(IN)FORMALITY IN AFRICA: EXPLORING THE SOCIAL AND CULTURAL FACTORS INFLUENCING MOBILE PAYMENT NON-ADOPTION AMONGST INFORMAL TRADERS IN CAPE TOWN

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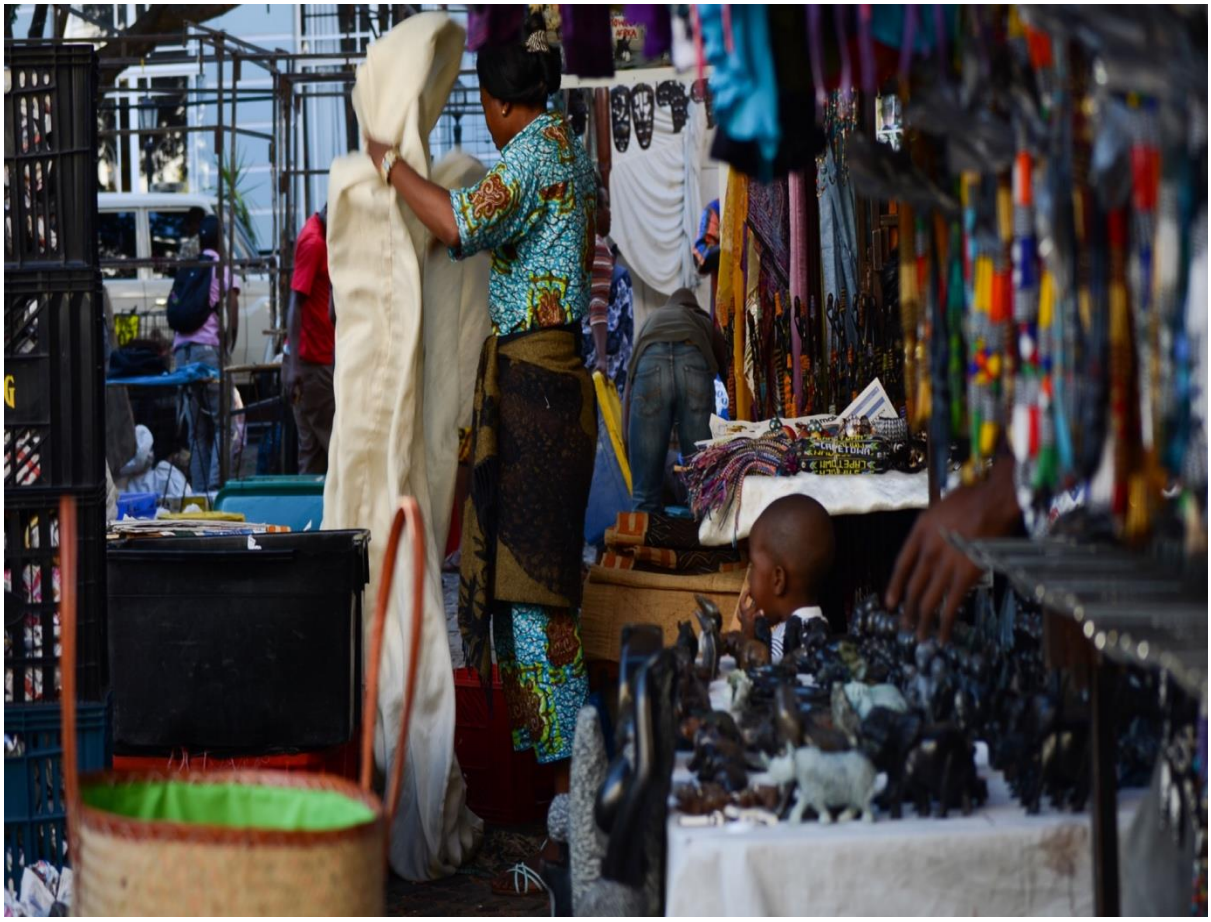
Contents



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I am infinitely inspired by this continent and our stories, may we continue to grow towards shared prosperity.

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Dedicated to my family and friends, for their love and gentle support.

