous purchases facilitated and made it easy for the merchant to act. After the initial adoption, the merchant took advantage of mobile payment platforms to expand their business online to satisfy their target customers. The adoption led to tremendous evolution in Case A's business model, allowing for different functionalities and multiple services in the merchant firm. Case A's observation confirms earlier studies that the digital environment pushes merchants to redefine their business models (see, Souiden et al., 2019; Pantano & Priporas, 2016). The discussion so far reinforces the understanding that merchants' kind of business model can serve as a stimulating condition for the merchant to interact with the

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payment platforms. This finding is consistent with similar studies that the business model of the merchant serves as a facilitating condition that makes it easier for merchants to interact with mobile payment platforms (Petrova & Wang, 2013; Souiden et al., 2019; Pantano & Priporas, 2016), leading to our next finding:

Finding 21*: The merchant's business model can serve as a stimulating condition for the merchant to interact with the mobile payment platforms or constrain the merchant from acting.*

9.5.2.3 Revenue generation

The third factor identified as a stimulating condition was the revenue-generating advantage of the mobile payment platforms. The data identified impulse buying, expanded customer contact points and reduced operation costs, facilitating merchant interaction with mobile payment platforms. The possibility of all the three merchant firms selling more of their products through impulse buying made it easier for them to act. Similarly, the merchant believed that the growing mobile payment culture among consumers and the gradual attachment of consumers to their mobile phones create consumers' willingness to pay for products and services using mobile payment platforms. This influenced the merchant to adopt mobile payment to benefit from several customers who had adopted mobile payment to expand their customer base for revenue generation. This finding is similar to several literature findings on the potential revenue-generating appeal of mobile payment to the merchant (See Mallat & Tuunainen, 2008; Pantano & Priporas, 2016; Munyegera & Matsumoto, 2016). This was the case for Sky Drinks, which started supplying distributors and customers in another country region through mobile payment. The firm confirmed a phenomenal increase in sales through mobile payment. The same was the case for Albrandz,

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which operated an online fashion shop. The company expanded their customer contact points using social media marketing and digital sales.

Finally, the merchant operations' perceived cost reduction facilitated the merchant's willingness to interact with mobile payment. For example, with Case B, the net sales and distribution network reduced operational costs by 15% when the merchant adopted mobile payment platforms. Again, the Sky Drinks Company reduced their operating costs by about 9%. That of Case C was not quantified because the information was not available. Yet, the owner-manager confirmed that he no longer goes round to collect payments from his debtors. He sits in the comfort of his office to transact all his businesses. All respondents believed that mobile payment, as a multi-side platform, allows the merchant to integrate with their customers as active value creation partners. The discussions so far have led to our next set of findings:

Finding 22A*: Perceived revenue generation for the merchant through the convenience perception of the customer's willingness to pay served as stimulating conditions for the merchants.*

Finding: 22B*: The reality of mobile payment platforms to generate extra revenue for the merchant firm makes it easier for the merchant to interact with the mobile payment platforms to actualise affordance.*

Finding 22C*: The minimal financial cost and affordability in setting up mobile payments infrastructure to perform financial transactions equal to other digital payment channels served as a stimulating condition for the merchant to interact with mobile payment platforms.*

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9.5.2.4 Image enhancing factors

The fourth stimulating condition that made it easy for the merchant firms to interact with the mobile payment platforms is image-enhancing factors, consisting of legitimacy, positive image and meeting customer expectations. The legitimacy relates to customers believing that merchants understand the trends and are willing to meet customer demands. For example, it was evident in the data that customers of Sky Drink (case 'A') thought it was unacceptable that despite the widespread adoption of mobile payment, the company was still not accepting mobile payments from them and branded the company as unserious. The merchant's objective of changing customer negative perceptions made it easier for merchants to interact and adopt mobile payment platforms.

Again, the positive image that merchants understand the trends and are willing to meet customer demands improved their customer trust and contributed to their firm reputation (see Dahlberg et al., 2015; Evans & Pirchio, 2015). For instance, in Case B, the distribution and network marketing firm, customers could always pay for products using mobile payments and expect delivery of their products in good condition, assured customers hassle-free transactions, which significantly improved their company image. The data suggests that the merchants' perception of how consumers and stakeholders perceived their social standing with innovation enhanced the firm's image. Therefore, it facilitated merchants to interact with mobile payment to be seen as a company in an elitist standing for moving with the trends. This finding echoes an earlier finding by Vashistha, Anderson, and Mare (2019) that merchants perceived that interacting with mobile payments platforms makes them "look modern and tech-savvy" and will also help them capture and retain the business of those customers who prefer to use mobile payments leading to the next finding:

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Finding 23*: The customer's perception of the merchant firm as reputable and can deliver mobile payment services serve as a positive, stimulating condition promoting merchant interaction with the technology.*

9.5.2.5 Public health crisis

The fifth stimulating condition identified in the study is the COVID-19 pandemic itself and the fear and risk of a sales team contracting the virus and spreading it within the organisation. Again, the digitalisation uptake from COVID-19 pandemic and the merchant's quest in seeking more secure means of business transactions to prevent COVID-19 infection and spread facilitated merchant interaction for action possibility to actualise affordance of mobile payment platforms (see Sreelakshmi & Prathap, 2020; Pandey & Pal, 2020; Lee et al., 2019). From the analysis, it was evident that all three case firms sought to reduce sales decline because of COVID-19 by leveraging mobile payment platforms and online sales as the new normal for business survival (see WEF, 2020). Mobile payment used by merchants as a cushion of the short-run effects of the COVID-19 on their businesses released a condition for mobile payment affordance actualisation leading to the subsequent finding:

Finding 24*: The risk of COVID 19 infection and digitalisation uptake from COVID-19 stimulated a condition for merchant mobile payment platforms interaction for affordance actualisation.*

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Table 9. 14 Summary of Stimulating Conditions of Mobile Payment Platforms Affordance Actualisation from a Developing Country Context

Contextual environmental conditions that stimulate affordance actualisation	Underpinning Factors
M-Payment platforms potentials	Market expansion • Customer request • Market development • Market penetration Business model support • Online sales • Customer core value • Target market • Customer request Revenue generation • Impulse buying • New Revenue steam Corporate image • Innovative reputation • Positive image • Customer trust
Public health Crisis	Pandemic risk mitigation • COVID-19 outbreak • Risk prevention

Source: Author's construct

9.5.3 Releasing Conditions

Releasing conditions usually are specific decisions that could release, constrain, or enable the merchant's decision to interact with the mobile payment platforms. For example, internal resources (strategy, resources and capabilities) evaluation can prevent the firms from accessing the available opportunities and digital options (Rolland et al., 2018). Again, considering the number of merchants in the network, the network externalities can be a constraining factor for the merchant in perceiving and actualising the mobile payment platform affordance (Parmentier & Gandia, 2017; Keen & Williams, 2013). Nevertheless, these two conditions were not explicitly found in the study as constituting a releasing condition with reference to Figure 9.4. The primary releasing condition identified in the

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study was the merchant's quest for a benefit, which relates to what the merchant seeks to benefit from interacting with the mobile payment platforms. The data was evident that merchants' pursuit of benefit, as a releasing condition, was based on the perceived benefit, potential benefit and technology capability to provide the needed benefit that the merchant seeks. For example, Case C could import products and pay with mobile payments without intermediaries. Again, Case B could bring all its partners on an enterprise system to make their transactions through mobile payment. As the merchant's pursuit, this benefit-seeking is confirmed in earlier studies that merchants will interact with the mobile payment platforms when they see relevant value creation opportunities (see Guo & Bouwman, 2016).

Finding 24*: The above discussions inform the finding that the overall benefit that the merchant seeks to achieve with mobile payment platform serves as a releasing condition that constrains or enables affordance actualisation.*

These findings affirm that the contextual environment of the merchants interviewed served as enabling conditions. However, no evidence of those same conditions served as constraining conditions that could prevent the merchant from leveraging mobile payment affordance. This confirms mobile payment scholars' assertions that mobile payment is a viable strategy that could help transform businesses (see Guo & Bouwman, 2016; Bygstad et al., 2015; Majchrzak & Markus, 2013). As such, merchants do not consider the constraints inherent in their environment but instead do everything possible to actualise its affordance. Therefore, proposition four states that:

Merchant firms' contextual factors can act as enabling, releasing and stimulating conditions to influence mobile payments platform's affordance actualisation by merchants is fully supported by the study's findings.

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Table 9. 15 Summary of Releasing Conditions of Mobile Payment Platforms Affordance Actualisation from A Developing Country Context

Contextual environmental conditions that could release or constrain affordance actualisation	Underpinning Factors
M-Payment platforms potentials could release, constrain, or enable affordance	M-Payment platforms potentials • Perceived benefit, • Potential benefit • Technology capability

Source: Author's construct

A summary of all the findings for each research questions are found in Appendix F.

9.6 Chapter Summary

The study carried out a cross-case analysis of how merchants carried out adoption decisions of mobile payment platforms. The chapter also sought to understand the affordances and constraints of how merchants actualise the mobile payment platforms' affordances. Finally, the beneficial outcomes that the merchant adoption of mobile payment presents to the merchant firm. From the cross-case analysis, it was evident that merchant evaluation mechanisms in choosing mobile payment were influenced by multiple decision-making processes pointing to the fact that the merchant's decision to adopt mobile payment could be based on rational choice, strategic choice or experimental choice.

It was also evident in the cross-case analysis that the merchant's willingness to actualise mobile payment platforms' affordances is influenced by certain factors such as (1) awareness of the ability of the potential of mobile payment platforms to support organisational transformation, (2) willingness to process the data and (3) skill to manipulate and understand the system. From the analysis, among the three cases, the study identified

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five unique affordances the merchant obtained from interacting with mobile payment platforms. Among them are (1) capturing and archiving digital data, (2) facilitating business development, (3) performance monitoring and (4) detecting fraud. Nevertheless, the merchant firms without much expertise derived minimal affordance from the mobile payment platforms or no affordance

Moreover, it was evident that though merchants leverage mobile payment affordances, there were constraints that served as stumbling blocks that the merchants potentially encountered while interacting with the payment platforms. The study identified that all the three merchants experienced constraints such as value chain deficiencies and technological and regulatory challenges. The study further identified that the affordance actualisation of mobile payment platforms was influenced by Adoption readiness and stakeholder directions as prerequisite environmental factors that influence affordance perception. The study also identified organisational arrangements such as (1) market expansion, (2) business model support, (3) revenue generation (4) corporate image-enhancing as stimulating conditions that make it easier or difficult for the merchant to leverage mobile payment affordance. Still, on the environmental condition, it was identified from the studies that the merchant's quest for the benefit, or the potential benefit and the capability of the technology to provide the needed benefit is that which made merchants seek, served as a releasing condition for merchant affordance actualisation.