In late October 2014, I was sitting at a coffee shop adjacent to Greenmarket Square- a public square in Cape Town. I was people-watching; the square is tourist-centric, with informal traders here selling African curios and artefacts. The start of summer season in Cape Town brings with it a wave of tourists. I sat contently observing the hustle on the square, watching the buying and selling, which was occurring to the symphonic backdrop of a language mix… Lingala, Swahili, English and German. The square was teeming with people, I looked on as informal traders and shoppers exchanged cash for goods, bartering and negotiating prices in the tightly packed square. I cast my eye on the stall closest to my table, selling the South African flag, T-shirts and other flag-bearing paraphernalia: "I don't have a card machine", he said. It sounded as if the trader was declining an offer to accept payment by credit card. The discussion faded in my earshot as the informal trader and customer walked away together. I watched them enter a nearby coffee shop, and only moments later return to the stall. The trader was carrying some cash in his hands. The customer was tucking her wallet into her handbag. The trader handed over the beaded vuvuzela (a plastic trumpet). I wondered how they had transacted: where did the cash come from? How did the customer pay him? Having just conveniently settled my coffee shop bill using a mobile payment facility, I thought: 'Why don't informal traders in Cape Town use mobile payment facilities?'

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Chapter I

INTRODUCTION

Research rationale: *Why explore the role of mobile payments?*

Mobile payments have the potential to create innovative pathways to financial inclusion, through payment facilitation and access to financial products via the mobile phone. Kendall et. al (2014) write of the potential of mobile payments within small informal business in Sub-Saharan Africa: *"The region's small and medium-sized enterprises also send and receive a wide variety of payments. They receive payments from customers, middlemen, and government agencies, while making payments to wholesalers, employees, landlords, and service providers. Notably, most of these are still paid with cash. Small and medium-sized enterprises are recognized as an important (mobile payments) market segment given their higher payment volumes. And being at the centre of customer and supplier networks, such enterprises can stimulate adoption both up and down the value chain"* (p. 4) . Two issues are flagged in this quote: the pervasive use of cash and the opportunity for mobile payments amongst informal businesses.

Kendall et. al (2014) go on to explain how mobile payments can also contribute to financial inclusion, by bringing financial services to the unbanked and underbanked. This position is popular in development narratives, as mobile payments are increasingly being positioned as means to enable access to finance for underbanked or unbanked people (Donner & Tellez, 2008; Mas & Radcliffe, 2011; Deen-Swarray et. al, 2013; WorldBank & InfoDev, 2012; FinMark Trust, 2014; Kendall et. al, 2014). This has been the case in Kenya, where mobile payments have been shown to positively contribute towards the growth and development of informal enterprises and sustainable livelihoods (Mas & Morawczynski, 2009; Mbogo, 2010; Morawczynski, 2011; Suri et. al, 2011, 2012; Lule et. al, 2012). For commercial banks, mobile payments introduce cost-savings, by delimiting the necessity for branch banking infrastructure (Kendall et. al, 2014).

The problem in South Africa is the low adoption rates of mobile payment services (Pew Research Centre, 2015). This is despite high mobile phone penetration in South Africa (Pew Research Centre, 2015). Specifically, if the informal economy is considered, there is potential for mobile payments to address a major challenge amongst informal traders in South Africa: the lack of access to finance (Xaba & Horn, 2002; Bick et. al, 2009; Woodward et. al, 2011). The informal trader merchant can migrate from cash and enter the financial system through the "payment ladder"; as mobile payment facilities offer a transaction mechanism that is electronic (Mas & Radcliffe, 2011, p. 172).

The use of mobile payment facilities in the informal trade sector, between the buyer and merchant, can provide informal traders with a soft entry into formal banking, one which could contribute towards financial inclusion. Acknowledging the potential for mobile payments to unlock financial benefits for informal businesses, such as access to financial services and products, this research explores the social and cultural factors which influence non-adoption amongst informal traders in Cape Town.

Therefore, given all the arguments around the potentials and benefits of mobile payments, the low adoption rates in South Africa provoke the research question in this study: *Why don't informal traders in Cape Town use mobile payment facilities?*

Research objective

This research uses an ethnographic methodology comprising conversational interviews, observations and interactions with informal traders in their work settings (open markets) in order to answer the general research question: *Why don't informal traders in Cape Town use mobile payment facilities?* Specifically, this research is interested in developing an empirically grounded explanation of: *What are the social and cultural factors influencing mobile payment non-adoption amongst informal traders in Cape Town?*

It has been argued in the literature that mobile payment systems such as M-Pesa would facilitate rapid adoption by the 'unbanked' as they are low cost, low risk and easy to use (Donovan, 2012; Mbogo, 2010; Maurer, 2012). However, this prediction has yet to be realized in the informal trading community in South Africa which is largely cash oriented, even though the vast majority of informal traders own smartphones and use them in other daily activities. Therefore, the objective of this research is to develop an empirically grounded explanation of mobile payment non- adoption amongst informal traders in Cape Town, specifically an explanation that acknowledges the influence of social and cultural factors on technology use and adoption.

This empirical research does not seek an explanation of the technical reasons for which informal traders do not adopt mobile payments, such as the functionality and usability of the technology. Rather, this research enhances explanations of IS non-adoption through a dialogue with the social, cultural and contextual influences. This enhanced explanation is provided by the modified Technology Acceptance Model (TAM, 1989). This research suggests that this modified model provides a better explanation of the social and cultural factors influencing mobile payment non-adoption in the empirical situation. This theoretical contribution is based on the call for IS adoption research which engages social and cultural influences (Lee, 2003; Bagozzi, 2003; Ventakesh, 2007; Dahlberg et. al, 2008; Donner & Tellez, 2008; William et. al, 2009; Crabbe et. al, 2009; Morawczynski, 2009).

Structure of this research

This thesis is designed to unfold in a series of chapters. **Chapter II** presents the literature review, which seeks to demonstrate how dynamics in the informal economy are influenced by social and cultural factors. Thereby, the argument in this chapter is that adoption studies on interventions such as mobile payments for financial inclusion and technology for development, are best explored through models that can determine social and cultural influences. The chapter is divided into four parts, each with its own distinct review of literature within that discourse: perspectives on the informal economy; mobile payments in Africa; technology for development and financial inclusion. **Chapter III** presents the theoretical perspectives that were used, namely: critical social theory; critical hermeneutics and abductive inquiry. In this chapter, the relevance of these perspectives to this research inquiry is demonstrated and a discussion of how these theories were particularized in this study is presented. **Chapter IV** discusses the research method that was utilized. The case study and data collection techniques are also presented in this chapter**. Chapter V** discusses the data analysis approach. **Chapter VI** presents the empirical findings, in accordance with the research method and data analysis approach. In this chapter, the findings are arranged as social and cultural factors influencing mobile payment non-adoption amongst informal traders in Cape Town. **Chapter VII** presents the theoretical discussion, whereby the empirical findings are corroborated with extant literature and theoretical propositions are presented. In this chapter, a modified Technology

Acceptance Model (1989) is presented as the theoretical contribution. It is argued that this modified model provides a better explanation to determine the social and cultural factors that influence non-adoption in situations akin to this empirical study. **Chapter VIII** is the final chapter, and highlights the theoretical contribution made by this research, the limitations and implications for future research.

Chapter II

LITERATURE REVIEW

This literature review focuses on developing an understanding of key findings of prior research relevant to this research project. This research is concerned with the adoption of mobile payment facilities in the informal economy in South Africa, asking the question: *Why don't informal traders in Cape Town use mobile payment facilities?*

This literature review develops a theoretical understanding of key themes in the following four discourses as they pertain to my research question: (1) informal economy (2) mobile payment facilities adoption (3) technology for development and (4) financial inclusion. These themes form the structure of the literature review. However, the weighting of the literature review differs across the four discourses[1]. The former two themes are central to the research question. The latter two themes inform this study indirectly, as this empirical research does not measure the financial inclusion impact or observe the contribution to development, that is made by mobile payments in Africa.

The literature for this review was collected during the period February 2015 and January 2016 via systematic searches using primarily online databases. The literature reviewed was informed by the access provided by the university library. In each section of this literature review, the search strategy is described in further detail. A table summary of the literature reviewed under each broad theme is to be found as Appendix 1 in this paper.