Finally, the actualisation outcome was also analysed to understand the forms of benefit (outcomes) obtained by merchants for actualising mobile payment platforms. The analysis identified five broad benefits obtained from mobile payment platforms as outcomes. Among them are (1) strategic benefits, (2) operational benefits, (3) transformational benefits, (4) managerial benefits and (5) organisational benefits.

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Table 9.16 Research Questions, Confirmed Propositions, New Findings and Lessons

Research Questions and Propositions	Confirmed Propositions	New Findings/ Lessons
RQ1*: What are the mobile payment platforms' adoption decision pathways of merchants in Ghana and the strategic and non-strategic influencing factors besides the risk/utility trade-off?* P1: Merchants' decision to adopt mobile payment platform may be influenced by risk/ utility Trade-off or cost benefit analysis. P2: Merchant decision to adopt mobile payment may be influence by strategy.	The first finding confirms the proposition1, that the merchant's decision to maximise utility from mobile payment platforms have concerns regarding privacy and security and compares perceived benefits and the potential perceived risk. Finding two confirms Proposition 2 that the merchants' decision to adopt mobile payment could be influenced by strategy and multiple benefits.	The lesson here is that though the merchant performs cost benefit analysis, invariably merchants are prepared to disclose organisational information and ignore the risk or cost whenever the benefit outweighs the cost or risk. This demonstrate that benefit perception is more important to the merchant than the risk. There is also a significant lesson that corporate organisation with well-structured management teams tend to evaluate and predict the possible economic outcomes, and consider security and privacy protection, by identifying, categorising, and assessing different scenarios, while the small-scale owner manager's organisation only experimentally adopts mobile payment without evaluating the risk and security implications. Instead, they use anecdotal evidence based on the merchant's perception of mobile payment's benefits as a sufficient explanation for merchant adoption. There is also a new finding in the merchant pathways to adopting mobile payment platform as experimental phase where the merchant incrementally develops capabilities in adopting and using of mobile payment platform. These lessons and findings point to the understanding that mobile payment platforms' adoption decision pathways of merchants in Ghana is influenced by multiple decision-making.
RQ 2: How do mobile payment platforms afford or constrain merchants' transactions in Ghana? P3a: A goal-oriented merchant interaction with the mobile payment platform potentials (IT artifacts) may influence affordances generation. P3b: A relational involvement by the merchant firm may enables or constrain affordance of the artifact's potentials for organisational benefits.	Findings to research question two provide support for proposition 3a, which relates to the relational effect of affordance, which states that; merchant interaction with the mobile payment platforms (IT artefacts) is facilitated by expertise within the merchant firm. The merchant firm's strategic objective or goal generates affordances when the merchant undertakes an action to exploit the artefact's potential.	We learn from proposition 3a & b that affordance generation is facilitated by the merchant's interaction with the mobile payment platforms, the expertise and the merchant's strategic objective or goals to leverage the affordance. Therefore, it is important not to attribute certain achievements as having been produced independently by technology on its own, because it is the actors' actions and intelligence that shapes technologies in the ways that the actor wants It. From the study it was evident that the merchants without much expertise derived minimal affordance or no affordance from the mobile payment platform's interaction.

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	Though there were constrains merchant did well, to work around the constraints to actualise the mobile payment platform affordance. This is due to the perceived value mobile payment to the merchant. This make proposition 3b to be partially supported.	
RQ 3: What forms of outcomes (benefits) do mobile payments platforms actualisation afford merchants in Ghana? P4: Actualisation of mobile payment affordance by goal-oriented actors may influence the generation of value outcomes that may leads to interrelated organisational benefits.	The findings, for research question three support proposition 4 which states that: actualising, technology affordance of a specific technological device generates value outcomes that leads to multidimensional organisational benefits.	There is a discovery of three new conceptualisation of benefits from mobile payment platforms' affordance actualisation as transformational, managerial and organisational benefits. These finding and conceptualisation are new to mobile payment literature, not much light is shared in this area. Existing literature on mobile payment benefits has focused on such areas as convenience, ubiquity, immediacy, operational turnaround time, productivity gains and competitive advantage. Therefore, this is a new knowledge and a contribution to mobile payment benefit conceptualisation.
RQ4: What enabling, stimulating, and releasing conditions affect the benefits afforded by mobile payment platforms to merchants in Ghana? P5a: Contextual factors in the merchant environment may act as enabling or constraining releasing conditions to influence a decision to actualise mobile payments affordance. P5b: Perceived COVID-19 risk is an environmental factor that could serve as enabling or stimulating condition to influence merchant mobile payment platform affordance actualisation.	Proposition 5 is confirmed as it was evident in the findings that Merchant firms' contextual factors can act as enabling, releasing and stimulating conditions to influence mobile payments platform's affordance actualisation. Nevertheless same factors were not see seen as constraining, because merchants do not consider the constraints inherent in their environment but instead do everything possible to actualise an affordance.	It is also evident and a lesson that despite the environmental factors that could serve as enabling, stimulating conditions for affordance actualisation, it is the merchant's quest for the benefit, or the potential benefits and the capability of the technology to provide the needed benefits is that which serve as a releasing condition for merchant affordance actualisation.

Source: Author's construct

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CHAPTER TEN

SUMMARY CONCLUSIONS, CONTRIBUTIONS AND FUTURE RESEARCH DIRECTIONS

10.1 Chapter Overview

The preceding chapter discussed and analysed the empirical evidence attained from the merchant firms that have adopted mobile payments for their business transactions in Ghana. This chapter seeks to conclude the discussions and analysis with a summary of the research and presents the study's major findings. The chapter also revisits the conceptual framework to include the new findings and outlines the contributions and implications of the study to research, practice and policy. Lastly, the chapter enumerates the study's limitations and provides directions for future research.

10.2 Research Summary and Major Findings

The research sought to understand the strategic and non-strategic factors that influence merchant decision-making to adopt mobile payment platforms aside from utility/risk trade-offs and to explain how mobile payment platforms afford or constrain benefits to merchants as they interact with mobile payment platforms. This led to the conceptualisation of a theoretical and practice-oriented framework that explains how mobile payments afford or constrain benefits to merchants. Based on the purpose of the research, four main research objectives were developed. The first objective sought to explore the strategic and non-strategic factors that influence merchant decision paths in adopting mobile payment platforms aside utility/risk trade-offs. To achieve this objective, the study employed Rational Choice Theory to understand how merchants choose mobile payments aside from cost-benefit analysis or utility/risk trade-offs. As a result, the selected case firms' decision-

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making path was explored to understand the strategic and non-strategic factors that influence their decision to adopt mobile payments in merchant firms.

The study's second objective was to understand the affordances and constraints mobile payment platforms afford merchants in their transactions as they interact with the mobile payment platforms. To achieve this objective, this study adopted Technology Affordance and Constraints Theory (see Bygstad et al., 2015). This led to a conceptualisation of a theoretical and practice-oriented framework that explains how mobile payment platforms afford or constrain benefits as the merchant interacts with the platforms. The third objective was to explore the benefits that mobile payment platforms' interaction affords merchants. To help achieve this objective, the study adopted a conceptualisation of e-commerce benefits from Boateng (2016) and a further probe of other potential benefits discovered in a mobile payment platforms context. Based on the e-commerce benefit framework outlined by Boateng (2016), the three cases were analysed to achieve research objective three. The final objective was to explore the enabling, stimulating and releasing conditions that afford or constrain mobile payments platforms' affordance perception and actualisation. The study achieved this objective by reviewing the mobile payment context that enables, stimulates and facilitates merchant interaction with the mobile payment platforms.

For the empirical investigation of the conceptual framework, three merchant firms in Ghana which have adopted mobile payments in their business transactions and are actualising mobile payment affordance were selected as case studies. The research's major findings in relation to the objectives as evidence of the empirical studies are summarised in Table 10.1, demonstrating the research questions and a summary of each finding and its corresponding objective.

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Table 10. 0-1 Summary Findings for Research Objectives

Research Objectives	Findings	Gaps Addressed	Core Contributions	Typologies Developed
1. *To describe the mobile payment platforms' adoption decision pathways of merchants in Ghana and the strategic and non-strategic influencing factors besides the risk/utility trade-off.*	1. Merchant decision to adopt mobile payment platforms is influenced by rational choice based on cost-benefit analysis. Risk does not significantly deter the merchant firm from adopting mobile payments platforms due to the perceived technology utility. 2. The merchant's decision to adopt mobile payment platforms is influenced by strategic considerations such as developing a new business model and partnership survival. 3. Merchant decision to adopt mobile payment is influenced by experimental decision where the merchant incrementally develops capabilities in adopting and using mobile payment platforms. 4. These findings for objective one suggests that the merchants' path to adopting mobile payment platforms is influenced by multiple decisions, which could be based on rational choice (cost-benefit analysis), strategic choice or experimental choice. Therefore, the study concludes on objective one that merchant decision to	This objective addressed our lack of understanding of merchant strategic and non-strategic paths to adopting mobile payment platforms aside from utility/risk trade-offs and the need to understand comprehensively the strategic and non-strategic factors that could influence merchant path to adopt mobile payment platforms (Liébana-Cabanillas, Ramos de Luna & Montoro-Ríos, 2017).	1. Hitherto non-existent in mobile payment literature, the research uncovers a new decision-making path to merchant's adoption of mobile payment platforms called experimental decision. It covers the gradual and incremental knowledge about the technology while exploring the technology's potential. Through gradual learning, the merchant develops the needed mobile payment knowledge, which is then transferred to the larger business to legitimise the technology in the merchant business. 2. In addition, these findings also contribute to the unique conceptualisation that multiple decisions influence the merchants' path to adopting mobile payment platforms. Establishing an understanding that merchant decision path to adopting mobile payment is multidimensional instead of the unidimensional factors identified by previous studies (Kauffman et al., 2015; Slade & Dwivedi, 2016).	A typology of merchant path to mobile payment platforms' adoption from a developing country context.

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	adopt mobile payment is multidimensional instead of the unidimensional factors identified by previous studies.			
2. *To explain the affordances and constraints of mobile payment platforms to merchants' transactions in Ghana.*	1. Merchant interaction with mobile payments platforms enables one primary affordance: strategic information capturing, which presents action possibilities for other secondary affordances. Actualising the strategic information affordance leads to more superior affordances such as: • Performance monitoring • New business development • Fraud detection affordance 2. Despite these affordances, however, technological deficiency and value chain shortcomings such as mobile payment platforms interoperability, e-levy policy implementation, and network connectivity, among others, constrained mobile payment platform's affordance actualisation and benefit.	This objective addresses our limited knowledge of how merchant's interaction identifies and actualises the action possibilities or affordances that accompany mobile payment platforms and their attendant constraints, which have the potential to influence the outcomes that a merchant can achieve upon the adoption of mobile payment platforms, and even the unintended consequences (De Reuver et al., 2018).	1. The empirically validated conceptual framework developed from the technology affordance and constraints theory (Figure 10.1) demonstrated. This findings contribution lies in the study's ability to explain how merchant interaction with mobile payment platforms affords or constraint benefits. As a core contribution, this finding addresses the skewness of theorisation in mobile payment research (Gannamaneni et al., 2015; Dahlberg et al., 2015). 2. The findings also contribute to how actor continues to interact with the Primary affordance of strategic information, further afford the merchant with action possibilities of possible data analytics on critical customer data, which lead to superior secondary affordances such as performance-monitoring, business development and fraud detection affordances. This finding contributes to preserving affordance as a relational concept and limit altering affordance as a	Typologies of mobile payment platforms affordances and constraints from a developing country context.