Perspectives on the informal economy

This section is concerned with conceptualizations of the informal economy, from dualist to integrated, and the role of social theories in these conceptualizations. This is a very wide subject area, and to delimit the search, the literature review was focused on the informal trade sector in Africa. There was not one specific journal referred to or a time constraint on the search, given the expanse of the subject-matter and its multi-disciplinary nature. Amongst others, journals such as Urban Studies, Journal of Human Development and the WIEGO Working Paper Series were reviewed.

Since the intention of this section is to understand informal traders in the context of the social and cultural, the following keywords were used: informal economy, informal trade in Africa, social capital, cultural capital. The search was conducted using primarily Google Scholar, and book chapters were also reviewed. Results were manually filtered according to context, with preference for literature on the African context; and peer-reviewed articles with a high number of citations were prioritized. In the African context, what is termed the informal economy has emerged from the everyday enterprise activities which have for a long time been unaccounted for by formal economic institutions. The informal economy has a multiplicity of sectors, of which informal trade is the largest and most lucrative (Lyons & Snoxell, 2005; Skinner, 2008; Brown et. al, 2010; Woodward et. al, 2011).

As members of the biggest sector in Africa's informal economy, informal traders are the focus of various development interventions looking to extract value from Africa's informal economy (United Nations, 2015). These interventions are aimed at inclusive growth and enterprise

[1] The sections differ in length and detail according to this weighting.

development in the sector (United Nations, 2015). For informal traders in South Africa, lack of access to finance is a challenge to this envisioned growth and development (Xaba & Horn, 2002; Bick et. al, 2009; Woodward et. al, 2011). In this section, the argument is: in order for these interventions aimed at developing the informal economy to be successful, the social and cultural norms of informal traders need to be understood. The importance of such integrated perspectives on the informal economy has only recently been documented by social scientists.

Conceptualizations of the informal economy: *From dualist to integrated approaches*

Economist Keith Hart's 1971 seminal study of Ghana's informal economy looked at economic activity that fell out of the 'formal' definitions of commercial production. Hart academically defined the informal economy, describing it as being distinct from the formal due to non-wage remuneration and self-employment (Hart, 1973). This binary positioning of the informal economy, in relation to the formal economy established the dualist position of the two economic sectors.

He later revisited this concept more critically, stating that the informal economy "was nothing less than the self-organized energies of people, biding their time to escape from the strictures of state rule" (Hart, 2001, p. 157). This more humanist approach placed emphasis on the autonomy and entrepreneurial qualities of participants in the informal economy. Much of the later academic work on the informal economy positioned itself in this integrated paradigm, including the works of sociologist Martha Chen.

Although Hart is regarded as having coined the term 'informal economy', and therefore contributed to academic interest on the sector, he was not the only contribution to the 1970s era research on this front. The International Labour Office (ILO) conducted a seminal report on the informal sector, which popularised the development sector's focus on the informal economy.

The ILO's report on Kenya's informal economy added to the growing body of knowledge centred around the dualist concept. In the report's lengthy introduction (ILO, 1972, p. 5), the ILO set out to describe the informal sector.[2] The first paragraph is quoted for its definitional attempt:

"…The popular view of informal sector activities is that they are primarily those of petty traders, street hawkers, shoeshine boys and other groups 'under-employed' on the streets of the big towns. The evidence presented in Chapter 13 of the report suggest that the bulk of employment in the informal sector, far from being only marginally productive, is economically efficient and profit-making, though small in scale and limited by simple technologies, little capital and lack of links with the other ('formal') sector…"

This Kenya ILO 1972 study and Hart's 1971 study laid the foundations of dualist definitions for research on the informal economy. Their works influenced later research on the informal economy, most notably the works of Martha Chen and Ray Bromley, whose work departed from and critiqued the dualist conceptualization.

Criticism to dualist definitions: *The beginnings of integrated approaches*

Ray Bromley criticizes the dualist definition of the informal economy in relation to the formal economy. Essentially, he is critical of the 1970s definitional binary because he finds it to be a "crude and simple classification" (Bromley, 1978, p. 1034). Bromley calls the dualist approach

[2] In this paper, the broader term "informal economy" is preferred, due to the understanding that the informal economy houses varying sectors within that umbrella term (M. A. Chen, 2012, p. 20).

inconsistent and not reflective of the myriad of activities that lay on the economic spectrum. In essence, Bromley argues for an interrelated conceptualization of the informal economy, one which acknowledges the linkages between the formal and informal.