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			characteristic of the technology (Pozzi et al., 2014).	
3. *To determine the forms of benefits that mobile payment platforms afford merchants in Ghana.*	1. Mobile payment platform's affordance creates strategic benefits such as business development, new opportunities, expanded merchant markets and business model innovation. 2. Mobile payment platform's affordance creates operational benefits such as decreasing the merchant operational cost and improving operational efficiency. 3. Mobile payment platform's affordance leads to transformational benefits, such as innovative possibilities, smarter purchasing choices, processing efficiency and merchant control over resources. 4. Mobile payment platform's affordance creates managerial benefits such as harnessing organisational resources and making effective decisions. 5. Mobile payment platform's affordance enables organisational benefit, leading to organisational change (change in the payment process, real-time payment data and opportunity to learn new things).	This third objective addresses the limited knowledge of the strategic and non-strategic outcomes of actualising mobile payment affordances after adoption, specifically focusing on what outcomes occur and what goals are achieved due to the actualisation process (Pozzi et al., 2014).	1. The findings for this research objective are a sub-component of the empirically-validated conceptual framework developed from the technology affordance and constraints theory which explain how mobile payment platforms afford benefit to the merchant in Ghana. *2.* This study uncovers transformational managerial and organisational benefits as three new forms of benefit that mobile payment platforms afford merchants in Ghana. Hitherto, existing research had conceptualised operational and strategic benefits (Boateng, 2016; Boateng et al., 2014).	A typology of mobile payment affordance actualisation outcomes (benefits) from a developing country context.
4. *To determine the enabling, stimulating and releasing*	**Enabling conditions** Adoption readiness and stakeholder direction were the two key conditions that	This objective is in response to our limited understanding of the context-specific factors that could enable, stimulate and	Specifically, findings here contribute to: 1. Explaining the conditions that enable or stimulate the perception and actualisation of	Typologies of environmental factors that could enable, stimulate and

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conditions that influence the benefits afforded by mobile payment platforms to merchants in Ghana.	influenced merchants to interact with mobile payment platforms. 1. Adoption readiness factors that acted as enabling conditions relate to: a. Favourable adoption environment such as the tremendous penetration of mobile phones and mobile money service's phenomenal progress in Ghana, the critical mass and COVID 19 pandemic acted as enabling conditions. b. The prevailing payment culture relates to mobile payment as the new normal; multi-currency features and third party support also acted as enabling conditions. 2. The stakeholder direction factors that acted as enabling conditions to consist of: a. Regulatory factors such as government legislation, operational accreditation, and mobile payment interoperability. b. Competitive factors that influence merchant interaction with mobile payment platforms include usage from other	constrain specific technology in a specific context and the affordance generated from actors' interaction with technology and the need to theorise mobile payment platforms affordances, including constraints and even the un unintended consequences (Majchrzak et al., 2016, p. 267).	mobile payment platform's affordances and the related benefits accruing. 2. The contribution also fundamentally relates to the study's post-study framework explaining how mobile payment platforms afford or constrain benefits to merchants, which are also towards addressing the skewed theorisation in mobile payment research (see Reuver, Sørensen, & Basole, 2018; Gannamaneni et al., 2015; Dahlberg et al., 2015).	release affordance perception and actualisation.

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	firms and changing consumer preferences. **Stimulating Conditions** 3. Stimulating conditions that facilitate merchant affordance perception and actualisation are the payment platform's potential and public health crisis. a. Platform's potential, such as an opportunity for market expansion, support for a business model, opportunity to generate revenue and opportunity to enhance corporate image, made it easier for mobile payment platforms affordance perception and actualisation. b. Public health crisis of COVID 19 and its risk mitigation positively influenced merchant affordance perception and actualisation. **Releasing Conditions** **4.** The overall benefit that the merchant seeks to achieve with mobile payment serves as a releasing condition that constrains or enables mobile payment affordance actualisation.			

Source: Author's construct

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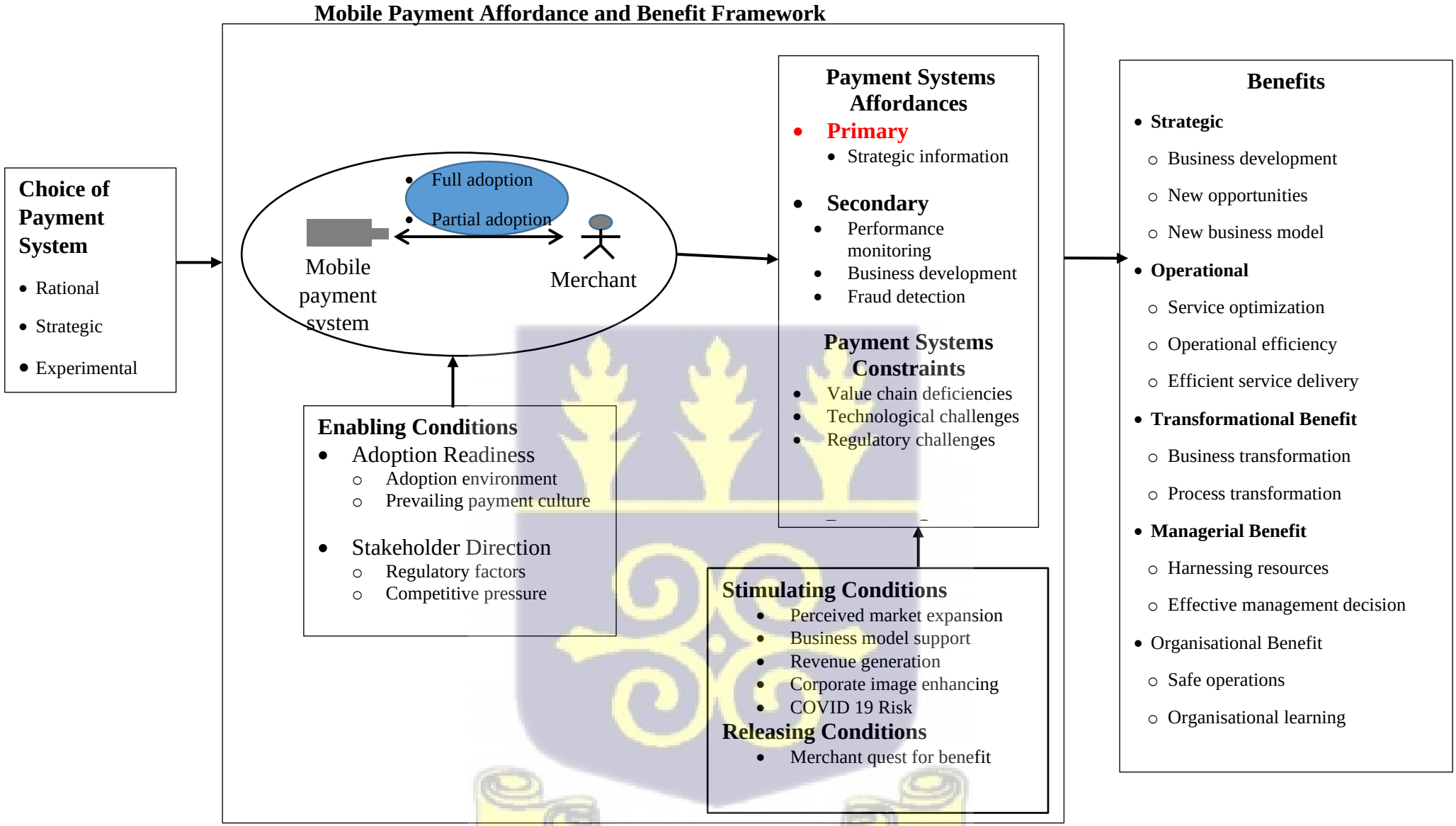


Figure 10.1 Post-study Framework of how Mobile Payments Afford or Constrain Benefits to Merchants

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10.3 Research Contributions and Implications

10.3.1 Contributions to Research

At the beginning of the study, the literature review showed a lack of research on mobile payments from the merchant perspective, even though mobile payment is growing in dominance in the contemporary business landscape. While existing studies on mobile payments have considered consumer adoption, this research is one of the few studies to address this gap by going beyond consumer adoption to focus on merchant adoption. The study contributes to strengthening the conceptualisation of mobile payment adoption to address the skewed theorisation in mobile payment research by applying rational choice theory and affordance theory. The study developed a theoretical and practice-oriented framework from the merchant perspective. This is a departure from the norm of existing studies extending behavioural models such as TAM and Diffusions of Innovation theory (DOI) to understand mobile payment adoption from consumers' and merchant perspectives. Adopting the affordance theory provides valuable lens for understanding action possibilities of a technology as an interplay between actors and their environment. This study extended the technology affordance theory by defining exact outcomes that occur and the ultimate goals that are achieved because of mobile payment platform affordance actualisation process. This is a major contribution to the development and further discus in the affordance literature since affordance theory is a novel theory for the field of mobile payments.

One core contribution of the study is uncovering a new decision-making path for merchants in adopting mobile payment called experimental decision-making. To date, previous studies in mobile payment research have conceptualised the decision-making path of merchants' adoption of mobile payments as either a rational or strategic choice (Gao & Watcher, 2017). Rational choice (e.g., risk assessment and benefit analysis reference, Fig. 9.1) is a process

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where key managers scrutinise and understand the risk implications against the benefit the company will gain in deciding to adopt mobile payment. Beyond the rational choice, merchants consider strategic gains (e.g., business development, new business model, sales clustering, provider reputation) to which mobile payment technology enables possible capability development rather than the risk associated (Singh et al., 2020). The experimental choice covers the gradual and incremental knowledge about technology while exploring the technology's potential. Through gradual learning, the merchant develops the needed mobile payment knowledge, which is then transferred to the larger business to legitimise the technology in the merchant business. This core contribution demonstrates that the merchant decision path in adopting mobile payment is a complex process. The evaluation mechanisms for merchants to choose mobile payment could be multidimensional instead of the unidimensional factors identified by previous studies (Kauffman et al., 2015).

Secondly, the study contributes to establishing and explaining the affordances of a specific technology (mobile payment platforms) in a specific context (retailing). This core contribution responds to Osch and Mendelson's (2011) call for future research to understand how actors' relationships with technology influence their activities and actions. Responding to this call enabled this study to explain the goals and outcomes achieved as actors actualise a specific technological artefact (Pozzi et al., 2014), as demonstrated in the post-study framework (Figure 10.1). This contribution helps preserves the affordance relational concept and limits altering affordance as a characteristic of the technology (Pozzi et al., 2014). More importantly, this finding is based on an empirically-validated conceptual framework developed from the technology affordance and constraints theory to understand how mobile payment platforms afford merchant's benefit. In a more specific explanation, the study's findings are related to factors that enable, stimulate, or constrain merchants' perceptions in actualising mobile

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payment platforms' affordances to leverage the ensuring benefit. The above conclusion forms the basis for the post-study framework, which explains how mobile payment platform's affordance leads to benefits as a core contribution of this study towards addressing the lack of theorisation in mobile payment research.

Finally, the study contributes to the unique conceptualisation of mobile payments benefits as strategic, operational, transformational, managerial and organisational, which hitherto did not exist in mobile payment literature. This conceptual innovation is important because it gives additional possible perspectives on how mobile payment benefits can be applied for organisational value beyond the generic view of contemporary mobile payment research. Existing literature on mobile payments does not have a perspective on how mobile payment can be leveraged for organisational benefit. This core contribution demonstrates an understanding of mobile payments linkages of an inter-organisational transaction, access to new markets, customer and supplier linkages and disintermediation for improved competitiveness.

10.3.2 Contribution to Practice

The findings contribute to practice by providing a clear understanding and appreciation to mobile payment service providers on the complex and multi-level issues that merchants have to consider when choosing mobile payment platforms aside from the risk. Mobile payment service providers need to understand and focus on the specific benefits mobile payments adoption provides merchant firms because risk mitigation and increasing trust do not replace the technology's usefulness. Again, the findings suggest that merchants, through experimental experience, gain knowledge about mobile payment as they try mobile payment technology, which increases the likelihood of the merchant adopting the same. Therefore, it is important

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for mobile payment service providers to proactively demonstrate how useful and effective their technology is and offer trials to merchants, especially the point of sales devices. This will improve merchant knowledge of the new payment methods and how they can effectively make transactions using the technology to derive optimum benefit.

Moreover, on practice, the study provides unique perspectives on how merchants could leverage mobile payment affordances beyond making and receiving payments. The study highlights how mobile payment affordance can be leveraged and harnessed to improve the merchant firm's competitiveness and effectiveness. Through an industry engagement and round table discussion, several retail merchants were taken through a series of training to prompt and educate them on the affordances they can leverage using mobile payments. The training was necessary because the data point to the fact that most merchants have not perceived mobile payment affordances beyond receiving and making payments. More importantly, the developed educational article series on affordance identified in the study was published in the Business and Financial Times newspaper, a top Ghanaian daily newspaper. The researcher expects some merchants to read the articles to appreciate the affordances that can be leveraged when using mobile payment.

A follow up on some of the merchants trained indicates that more merchants are beginning to leverage some of the affordances of mobile payment. Merchants are leveraging some of these affordances, significantly improving merchant technological capabilities. This contribution to practice is significant to business development, as echoed by Heeks (2002), who argues for studies to shift focus from adoption to impact-related studies that can improve the sustainability of these systems and businesses. Therefore, this contribution to practice implies that more education and training are required to increase merchants' knowledge of the affordance's

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merchants can leverage with respect to mobile payment adoption and use. Also, the service providers can extend the exercise using the manual training series developed on affordances to further train merchants across the country using Interactive Voice Response (IVR) to boost the optimum use of mobile payments for the needed impact on merchant businesses. Kindly refer to Appendix C for a complete report on the industry engagement.

Finally, managers of merchant firms can explore the conceptual model to understand the benefits merchants can leverage from mobile payment by understanding the triggers of mobile payment adoption and how mobile payments can impact and influence an entirely new business model. This contribution is significant because the introduction of mobile payment in the merchant firm can affect how the merchant may run, operate and compete.

10.3.3 Contribution to Policy

Implementing the Electronic Transaction Levy (E- levy) in its current form as transaction taxes imposed may hurt mobile payment progressive contribution and the expectation that mobile payment will drive growth in businesses in Ghana (Bongomin et al., 2019; Abuka, 2018). The tax is principally imposed on the amount transacted by the service user or consumer. The tax is payable at each level of intermediation in a transaction chain leading to multiple tax payments. The findings of this study indicate that merchants and consumers see the E-levy policy as a constraint which serves as a hindrance to mobile payment platforms interaction. Nevertheless, the implementation of the e-levy is expected to widen the tax net and improve government revenue. Still, the constraint perception by merchants and consumers is likely to inhibit its usage and potentially reduce the overall economic activity done using mobile payments. Consumers and merchants can learn to avoid the e-levy by using cash payments, leading to instability and negatively impacting the active agents, total registered mobile payment accounts, and total agent cash in cash-out volume. The above has vast policy

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implications on mobile payment transactions and the Ghanaian economy. For example, B&FT, a Ghanaian daily newspaper, reported in May 2022 that Telcos lost 300,000 mobile money subscribers in April 2022. To avoid the tendency of the unsustainability of the e-levy and the gains of mobile payments. Policymakers need to ensure appropriate interventions to limit a decline in mobile payment transactions and prevent the tendency of eroding revenues over time. The government needs to have an alternative policy source that would not create policy inconsistencies, to prevent merchants and consumers from not using the tax-eligible electronic services to make the e-levy and mobile payments sustainable in the long run (Bongomin et al., 2019; Whitehead, 2018).

Again, from the findings of this study, policymakers, especially the government, can create enabling conditions to improve the merchant's long-term willingness to adopt mobile payments. Further, the government can develop policies geared towards expanding the prerequisite environmental factors that create the necessary conditions for merchants to embrace and leverage mobile payments. Again, policymakers can use the findings to understand the factors that serve as constraints to merchant adoption of mobile payments and formulate policies geared towards eliminating obstacles and the constraints for the government to achieve a cash-lite economy.

10.4 Directions for Future Research

Even though the contribution to knowledge is so strong, the study is without limitation. The first major limitation is that the study's findings are generalizable at the analytical level. However, the same cannot be said about statistical generalisation due to the research design (Lee & Baskerville, 2003). Therefore, future research can achieve statistical generalisation by collecting data from multiple cases and validating the findings statistically. Also, future research may empirically test and validate the theoretical model. This study is based on the

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formalised retail organisation privately owned by a well-established corporate organisation to the owner-manager establishment. Thus, findings may not be readily applicable to the informal retail sector with no formal routines, which tends to face minimal resistance to adopting new technologies compared to large corporate retail organisations (Chen et al., 2014; Zhou et al., 2017). Therefore, future research can investigate how informal retail businesses effectively leverage mobile payments for comparative analysis based on the findings of this study. Again, this study and its findings come from a developing country with an underdeveloped payment infrastructure (Gupta & Knight, 2017; Morrison, 2016). It will be more beneficial to conduct a comparative study in a developed country.

The experimental decision-making process is a major contribution to this research. Many studies could be conducted to unpack the experimental phase further since the experimentation phase is a continuous process rather than a designated step. It will be important for future studies to examine this experimental phase and explore how it best improves learning and subsequent implementation outcomes.

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APPENDICES

Appendix A: Interview Guide

I. Background Information for Managers

1. What is your background?
2. Kindly give me an overview of your company?
3. What is your experience with information technologies and systems?
4. Do you have previous experience in using mobile payment platforms?

II. Choice of Mobile Payment Platforms

1. Which attributes were most important to the company when your company decided to adopt and use mobile payment platforms?
2. To what extent will adopting or not adopting mobile payment platforms bring benefit or cause harm to your business?
3. Will it be a big problem for your company if you do not adopt mobile payments?
4. Please explain to me how your organisation evaluated the need or otherwise of adopting mobile payment and the consequence of the behaviour in the long run?
5. Did you take the information security of your company into consideration regarding the convince of using mobile payment platforms?
6. Did your company consider your organisation's security risk in using mobile payment platforms?
7. To what extent does your company understand the necessity of not adopting mobile payment against the risk of using mobile payment?
8. Explain to me the effect it will have on your company if you do not adopt and use mobile payments for your business?
9. Will mobile payment adoption create a benefits for your company?

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10. What are some of the challenges that the company will experience if you do not adopt mobile payment?
11. What will be the possible negative consequence of not adopting mobile payments?
12. Will it be ok if your company does not adopt mobile payment?

III. Enabling / Stimulating / Releasing Conditions

1. What motivated your company to interact and adopt mobile payment platforms?
2. What conditions/factors (e.g. political, economic, social, technological) affected adoption and interaction with mobile payment platforms. Kindly give an instance of these conditions/factors?
3. Did you identify any specific need to fill with mobile payment platforms? If yes, kindly describe?
4. Were you worried about accepting and using physical cash and contact financial transactions?
5. Were you afraid of getting infected by coronavirus when using physical cash?
6. Did your customers offer to use mobile payments because they were not comfortable making payments using physical cash and contacted based payments?

IV. Technology Affordances and Constraints

1. Describe how your company use mobile payment platforms?
2. How did you roll out mobile payments in your organisation?
3. Describe the initial acceptance of your mobile payment platforms (by staff, consumers, and your other stakeholders.)?
4. Did you face any challenges in the adoption of mobile platforms? Describe them, if any

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5. How is your company and your stakeholder using mobile payment platforms? Kindly share with me some specific instances?
6. How do the mobile platforms enable or constrain your activities using the payment platforms? What do you want to achieve using t mobile payment platforms?
7. How have you responded to the changing needs of your customers and your stakeholders who want to use the mobile payment platforms?
8. What does your company typically seek from using mobile payment platforms?
9. Do you know if your competitors use mobile payment platforms?
10. Did the fact that your competitors use mobile payment platforms influence your adoption of the platforms?
11. Have you generated any competitors? If yes, what do you see them doing?

V. Benefit Outcomes

1. Since you started using mobile payment platforms, have you made any impact yet?
2. If yes, what is the nature of the impact you are making? Kindly give me specific instances of such impact?
3. How does your business earn benefits from using mobile payment platforms?
4. What benefit do you intend to create for the business by using mobile payment platforms in your company?
5. Are there other benefits your company enjoys from mobile payment platforms?