Bromley's criticism is refreshing, as his dissent comes in the 1970s era, when the rapid non-critical adoption of the ILO and Hart's binary classification of the economy was at its highest. Much of Bromley's criticism contributed to the 2000s era research on the informal economy. Today, when talking about the informal economy, the relation to the formal economy and the linkages between the two is an acknowledged reality.

Towards integrated approaches to the informal economy: *Acknowledging social influences*

Chen (2012) approaches a new manner of conceptualizing the informal economy: an integrated paradigm. Largely credited for guiding research on the informal economy toward the social paradigm, Chen argues that social theories and holistic conceptual models offer a better explanation of the informal economy than previously pure economic conceptualizations (Chen, 2012). This argument is a continuation of Bromley's argument for more complex conceptualisation of the informal economy.

Chen (2009, p. 19) describes the informal economy broadly, as follows:
"… the informal economy includes the self-employed in informal enterprises (i.e. small and unregulated) as well as the wage employed in informal jobs (i.e. unregulated and unprotected) in both urban and rural areas".[3]
Chen's definitional work draws on the greater social dynamics that influence the labour relations and conditions of the informal economy. In doing so, Chen looks at the four dominant schools of thought that interpret the informal economy (Chen, 2009, p. 22). Firstly, the dualist school, which is characterized by the definitions of Hart and the ILO, whereby the informal is seen as distinct from the formal. Secondly, the structuralist school, which argues that the informal is subordinate to and co-opted by the formal. Third, the legalist school, which argues that informal economic activity is chosen because of the ability of informal sectors to absorb economic activity outside of the often-onerous legal framework associated with the formal economy. Fourth, the voluntarist theory interprets labour motivations in the informal economy. Under the voluntarist theory, informal entrepreneurs calculate "the relative costs and benefits" of informal work, and choose this over the formal (Chen, 2009, p. 23). Therefore, a level of agency is accorded to social actors.

Chen finds that although these theories are helpful, they do not provide a comprehensive lens through which to view the informal economy. This echoes the criticism of Bromley, who locates the dualist approach to the informal economy in neo-classical and liberal conversations (Bromley, 1978). Both Chen and Bromley are critical of this social abstraction. As a response to the multiple schools of thought on the informal economy, Chen argues that an encompassing integrative theory is necessary (Chen, 2009). She argues that such an approach would contextualize the informal economy within the greater social dynamic (Chen, 2009).

Integrated approaches to the informal economy: *The role of social theories in providing a better understanding of dynamics amongst informal traders*

The previous sub-section demonstrates the evolution of conceptualizations of the informal economy, from dualist to integrated approaches. This section is a review on literature

[3] In her 2009 work, Chen uses the terms informal economy and informal employment interchangeably.

integrating social theories into understandings of the African informal economy. The argument presented here is that such integrated approaches provide a better understanding of the social and cultural norms, and business practices of informal traders. This is of interest to this study, as such research provides insight into how informal traders navigate challenges such as lack of access to finance.

What is an informal trader?

Informal trade, is an enterprise activity also known as street vending. Informal traders are engaged in the "the retail or wholesale trading of goods and services in streets and other related public axes such as alleyways, avenues and boulevards" (Bromley, 2006, p. 1). Motala (2002) simplifies this definition, defining informal traders as "entrepreneurs who belong to the informal economy and who trade on the streets" (p. 2). These vendors sell in either mobile or stationary stalls, in designated trading areas or on the periphery of such areas (Brown et. al, 2010). When it comes to informal trade, a strong binary exists on opinions about the topic. The argument, amongst those involved in urban development, is either for or against informal trade (Bromley, 2006; Brown et al., 2010).

The case for informal trade in African urban centres

Arguments in support of informal trade activity in the urban economy centre around the four main points (Bromley, 2006). Firstly, informal trade contributes to the overall broader economy and social system in urban centres (Peberdy, 2000; Hunter & Skinner, 2003). Secondly, informal trade provides an occupation to unemployed citizens and therefore, contributes towards poverty alleviation (Hunter & Skinner, 2003; Brown et al., 2010). Third, through the entrepreneurial activity of informal trade, business skills are learnt. Finally, Informal trade contributes to government revenue, through the value added tax (VAT) generated from retail activity.