VI. Employees who Interact with Mobile Payment Platforms

1. Tell me a little about yourself?
2. What is your background?
3. What is your job description?

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4. What challenges have you observed in using mobile payment platforms for business transaction
5. How do you address these challenges with the mobile payment platforms?
6. What benefit do you intend to create for the business by using mobile payment platforms in your company?
7. How do you create such benefits using mobile payment platforms?
8. What does your company typically seek from using mobile payment platforms?
9. What do you think about the features of mobile payment platforms in achieving those goals?
10. What factors do you consider when using mobile payment platforms?
11. Do mobile payment platforms generate any benefit or value for your company?
12. If yes, what forms of benefit does mobile payment generate for your company?
13. Are there any objectives that the mobile payment platforms do not allow you to achieve for the company?
14. What features would you like to be included in the mobile payment platforms?
15. What benefit is these mobile payment platforms creating for your business?
16. How often do you use mobile payment platforms?
17. Which features of the mobile payment platforms do you use often?
18. How beneficial are the mobile payment platforms?
19. How do those features create benefits for your company?
20. Are there other forms of benefit you are enjoying from these mobile payment platforms?

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Appendix B: Report on Post-Study Evaluation and Industry Engagement

Introduction

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The study on leveraging mobile payment affordance for organisational benefit established a practice-oriented framework that could afford or constrain mobile payment benefit and provide a strategic understanding for successful merchant adoption of mobile payment. To ensure the post-study framework achieves this aim, the researcher conducted a post-study framework review with key stakeholders to test the practical implication of the framework and seek the opinions of key stakeholders. The researcher evaluated the post-study framework by externally engaging with key stakeholders affected by the study and building on stakeholders' insight to enhance the post-study framework for a practical impact of the study. Among the stakeholders engaged were retail merchants, mobile payment service providers, a manager from the regulation institutions and a consultant with expertise in the fintech industry. These stakeholders were engaged because the focus of the study has a direct influence on their business activities.

Methodology

The objective of the industry engagement was to share the research findings with wider non-academics. Including retail merchants and other key stakeholders to help raise awareness of the affordances of mobile payment and the need for merchants to use mobile payments optimally for benefits. First, the researcher mapped the audience for the industry engagement. However, the focus was on merchants; service providers and policymakers were also invited. The researcher selected these stakeholders because they have a deep contextual understanding and were the most affected by the research and will find it most valuable. Secondly, the engagement considered what was relevant and teased out the critical message pertinent to the stakeholders. The delivery was direct, using seminars in the form of training. The relevant sections and findings were grouped in the input, process and output models. Again using the stop-start continues framework at the end of each section, participants were asked specific basic questions such as;

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after hearing this, what do you wish to stop doing? or start doing? or continue to do after this engagement. Questions like what do you do around mobile payments that I have not captured in the study to elicit responses and contributions.

The review sections took one hour; however, the training sections were conducted for two hours. Several valuable contributions and suggestions were gathered for further consideration. After the engagement, the key and relevant contributions from the study perspective were incorporated into the post-study framework. Finally, the training section received media coverage and was published in the Business and Financial Times weekly newspaper. A number of engagements and the key stakeholders are summarised in the table below.

The outcome of stakeholder engagement and review

The stakeholder engagement and evaluation were very useful in getting industry-oriented measurements and practical assessments to the post-study framework. It enabled a strong value proposition for the research outcome. It also served as a co-creation platform for good ideas and a feedback loop from the participants. The post-study review by the key stakeholders brought real-world experience to the study that further enhanced the research outcome. For instance, current industry issues and context-specific drivers that the researcher did not capture during the study were brought to light at the stakeholder engagement. New insights such as the growth of social media as a tool for marketing, adoption of digital technologies, third-party payment services and dedicated mobile apps were some contextual factors driving and enabling merchants' adoption of mobile payments.

Again, the digitisation of business-to-person (B2P) and government-to-person (G2P) payments, including payments through mobile money, were also captured as driving and enabling merchants' adoption of mobile payments. It was also identified at the stakeholder

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engagement that mobile payment is enabling automation affordance, as third party payment services facilitate the real-time generation of receipts without a need to write a manual receipt. In addition, the merchants at the stakeholder engagement mentioned that there are too many parties or players competing for merchant attention. The various payment methods supported by mobile transactions further compound mobile payment adoption, which serves as a constraint to merchant adoption of the mobile payment platforms. These new insights were added to the post-study framework to reflect the thought of the stakeholders.

Also, the industry engagement impacted how the merchants use mobile payment by providing the knowledge and skills for retail merchants to use the finding of this study in their business transactions. The practical lessons afforded the key stakeholders, especially the merchants, the benefit of exploring and assessing mobile payment usage to leverage the functional affordances that could drive optimum benefit for an impactful mobile payment adoption. Ultimately, through the industry engagement, the research gained some credibility which led to further meetings and a snowballing effect of opportunity leading to large scale engagements that were beneficial to different merchant groupings. On the back of that impact, the researcher received another bespoke consultancy from Prime Invest microfinance, a microfinance company in Accra, Ghana, to train small businesses on mobile payments and how they can leverage mobile payment affordances for their business benefit. The consultancy appointment enriched the personal brand of the researcher.

In conclusion, the stakeholder engagement and consultation with different stakeholders was very useful. It brought new insight and revelation that was not captured during my data collection because a lot has happened between the time the data was collected and now. The new finding has further enriched the outcome. Nevertheless, the stakeholders confirmed our findings that choosing the right mobile payment solution for a business is a multi-criteria decision-making process. Therefore, companies require a practical framework to compare the

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mobile payment solutions available to meet their objectives. However, most of the stakeholders had not yet perceived affordances beyond the receiving and making payment. Therefore, the engagement served as a platform for further leveraging mobile payment affordance. The table below summarises the engagement and its outcome.

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Appendix C: Sample Engagements and Exchanges with Respondents to Get Access

Hello Eric, this is Eunice from UGBS

I will stand by for feedback, please. Thanks

Good evening, Eric. Trust your day is going well? Please any feedback yet?

Will get back. You said two merchants, for now, right?

Yes, please

Please possibly a well-established one. Thanks

Speak to Portia

I will send another contact shortly

They are all in circle

Ok

Hello Eric, I trust you are well. Very grateful for the merchant lead. I did my first interview with Portia, and she gave me much insight, and her response was relevant. Yet to do the second one. To keep you in the picture. Thanks so much for your help.

Most welcome 🙌

Hi Eric, how are you

Please, is it Ok to send me my next lead? Please, Decent Phones have not responded yet?

Thanks will stand by

Hello, Good afternoon once again. This is Eunice, the lady who called you a couple of minutes ago. Thanks for your kind attention and willingness to help. As discussed, sending you 👋

Eunice Yeboah. UGBS PhD

Abi?

Good morning, Sir trust you are well

Please, I am just checking if you have any feedback for me yet?

Please, I saw your mail yesterday and very much appreciated it. However, you did not attach a contact to the lead. Please, I would be grateful if you could give me their contact information. Thank you

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Thanks so much

Good morning once again, and thanks so much for your support and kind attention.
Please am looking for merchants, i.e. businesses that have successfully adopted mobile payments. Be it start-ups or established.
To share my findings on the Affordance of mobile payments and how businesses can leverage mobile payments for their benefits, aside from making and receiving payments.
Thanks

I'm thinking about Wear Ghana

For Profish, contact Alex.

Hello Portia trust you are good
This Eunice, please any update on my interview with your team, please? But would be grateful if you could get me a few screenshots of your back office with some payments and the ordering etc

Alright

Please, I would be grateful if you could kindly help me with the information, I requested some months back to be able to complete my case study, please

By Graceoo, we are good

Sent from my iPhone
Hello, Mr Kpodo; my name is Eunice Yeboah Afeti, PhD student year three student with the UGBS, and my boss is Dr Kobby Mensah, who gave me your number. I please want to have an opportunity to schedule a small meeting with you regarding how you will be able to help me collect data from your institution regarding mobile payments for my PhD work. The title of my PhD thesis is Leveraging Mobile Payment Capabilities for Innovative Business Solutions. The case of merchant firms in Ghana. Kindly let me know if it is Ok to call you.
Thank you so much for your kind attention.

Hello, Fatawu trust you are Good. This is Eunice, a former BS employee who needs a big favour from you. I will need just about 30 minutes of your time for an interview for my final thesis, as part of my thesis on how businesses leverage mobile payments for business value. I have to interview a manufacturing company on how they are leveraging mobile payments. Blue skies make a very case as part of the cases I am considering, and I want an audience with you to gather a few data to complete my work, please. 30 max 1hr At your convenience

Hello Eunice! Am currently on leave. I will link you up with Godwyn, our current commercial manager if you don't mind. He will be of help.

Eunice, please send Godwyn a message. I have told him you will get in touch.

Thanks so much very much appreciated

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Hello Fatawu trust you and your family are keeping safe. Thanks for your help with Godwyn. Please, as part of the interview and purely for research. I need your approval for further information that will serve as evidence of collecting the data. It must be accurate, but the company name does not have to show estimates to serve as evidence of collecting data.

Among the information are:
1. The current structures of Management, no names required.
2. The business flow, from the farm to the consumer
3. Financial 5years it has to be accurate
4. Photo of a product
5. Production line or process not showing implicating features.
6. Evidence of payments through momo. No name is required.

Thank you so much for your help.

Hello, Fatawu trust you are good. Please any feedback for me on my request for the information to finish my research project, please?

Sorry, I responded to your text. Please send me a mail at fatahu.abdul@blueskies.com. Just state exactly your request, please.

No problems Eunice

Please, I have just sent the mail thanks.

Good morning GM. Please a gentle reminder of my information ooo, please. My deadline is gone, please. Hope to hear from you soon.

Okay, Eunice. Will discuss it today

Hello madam. I have sent you the structure & business flow by email. Please check

Sent from my iPhone

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Appendix D: Ethical Clearance

UNIVERSITY OF GHANA
ETHICS COMMITTEE FOR THE HUMANITIES (ECH)
P. O. Box LG 74, Legon, Accra, Ghana

My Ref. No…ECH169/19-20……

August 13th, 2020

Mrs. Eunice Yeboah Afeti
Department of Operations Management
and Information Systems
University of Ghana
Legon, Accra

ETHICAL CLEARANCE
(ECH 169/19-20)

The protocol tittle below has been reviewed and approved by the ECH Committee.

TITLE OF PROTOCOL: **DEVELOPING CAPABILITIES TO LEVERAGE MOBILE PAYMENTS FOR BUSINESS VALUE: A CASE OF MERCHANTS IN GHANA**

PRINCIPAL INVESTIGATOR: **MRS. EUNICE YEBOAH AFETI**

Please note that the final review report must be submitted to the Committee at the completion of the study. Your research records may be audited at any time during or after the implementation. Any modification of this research project must be submitted to ECH for review and approval prior to implementation.

Please report all serious adverse events related to this study to ECH within seven (7) days verbally and in writing within fourteen (14) days.

This certificate is valid till August 12th, 2021. You are to submit annual reports for continuing review.

Please accept my congratulations.