The case against informal trade in African urban centres

The fact that informal trade happens very publicly, in the urban domain, opens this activity up to challenges in many African cities, and particularly in South Africa (Brown et al., 2010).
The argument against informal trade emanates from elite formal economy institutions, such as private retailers and property owners. This tension pivots on the contestation for space between formal and informal enterprises, underpinned by urbanisation projects orientated towards formalisation in the built environment (Popke & Ballard, 2004; Lyons & Snoxell, 2005; Skinner, 2007; Skinner, 2008; Bick et al., 2009; Brown et al., 2010).

These challenges to the work of informal traders, which is a livelihood strategy, threatens their citizenship in urban society and their ability to conduct their enterprise activity (Brown et al., 2010). These challenges are compounded by the everyday difficulties informal traders face in their working conditions.

The challenges faced by informal traders in South Africa

The majority informal traders in the developing world, and particularly those in Cape Town, South Africa, faces difficulties such as inadequate shelter and limited access to sanitation facilities, water and electricity (Lund et al., 2000; Hunter & Skinner, 2003; Skinner, 2008). Looking towards a conversation around better conditions, authors have made arguments for improved dialogue and consultation between informal traders and local municipalities in South Africa (Lund et al., 2000; Motala, 2002; Lyons & Snoxell, 2005; Skinner, 2008; Brown et al., 2010).

Another difficulty faced by informal traders in Cape Town, South Africa is that of illegality. Many informal traders in South Africa are illegal migrants, and do not have the required identity documentation to legally work in the country (Peberdy, 2000; Hunter & Skinner, 2003; Skinner, 2008; Brown et al., 2010; Fauvelle-aymar, 2014). The high participation of foreign migrants with illegal immigration status in South Africa's informal economy, is a result of the low barriers to entry into the sector (Hunter & Skinner, 2003). This creates a challenge around the issue of legal identity documentation (Bick et al., 2009). These foreign migrants working in informal trade usually cannot access formal banking products, as most bank product applications require legal documentation for eligibility. This places a limitation on the informal enterprises' opportunities to grow (Bick et al., 2009). Bick et al. (2009) note that even if informal traders did have the required documentation to access banking products such as loans, the lending models of South African banks would not be responsive to the needs of the informal market (Bick et al., 2009).

The access to finance challenge is major, and experienced by many informal traders. This challenge negatively affects the enterprise growth of informal businesses (Xaba & Horn, 2002; Bick et al., 2009; Woodward et al., 2011). This challenge is central to this research. Therefore, the remainder of this section extracts this challenge as a discussion point. Regarding the access to finance challenge, the role of social capital amongst informal traders is central to navigating this challenge and other businesses and livelihood strategies (Lyons & Snoxell, 2005; Brown et al., 2010). The authors note that "many street traders' networks spring from complex social capital relations of ethnicity, kinship or religion" (Brown et al., 2010, p. 671). The role of social capital and cultural capital in providing means to navigate challenges faced by informal traders, such as lack of access to finance, is discussed more pointedly in the next sub-section.

Forms of capital in the informal economy: *Social and cultural capital*

In his 1986 book, Forms of Capital, Pierre Bourdieu provides a seminal definition of social capital. As one of the early thinkers on the term and its societal implication, he is credited with theoretically developing the concept. The French sociologist **defines social capital** as:

"... the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition" (p. 86).

He describes social capital as being "material and/or symbolic" and able to be converted to economic capital (p. 86). Bourdieu explicitly states that although economic capital is at the root of all other forms of capital, the acquisition and retention thereof is greatly influenced by social and cultural capital. Both Bourdieu and Vigouroux (2013) discuss how social capital is converted to economic benefit: through the social network one has at her/his disposal. This conversion is informed by the social embeddedness of economic structures (Granovetter, 1985).

Regarding the social networks that transmit various forms of capital, authors explain that this network is not unintentional or incidental, but rather is the result of some collective or individual intention to create and recreate the social relationships that form the basis of the group's constitution or participation therein (Bourdieu, 1986; Coleman, 1988; Putman, 2000). In the same text, Bourdieu (1986) **defines cultural capital**, as the "economic and cultural investments" people make over time (p. 83). This form of capital reproduces and compounds over time. It is available in three states: the embodied state, the objectified state and the institutionalized state (p. 82).

Using the example of the education system, Bourdieu explains that certain classes of society invest more cultural capital in the acquisition of an education and qualification and are rewarded with power and social status, accessing particular jobs and professional positions. These same members of society, through their social standing, imbue a certain currency on their educational institution or qualification, thus reinforcing the cultural capital initially invested (Bourdieu, 1986). This cycle of the creation and reinforcement of cultural capital is how storied families and social classes are formed. It is this notion of cultural capital that Vigouroux (2013) draws on in her research on the dominance of Lingala amongst informal traders in Cape Town's Greenmarket Square.

Social and cultural capital amongst informal traders: *The role of these forms of capital in navigating challenges and difficulties such as access to finance*

Literature on social capital in the informal trade sector argues that this form of capital influences and impacts the business activities of traders (Coleman, 1988; Fafchamps & Minten, 2001; Lyons & Snoxell, 2005; Vigouroux, 2013). In a study on the role of social capital amongst informal traders in Nairobi, Kenya, a dominant finding in Lyons & Snoxell's (2005) research was the informal "mutual help arrangements" amongst informal traders (p. 1086). These arrangements of sharing resources, information and favours such as the borrowing of money, providing smaller denominations to break money for change or guarding another's stall was common (Lyons & Snoxell, 2005). The reasons for participating in these exchanges of social capital was dependency on the social network, and an acknowledgement that this favour might be returned in one's favour (Lyons & Snoxell, 2005).

In her paper focusing on the role of language in migrant labour productivity, Vigouroux (2013) looks at the dominant use of Lingala (a Congolese language) as the language of business, both amongst Congolese and non-Congolese informal traders in Cape Town's Greenmarket Square[4]. She notes *how* Lingala has become the business language in Greenmarket Square, through the dominance of the Congolese informal trader population's social capital, which influences economic relationships. Vigouroux states that "transactions in informal economy are based on personal relations and reciprocity between social agents; they do not necessarily involve money" (p. 301). These personal relations and reciprocity arrangements are social capital. Therefore, the dominance of Lingala is reinforced by the social networking of Lingala speakers amongst each other. Through engaging in business together, this has resulted in "trust" and a "common language" amongst these traders (p. 304).

Referring to cultural capital, she argues that economic capital in the informal economy is attained in a particular socioeconomic context, through a possession of the cultural capital operational in that location (p. 299). **Vigouroux defines cultural capital**, referencing her research participants:

"Cultural capital refers to a set of dispositions that the Congolese call la débrouille, i.e. 'making the best of one's capacity in the environment in which one evolves', which enables individuals to sustain a living especially in adverse socioeconomic environments" (p. 299).

The possession of the operating cultural capital in a particular context, allows the actor in possession of this social language to navigate the structural systems associated with that context (Vigouroux, 2013). Therefore, drawing on that cultural capital, the informal trader is able to navigate and circumvent challenges and difficulties, such as lack of access to finance, using the economic and cultural investments made over time in that context towards practices

[4] One of the research sites in this study.

that enable solutions to the lack of access to finance. Vigouroux (2013) explains that her definition of cultural capital is in line with Bourdieu's approach, but slightly developed to speak to the accumulation of cultural significance in relation to contemporary Africa (p. 298). Another example of how informal traders leverage social capital is the example of Khan El Khalili trading market in Cairo, Egypt (Coleman, 1988). Coleman (1988) describes how the market is infused with social relations, which are built on trust within the trading group. He describes the market place as "consisting of a set of individual merchants, each having an extensive body of social capital on which to draw (from), through the relationships of the market" (p. 100). Like Bourdieu and Vigouroux, Coleman describes social capital in relation to the network, as the intangible "relations among persons" (p. 100). Coleman describes three instances of social capital in the market: Obligation-based social capital, which is premised on trust. Secondly, information channels as social capital, where information transmitted in the group is an asset. Lastly, norms as social capital: the assumed behaviour of a group of people which once embedded can not only facilitate certain actions, but also constrain others. Here, Coleman intimates to the power of these forms of capital, to not only facilitate action, but also to constrain other actions. Although he does not flesh this point out, this is a particularly important point of reference in this research, where the inhibiting role of these forms of capital is explored.