Yours Sincerely,

Professor C. Charles Mate-Kole
ECH Chair

Cc: Professor Richard Boateng, University of Ghana Business School, UG

Tel: +233-303933866 Email: ech@ug.edu.gh

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SUMMARY OF POST STUDY EVALUATION AND INDUSTRY ENGAGEMENT					
DATE	VENUE	STAKEHOLDER	PURPOSE OF MEETING	TOOLS USED	REMARKS
22nd July	zoom	The management team of sky drinks	Post-study evaluation and training on optimal use of mobile payments.	Slide Presentation Discussions Questions and Answers	Had a fruitful discussion. Contribution recaptured in post-study framework Merchant adopted research suggestion for implementation.
24th July	Consultant office	Consultant	Post -study evaluation	One-on-one engagement	Insightful contribution
24th July	Consultant office	Consultant	Post -study evaluation	One-on-one engagement	Insightful contribution
27th July	On the field	Service provider field officer responsible for merchant's training	Training and engagement on optimal use of mobile payments	Discussions One–on–one engagement	Very useful observation confirming framework as useful
30th July	The management team of Perlinam marketing solutions	Zoom	Post-study Evaluation and training on optimal use of mobile payments	Discussions Questions and Answers	We had a fruitful discussion, and the meeting was participatory. Very fruitful feedback.

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Appendix E: Out-put of Thesis

Type of Publication	Full Bibliographic Information
Scholarly Book Chapter	1. **Afeti, E. Y., & Amanfo, J. O. (2020)**. Enablers and Inhibitors of Merchant Adoption of Mobile Payments: A Developing Country Perspective. In Handbook of Research on Managing Information Systems in Developing Economies (pp. 227-250). IGI Global.
	2. **Yeboah, E., Boateng, R., Owusu, A., Afful-Dadzie, E., & Ofori-Amanfo, J. (2020, April).** Assessing the Role of Trust in Merchant Adoption of Mobile Payments in Ghana. In Conference on e-Business, e-Services and e-Society (pp. 204-215). Springer, Cham.

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Conference Papers	3. **Boateng, R., Afeti, E. Y., & Afful-Dadzie, E. (2019)**. Adoption of mobile payments in Ghana: A merchant perspective. In: Twenty-fifth Americas Conference on Information Systems, Cancun Bryman.

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Appendix F: Summary of findings

Research Question	Finding in Case A Multinational Manufacturing Firm	Finding in Case B Multinational Network Retail Marketing	Finding in Case C Small Scale Owner Management	Confirmatory Memoing with Literature & Conceptual Framework	Contradictory Memoing with Literature & Conceptual Framework	Conclusion or Suggestive Finding
Research Q1 What are the influencing factors for the merchant decision-making process in adopting mobile payment platforms based on the risk-utility trade-offs?	Management considered the risk and security challenges with mobile payment. Security consideration was very critical to the organisation's leadership. However, because of the usefulness of the technology and the benefit, management was ready to let go of the company information and adopted the technology whiles mitigating the risk. Other Factors: The company's new business model called for technology to be adopted as a business strategy. In other to facilitate the new strategic direction.	Management was aware of the risk that mobile payment can pose to the company, but management depended on the service provider's reputation to mitigate the risk. Management was of the view that the benefit outweighs the risk. The core interest of leadership was the benefit. They were using the technology to support their new business model and meet the company's strategic goals for that year. On the other hand, the management of network partners chose to adopt	The owner-manager had previous knowledge and was familiar with mobile payments technology and the related risk. Nevertheless, the owner-manager was of the view that the risk-mitigating factors put in place by the service provider were enough security. The owner-manager adopted mobile payment because of the business model of selling using digital platforms and social media. The owner-managers experience with mobile payments, through personal use and training by the service provider, influenced his decision to adopt it. The orientation and knowledge gave the manager an	Previous studies (Zhou, 2011; Oliveira et al., 2016) have shared similar findings that security of mobile payment technology has the strongest impact on user willingness to adopt. Security was very critical in the merchant decision-making process in all the case firms. Nevertheless, the merchant willingness to adopt mobile payment was influenced more by the utility or the benefit the technology offers. This is also consistent with the literature (see Bulgurcu, Cavusoglu &Benbasat, 2010) that individual's attitude towards technology adoption is influenced by benefit the technology offers as against the risk as an	Previous studies (Zhou, 2011; Oliveira et al., 2016) have shared similar findings that security of mobile payment technology has the strongest impact on user willingness. However, this is not wholly the case as other factors such as partner dependency and, experimental decision are seen as factors that could influence the merchant decision to adopt mobile payments.	Finding 1 The merchant decision-making process in choosing mobile payment is influenced by rational choice where cost and benefit analysis are conducted based on utility as well as the risk the technology offers. Based on the utility/risk trade-offs. The findings show that risk does not significantly deter the merchant firm form adopting mobile payments because of the utility they derived from mobile payments. Finding 2 The merchant awareness of security and privacy issues do not inhibit their willingness to adopt and use mobile payment when there is perceived technological utility. Finding 3 The merchant decision process to adopt mobile payment could be influenced by the firm's business strategy based on the business model.

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	Management had to decide to support the technology. Unofficial experimental adoption of the technology yielded positive and negative impacts. However, management saw the need for mobile payments as it had become the new normal. Again, the unofficial experimental success and challenges informed management's decision to adopt mobile payments to satisfy their customers.	mobile payments because of partner dependency. The network of the different companies that depended on the mother company made a decision based on partner demand.	understanding of the strategic relevance of mobile payment technology to the business.	overall assessment of the consequence of adoption or non-adoption. Based on the literature and using the conceptual framework merchant choice of mobile payment could be influenced by a rational choice or strategic choice, which is confirmed by the study case A&B Nevertheless, there are other findings from the empirical research showing partner dependency and experimental decision which is not captured in the literature and the conceptual framework.		Finding 4: The merchant decision-making process to adopt mobile payment could be influence by a dependent merchant satisfying a partnership requirement. Finding 5: Indicates that the merchant decision-making process in adopting mobile payment could be influenced by experimental use where merchant perceives the technology to be useful, and the changing market condition, moves the merchant towards developing capabilities in adopting mobile payment.

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Research Question	Finding in Case A Multinational Manufacturing Firm	Finding in Case B Multinational Network Retail Marketing	Finding in Case C Small Scale Owner Management	Confirmatory Memoing with Literature & Conceptual Framework	Contradictory Memoing with Literature & Conceptual Framework	Conclusion or Suggestive Finding
Research Q2 What affordance and constraints do mobile payment platforms provide merchant in their transactions?	1. Capturing of sales trends, and sales performance. 2. Real time daily reconciliation of sales against orders. 3. Ubiquitous accesses to sales information. 4. Customer data capturing for customer engagement. 5. Fraud detection within the organisation. 6. Start-up business development through business niches and strategic partnership.	1.Capturing of sales trends, agent performance, automatic calculations of agent commission 2.Real time payment confirmation within the complex network 3. Reduce corruption and stealing 4. Strategic partnership with bank and delivery companies. Partner support, growth and efficient support for new business model	No such affordance was leverage 1. Capturing of strategic customer data for customer engagement. 2.Ubiquitous and real time accesses to company mobile payment sales. 3.Curbing corruption and petti pilfering 4. Business model and start-up development. 5.Disintermediation through multi-currency wallet.	This finding is consistent with existing studies (Seidel et al., 2013; Conole & Dyke, 2004), that ICTs offer access to vast amount of information to user from different locations offering accessibility as an affordance for usage of technology Accessibility for various information has been identified as key affordance. Previous studies (Zolnowski, Weiß & Böhmann, 20 14) identify similar finding in a study on mobile payment service in the retail industry that ICT is a key driver for the emergence of business model		The data suggest that merchant interaction with mobile payment platforms enable sales and performance monitoring affordance Finding 2A Finding 2B: Evidence in the data shows that merchant interaction with mobile payments enable strategic digital data capturing and archival affordance. Finding 2C: The data suggest that merchant interaction with mobile payment enable fraud detection and control affordance in the merchant firm. Finding 2D: The data suggest that merchant interaction with mobile payment platforms enable strategic and new business

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			.			models building affordance. Findings 2E suggest that merchant interaction with mobile payments enable disintermediation affordance. Findings 2F: Mobile payment platforms interaction present some inherent constraints such as technological constraints and value chain shortcomings that could prevent the merchant from interacting with the mobile payment platforms to actualise the affordance. Nevertheless, in the case of the merchant interviewed it did not prevent them from interacting with the mobile payment platforms. But rather the merchants mitigated the constraints.
	some of the constraints identified from the data are: 1. Persistent calls to the factory by sales representative on the field to ask about payment confirmation. 2. Short battery life causing personal phones to go off on the field 3. Information overload as clerks interact with payment data 4. Limited network availability	1. Capped daily transaction for the agent distributors. 2. Small screen size of mobile device. 3. Unreliable network and fraudster attack. 4. Employee sabotage of the system.	1. Operatives persistent call to the manager to confirm receipt of payments. 2. Transaction capping limiting merchant transfer and daily transaction. 3.Battery short life, 4. Unreliable network, 5. Fraud susceptibility.		Nevertheless this findings is to some extent consistent with existing literature that mobile payment constraints (small screen size, tiny multifunction keypads, short battery life-span) may hamper the usability of the service, but in this case the merchants interacted with, complaint about the operational difficulties inherent in the mobile payment platforms interaction, but it did not negatively affect the merchant usage of the technology as suggested (Laukkanen & Kiviniemi, 2010, p. 375) that Operational constraints will negatively influence the intention to continue the usage of mobile payment services. This contradiction can be explained by the fact that because mobile payment has become part of the merchant's business strategy and a key tool to satisfy their customers and develop their business. They navigate around the constraints to derive utility from the technology.	

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Research Question 3 **What are the enabling, stimulating and releasing conditions?**	**Finding in Case A Multinational Manufacturing Firm**	**Finding in Case B Multinational Network Retail Marketing**	**Finding in Case C Small Scale Owner Management fashion retail**	**Confirmatory Memoing with Literature & Conceptual Framework**	**Contradictory Memoing with Literature & Conceptual Framework**	**Conclusion or Suggestive Finding**
ENABLING CONDITIONS: **Technological Factors** **a**. System pervasiveness **b**. Technology characteristics **c**. Critical mass	The merchant opinion that mobile payment technology has become a norm and was delivering value for the business. Most consumers prefer to use mobile payments Compatible with operations. Perceived security and trust. Technology competence The merchant confirms that the high level of critical mass is a market creating opportunity for their	The merchant believed it was the most common digital payment that appeals to all classes of consumers. Which is creating new consumer segments Compatible with business model. High perceived security and trust High regard for the technology to meet merchant expectation	The merchant was of the view that mobile payment has become a useful complement for their payment transaction as consumers are changing the habit of cash to mobile payments it creates an expanded market for the business. Suitable for business operations. High perceived security and trust High regard for technology to meet merchant expectation (multi-currency	Earlier studies Mallat and Tuunainen's (2008) as well as Teo et al.'s (2005), reported that lack of critical mass was a high- ranked barrier to merchant adoption of mobile payment platforms. Nevertheless, the increasing use of mobile payment in Ghana and a wider user base of consumers is putting pressure on merchants to adopt the payment innovation. Mobile payment as a multisided market need a balancing focus on both the consumer and the merchant (Liebana-Cabanillas et al., 2016;		The availability of the technology, technology usefulness and critical mass can enable affordance or constrain affordance to merchant interaction with mobile payment platforms.

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Regulatory Factors a. Government legislation **b.** Operational accreditation **c.** Merchant firm registration	firm to adopt mobile payments The merchant was convinced that legislation by government makes mobile payment appear safe for merchant operation because the merchant is regulated by two state institutions Service Providers are accredited before they operate mobile payments in Ghana. Which influence the safety perception of the merchant to engage with the technology. Merchant feel safe that their company is required to register for a special merchant sim to operate	High level of critical mass as m-payment meet the needs of the network customers which serves as a market creating opportunity for their business Merchant was of the view that because mobile payment service providers are regulated by the government it makes the system appear safe The accreditation of Service providers through registration make merchant to believe mobile payment is safe to engage with	High level of critical mass as m-payment meet the needs of the merchant customers. Again the consumers are knowledgeable and are willing to use the technology. Merchant depended on the reputation of the service provider confirming that the service provider may be doing something right that is why they continue to operate making doing business with the safe. The merchant firm trusted in the accreditation of the service provider. The merchant consideration to engage mobile payment was the safety perception based on the	Ondrus et al. 2015; Slade et al., 2015). This finding is consistent with existing literature which has continually identified regulations, industry norms and standards as well as peer organisational mimetic influencers as an external force that influence organisational decision. Nevertheless, decision regarding IT is no exception as researchers have consistently found IT decision to be influenced by the organisational environment (Liang et al., 2007; Du, 2018; Zhou et al., 2010). Also it is evident in earlier studies that government regulations play fundamental environmental role that assures mobile payment security, serving as an enabling conditions for merchant to interact		*openness in the regulative environment, served as an enabling environment where merchant feel protected against the inherent risk in the mobile payment environment. Which can enable or constrain affordance*

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Prevailing Payment Culture **a.** New normal b. critical mass c. multi-currency **Competitive Pressure** **a**. Institutional pressure	The merchant customers are willing to use the technology. High level of perceived market opportunity Not relevant Very relevant, from customers and other stakeholder. Not from competitors The industry type company does not have direct competitors	The merchant registration requirements offer the merchant a special merchant sim which makes the merchant to operate safely merchant customers willing to use technology High level of perceived market opportunity Not relevant	service providers license to operate. The merchant registration requirement makes it safe with the special merchant sim merchant customers already use the technology and understand its use High level of perceived market opportunity Multi- currency wallet support business model the need to meet the merchant international transaction needs.	with mobile payment platforms (see Asiedu et at., 2019). This confirms recent findings by Liébana-Cabanillas et al. (2017), that the world's population is transiting to cashless society and over 66% of the world population have accesses to at least one mobile phone terminal, which is creating a new payment culture towards the use of mobile phones as a tools for purchasing and making payments This finding is consistent with literature that merchants are more likely to start providing mobile payments service when there are strong institutional pressures (Du, 2018) Again Institutional pressures have been identified by a number of studies as an influencer of organisations adopting	However, there seem to be a contradiction from	*The changing behaviour of customers in spending cash through the use of mobile payment create the anticipation of mobile payments as the next big thing in payment transactions; enticing merchants to interact with mobile payments platforms.* . *Pressure from competition and stakeholders in the merchant environment exert external pressure that act as an enabler for merchant to interact with mobile payment to meet*

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STIMULATING CONDITIONS: **Market Expansion** a. Customer request **b.** Market opportunity **c.** Customer readiness	Consistent pressure from customers influenced merchant interaction. Merchant refusal to interact reduced sales, and the opposite was true.it gave an opportunity for merchant to reach other customer segment. The merchant perceived an opportunity to deliver customer value. High level of perceived market opportunity	Partners asked to adopt for total business growth, Low level of institutional pressure. Network marketing their focus is to grow the network.	High level of institutional pressure. Most competitors in the merchant industry are interacting with mobile payment to support the business.	technological innovations (Teo, Wei, & Benbasat, 2003; Li & Wang, 2018). This finding is consistent with findings of researchers like Dahlberg, Guo, & Ondrus (2015) and Evans & Pirchio (2014), who have argued that a successful deployment of mobile payments by merchants depends on customer demands, enabling business environment and the specific forms of value merchants strive to create with mobile payments.	case 'A' where institutional pressure was not identified, instead pressure from customers and other stakeholder served as enabling condition for merchants to act to interact with mobile payment. This could be explained that the merchant firm interviewed operated niche business and did not have direct competitors.	*industry expectation.* From the discussion so far, the enabling conditions, constitute the prerequisite environmental factors that must be available in the merchant's techno organisational environment to enable or constrain affordance to interact with the payment platforms. *The merchant orientation of customer proliferation in adopting mobile payment platforms creates a suitable ground for merchant interaction and use of mobile payments platforms to expand their market*

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Business Model **a.** online sales	The comfort levels for the consumer to actually use mobile payments provides the merchants with several opportunities to exploit the new payment system to expand their market.	The inherent opportunities associated with mobile payments to support merchant business and expand their market. As merchant moved from brick and mortar to a digital business model mobile payment was the most appropriate digital payment to support business model. High level of perceived market opportunity	Constant request from customers who are willing to pay using mobile payment and the ripple effect of using social media to expand the brand reach was evident in the data. The merchant notion of delivering customer value was essential stimulant.	This finding confirms earlier studies that the digital environment is pushing merchants to redefine their business models (see, Souiden, Ladhari & Chiadmi, 2019; Pantano & Priporas, 2016). Again, the finding is consistent with similar studies that the business model of the merchant serves as a facilitating condition that makes it easier for merchants to interact with mobile payment platforms (Petrova & Wang, 2013; Souiden, Ladhari &		*The merchant orientation of the business and their objective in delivering customer value makes it easier for merchant to act and interact with the mobile payment platforms for market expansion*
b. Digital marketing	Initially did not interact with mobile payment because sales were solely brick and mortar, manual sales and distribution. Hence depended on traditional method of payment.	The increase consumer usage of mobile payment platform's in paying for transactions stimulated merchant to exploit mobile payments to reach other customer segments and at the same time	High level of perceived market opportunity Customer request was seen as an opportunity to exploit the new payment system to expand their market and to pave the way to reach different customer segments at the same time satisfy their customers			
c. Target market	The perceived opportunity of					*The kind of business model operated by merchant can serve as stimulating condition for the merchant to act to interact with mobile payment platforms*

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	tremendous evolution in the business model to allow for different functionalities and multiple services in the merchant firm stimulated the merchant to interact with the platforms	satisfy their customers		Chiadmi, 2019; Pantano & Priporas, 2016)		*or constrain the merchant to act.*
Revenue Generation **a.** Impulse buying	Merchant strategy of delivering value for the target customers who are mostly middle class. The customer need or the middle class consumers who appreciate convenience and do ubiquitous purchases facilitated and made	Business strategy to move from brick and mortar need online payment to support the implementation of a new business model this served as a stimulating condition for merchant to interact with mobile payment.	Merchant Operated aspect of business online, the online business model called for online or digital payment and in Ghana the simplest and easy online payment is mobile payments. This influenced the merchant interaction with mobile payment platforms in other to the support the business model.			.
expanded customer contact point	it easy for the merchant to act and interacted with the payment platforms.	The merchant usage of digital marketing tools highly motivated merchant to interact with mobile payment as part of merchant strategy to support digital sales	The merchant usage of digital marketing tools highly motivated merchant to interact with mobile payment as part of merchant strategy to support their online business model	This finding is similar to several findings in the literature on the potential revenue generating appeal of mobile payment to merchant (See Mallat & Tuunainen, 2008; Pantano & Priporas, 2016; Munyegera &Matsumoto, 2016).		
	Perceived possibility of selling more through consumer impulse buy made it easier for the merchants to act and	To improve the market reach and	Target of online consumers influenced merchant interaction with mobile payment platforms			

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c. Reduction in operational cost	interact with mobile payment.	support new business model				
Image Enhancing Factors **a.** Legitimacy	The perceived growing mobile payment culture among consumers and their gradual attachment to their mobile phones. Made it easy for merchant to act to interaction with mobile payment to leverage impulse sales benefit from several different customers who have adopted mobile payments					*Perceived revenue generation for the merchant through the convenience perception of the customer willingness to pay, served as a stimulating conditions for the merchants.*
b. Positive image	The perceived cost reduction in the merchant operations facilitated the merchant willingness to interact with mobile payment	Perceived possibility of selling more through consumer impulse buy made it easier for the merchants to act and interact with mobile payment. The perceived growing mobile payment culture among consumers and their gradual	Perceived possibility of selling more through consumer impulse buy made it easier for the merchants to act and interact with mobile payment. The perceived growing mobile payment culture among consumers and	This finding echo earlier finding by Vashistha, Anderson, and Mare		*The reality of mobile payment to generate extra revenue for the merchant firm the easier it is for the merchant to interact with mobile payment platforms.* *The minimal financial cost and affordability in setting up mobile payments infrastructure to perform financial transactions equal to other digital payment channels,*

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c. Meeting customer expectation **RELEASING CONDITIONS:** The Merchant Quest for Benefit	The perception of being branded legitimate in the eyes of the consumer for understanding and going with the trends made it easy for merchant to interact with the technology. Perceived high positive image of merchant firm understanding the trends of new technology influenced merchant to act and interact with mobile payment platforms The merchant mind-set of enhancing firm's reputation by	attachment to their mobile phones. Made it easy for merchant to act to interaction with mobile payment to leverage impulse sales benefit from several different customers who have adopted mobile payments The perceived cost reduction in the merchant operations facilitated the merchant willingness to interact with mobile payment The perception of being branded legitimate in the	their gradual attachment to their mobile phones. Made it easy for merchant to act to interaction with mobile payment to leverage impulse sales benefit from several different customers who have adopted mobile payments The perceived cost reduction in the merchant operations facilitated the merchant willingness to interact with mobile payment The perception of being branded legitimate in the eyes of the consumer for understanding and	(2019) that merchants perceived that interacting with mobile payments make them "look modern and tech-savvy" and will also help them capture and retain business of those customers who prefer to use mobile payments.		*served as a stimulating condition for the merchant to interact with mobile payment platforms.* *The customer's perception of the merchant firm as being reputable and have the capacity to deliver mobile payment services serve as positive stimulating condition promoting the merchant interaction with the technology.*

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	meeting consumer needs through the use of new technologies, served as a stimulating conditions for merchant to act and interact with mobile payments. The main releasing condition that was identified in the study, was the merchant quest for benefit. Which relates to what the merchant seeks to benefit from interacting with the mobile payment platforms	eyes of the consumer for understanding and going with the trends made it easy for merchant to interact with the technology. Perceived high positive image of merchant firm understanding the trends of new technology influenced merchant to act and interact with mobile payment platforms The merchant mind-set of enhancing firm's reputation by meeting consumer needs through the use of new technologies, served as a stimulating conditions for merchant to act and interact with mobile payments.	going with the trends made it easy for merchant to interact with the technology. Perceived high positive image of merchant firm understanding the trends of new technology influenced merchant to act and interact with mobile payment platforms The merchant mind-set of enhancing firm's reputation by meeting consumer needs through the use of new technologies, served as a stimulating conditions for merchant to act and interact with mobile payments.	This benefit seeking pursuit of the merchant is confirmed in earlier studies, that merchants will interact with mobile payment platforms when the merchants see relevant value creation opportunities (see Guo &Bouwman, 2016).		, *The overall benefit that the merchant seeks to achieve with mobile payment serves as a releasing condition that constrained or enable the*

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		The main releasing condition that was identified in the study, was the merchant quest for benefit. Which relates to what the merchant seeks to benefit from interacting with the mobile payment platforms	The main releasing condition that was identified in the study, was the merchant quest for benefit. Which relates to what the merchant seeks to benefit from interacting with the mobile payment platforms		Earlier studies have stated that internal resources (strategy, resources and capabilities) evaluation can prevent the merchant from accessing the opportunities and digital options that are available (Rolland et al., 2018), or the network externalities, can be a constraining factor to the merchant in	*interaction with the technology.*

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					perceiving and actualising the mobile payment affordance (Parmentier & Gandia, 2017; Keen & Williams, 2013). However, these two conditions were not explicitly found in the study as constituting a releasing condition. Rather the main releasing condition that was identified in the study, was the merchant quest for benefit.	

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Research Question 4 What forms of benefit do mobile payments platforms afford merchants?	Finding in Case A Multinational Manufacturing Firm	Finding in Case B Multinational Network Retail Marketing	Finding in Case C Small Scale Owner Management fashion retail	Confirmatory Memoing with Literature & Conceptual Framework	Contradictory Memoing with Literature & Conceptual Framework	Conclusion or Suggestive Finding
STRATEGIC BENEFITS Business development a Sales expansion	Leveraging mobile payment affordance facilitated sales expansion through extended coverage which improved loyalty among distributors and customers this strategically extended merchant reach and improved firm's revenue.	Leveraging Mobile payment affordance facilitated sales expansion to other regions improving trading partners' commitment. This created strategic advantage of sales expansion and improved revenue	Leveraging mobile payment affordance brought the merchant benefit of sales expansion through expanded customer touch points leading to improvement in firm's revenue	This benefit identified in the study is similar to those reported by Nevo & Wade (2010), Davenport et al. (2004), Shang and Seddon (2002), Staehr et al. (2012), and Harris and Davenport (2006).		*Leveraging mobile payment platforms affordance provides strategic benefit such as business development, new opportunities, expanded merchant market and appropriate business innovation models for customer satisfaction and revenue expansion.*
b. Business niche						
c Business expansion	Leveraging mobile payment afforded Innovative service delivery	Leveraging mobile payments enabled	Leveraging mobile payments led to high level of service delivery and development of			

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	and niche business and start-up	innovative service delivery which facilitated	niche business. Start-up			
d. New business model	Expanded business through niche services. Large customer coverage without having an office in the location. Mobile payment enhanced digital sales.	niche business for merchant firm Mobile payment expanded the merchant business through a new start up.	Mobile payment expanded merchant business. Because merchant could sell using digital channels and deliveries			
New Opportunities						
a. Organisational learning	Merchant introduced new business model. Using digital sales personalised and deliveries whiles customers pay using mobile payment.	Merchant introduced more cashless sales and reduced face to face contact. New ordering and mobile payments.	Closed down unprofitable regional office and moved to digital sales using Facebook and Instagram to drive traffic and sales whiles merchant leverage mobile payments. There was learning through	This finding confirms earlier studies that the digital environment is pushing merchants to redefine their business models		
b. Stakeholder interaction						
c. Bigger platforms						

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OPERATIONAL BENEFIT a Service optimisation	Merchant through platforms interaction developed and leverage superior affordance	New learning opportunities helped improved merchant operation	merchant interaction with the platforms but merchant could not leverage superior affordance because merchant did not have the needed resource to leverage the affordances	(see, Souiden, Ladhari & Chiadmi, 2019; Pantano & Priporas, 2016).		
b. Operational efficiency	High level of stakeholder interaction	High level of stakeholder interaction	Minimal stakeholder interaction.			.
c Efficient service delivery	The mobile payment provided an opportunity for bigger platforms of customers and distributors	The mobile payment provided an opportunity for bigger platforms of customers and distributors	The mobile payment provided an opportunity for bigger platforms of customers and distributors			*Leveraging mobile payments platforms affordance offer operational benefit such as decreasing the merchant operational cost and improving operational efficiency.*

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Integrational Benefit a. Process integration b. Device integration Bank and Wallet integration	Fast transactions Safe transactions Convenience transactions Operational cost reduction less staff productive use of staff business process redesign Expanded value network, value added customer services, Personalisation increased internal efficiency	Fast transactions Safe transactions Convenience transactions Operational cost reduction, less staff, productive use of staff, business process redesign Expanded value network, value added	Fast transactions Safe transactions Convenience transactions Operational cost reduction, productive use of staff, Value added customer services, Personalisation multi-currency wallet increased internal efficiency	These findings confirm existing studies that has provided empirical evidence that technology enabled integration provides organisational benefit and that		

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		customer services increased internal efficiency		integration in organisation offer significant positive returns (Daven port et al., 2004; Brown, 2006).		*Merchant leveraging mobile payments offers integrational benefit such as process, device, Bank and wallet integration.*
TRANSFORMATIONAL BENEFIT Business Transformation a New business model b. Mini Bank	Enable merchant to integrate service provider's sim to a mobile phone for making and receiving payments. Track mobile payment insight Integrate with other devices to track sales for tracked data for simple analytics. Seamlessly integrate their mobile payments	Enable merchant to integrate service provider's sim to receive payments. Track mobile payment insight	Enable merchant to integrate service provider's sim to a mobile phone to receive payments and make payments including international payments. merchant did not leverage this affordance hence no device integration	Similarly, such integrational benefits have been identified by Li et al. (2020) and Abou-Shouk, Lim and Megicks (2016) as motivational factors that influence SMEs to adopt technology in their organisations		

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c. Value storage	accounts with their bank accounts enabling merchants to electronically transfer funds from the mobile wallet to bank account	Integrate with other devices to track sales for tracked data for simple analytics.	Seamlessly integrate their mobile payments accounts with their bank accounts enabling merchants to electronically transfer funds from the mobile wallet to bank account and from the bank account unto the mobile wallet at no cost The wallet integration saved the merchants time and cost of transporting sales to the bank and the attendant risk.			
Process Transformation a. Secured transactions		The mother merchant could only seamlessly integrate and electronically transfer money from wallet to bank account. However, their business partners who are owner managers could in addition to transferring to bank could also transfer from bank to their wallet				
b. Resource efficiency						
c. capability development	Introduction of online sales, and delivery, private individual starting their business at the back of the new business model			Existing studies (De Kerviler, Demoulin & Zidda, 2016;		*Finding 23: Leveraging mobile payments platforms leads to*

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MANAGERIAL BENEFIT a Harnessing resources b. Effective management decision **ORGANISATIONAL BENEFIT**	The merchant could transfer daily sales on mobile account to bank account Merchant use mobile payments to control their bank accounts, store value right and convert cash in and out of the stored value on their mobile device, Safe transactions through personal Identification	Facilitated the use of an enterprise system for business management Merchant's agents could work as mini bank by depositing cash and withdrawing cash for customers. Merchant use mobile payments to control their bank accounts,	Introduction of digital sales, and online sales. Business model spinoff for start ups Merchants could work as mini bank by depositing cash and withdrawing cash for customers Merchant use mobile payments to control their bank accounts, store value right and convert cash in and out of the stored value on their mobile device,	Capgemini, 2016; Liébana-Cabanillas et al., 2014), confirms the findings that mobile payment technology provides transformative impact on the way merchant do their businesses. These studies confirmed that mobile payment technologies enable a range of efficiency gains and novelties that has a sustaining and enabling implications for business transformation.		*transformational benefit such as business transformation and process transformation.*

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Safe operation Organisational learning	number. Immediate confirmation of payment. Through mobile payment merchant removed most physical payment processes that use to be avenues for staff to be corrupt. New capacity in payment were built	store value right and convert cash in and out of the stored value on their mobile device, Safe transactions through personal Identification number. Immediate confirmation of payment. All physical payment processed were removed which enable	Safe transactions through personal Identification number. Immediate confirmation of payment. Through mobile payment merchant removed most physical payment processes that use to be avenues for staff to be corrupt.			

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	staff development physical infrastructure mobile phone as an infrastructure enable its use for other services Partnership bank partnership with delivery companies creating new sources of revenue. Partnership with service provider and independent distributors	resources efficiency New capacity in payment were built . staff development Physical infrastructure mobile phone as an infrastructure enable its use	which enabled resources efficiency new capacity in payment were built staff development through service provider training Physical infrastructure mobile phone as an infrastructure enable its use for other services	This finding is in line with earlier studies on mobile payment (e.g., Kim et al., 2010; Shin & Lee, 2014; Yan & Pan, 2015; Schmidthuber et al., 2020). For example, Schmidthuber et al. (2020) found that leveraging mobile payment technology in organisation creates a world of possibilities for managers to better allocate resources for economic and social gains.		*Finding 24: Merchant leveraging mobile payment platforms affordance enable merchant firms to achieve managerial benefit such as harnessing organisational resources and making effective decisions.* *Finding25: Leveraging mobile payment*

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	Timely decision-making, holding leaders to task and informed decision Established mobile payment strategy Established Payment policy Established data policy	for other services Partnership with bank, partnership, with delivery companies creating new source of income Partnership with service provider and independent distributors Timely decision-making, holding leaders to task and informed decision	Partnership bank partnership, delivery partnership. Partnership with service provider and independent distributors Timely decision-making, holding leaders to task and informed decision Established mobile payment strategy	This finding is in accordance with earlier studies carried out by Seddon, Calvert &Yang (2010), that organisation using technology to improve business drives organisational benefits from the technology over a long term		*affordance enable organisational benefit leading to organisational change. (change in payment process, real time payment data, opportunity to learn new things).*

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	Ethical awareness Staff training Organisational learning	Established mobile payment strategy Established Payment policy Established data policy Ethical awareness Staff training Organisational learning	Established Payment policy Established data policy Ethical awareness Staff training Organisational learning			

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