Gaps in the literature

The above literature demonstrates the role of social capital and cultural capital in the business activities of informal traders (Coleman, 1988; Fafchamps & Minten, 2001; Lyons & Snoxell, 2005; Vigouroux, 2013). Amongst informal traders, a major challenge is the lack of access to finance (Xaba & Horn, 2002; Bick et al., 2009; Woodward et al., 2011). The reviewed literature demonstrates how social and cultural capital can provide currency and means for informal traders to navigate the challenge of access to capital (Coleman, 1988; Lyons & Snoxell, 2005; Vigouroux, 2013). This research contributes to this body of research. However, these authors do not speak directly to how the entrenchment of these forms of capital amongst informal traders can also act as inhibiting factors to the adoption of products proposed by financial institutions and technology companies as means to enable access to finance, such as mobile payments. This research engages with this gap in the literature.

Mobile payments in Africa

This section is concerned with mobile payment adoption, and specifically social and cultural influences to adoption in the African context. Mobile technology adoption research is dispersed across disciplines and journals, some focusing on behavioural issues and others on technical issues. Amongst others, leading journals reviewed in this section include: MIS Quarterly, Information Systems Journal, European Journal of Information Systems, Social Theory and Philosophy for Information Systems and Computers in Human Behaviour.

To identify literature that speaks to social and cultural influences to adoption, three filters were used for this literature review: Firstly, as this literature review section is concerned with the social and cultural influences to mobile payment adoption, articles focusing on technical or infrastructural issues were manually excluded. Secondly, articles were manually filtered according to the context; only articles referring to the developing world or African context were reviewed. Finally, these articles were prioritized according to number of citations and whether they were peer-reviewed. Articles with a higher number of citations and peer-reviewed articles were prioritized.

The search was conducted primarily through Google Scholar, EBSCO Host and Science Direct. As this section focuses on the IS adoption phenomena, which is an established body of research in IS, there was no time constraint on the literature search. The keywords and search phrases used were: mobile payments adoption in Africa, IS adoption models, TAM.

In the previous section, literature on the role of social and cultural factors in the informal economy was reviewed. This body of literature demonstrated that lack of access to finance is a major challenge facing informal traders in South Africa (Xaba & Horn, 2002; Bick et al., 2009; Woodward et al., 2011). With the rise of mobile phone ubiquity, mobile payments have emerged as one of the ways to enable access to finance for underbanked or unbanked people (Donner & Tellez, 2008; Mas & Radcliffe, 2011; Deen-Swarray et al., 2013; WorldBank & InfoDev, 2012; FinMark Trust, 2014; Kendall et al., 2014). This is primarily because mobile payments are considered low-cost and easy to use (Donovan, 2012; Mbogo, 2010; Maurer, 2012). However, research shows low adoption of mobile payments in South Africa (Pew Research Centre, 2015).

This research is concerned with the reasons why informal traders in Cape Town, South Africa, who are challenged by access to finance, do not adopt mobile payments. Therefore, in this section, the argument made is: In order to understand the non- adoption phenomena amongst informal traders, the significance of social and cultural factors as influencers must be observed. In accordance with the three types of literature on mobile payments (Donner & Tellez, 2008); this section of the literature review is set out as follows:
A review of literature that assesses the systems' impact on people and on economies: Research on mobile payments and their relevance to informal traders.
A review of literature that explains or predicts the adoption of m-banking/m-payments systems: Research on mobile payments adoption in Africa.
A review of the small body of literature that tries to understand the use of such systems in social, economic, and cultural contexts: Research on the influence of social and cultural factors to mobile payment adoption in Africa. Based on the limitations of existing technology adoption models, an argument is made for the enhancement of such models, as they do not determine the influence of social and cultural factors on mobile payment facilities adoption.

Mobile payments: *What are they and why are they relevant to informal traders?*
Mobile payment facilities are classified as information systems (IS). Information systems are "a technological system that manipulates, stores, and disseminates symbols (representations) that have, or are expected to have, relevance and an impact on socially organized human behaviour" (Hirschheim, Klein, & Lyytinen, 1996, p.2).

There are various mobile applications providing financial services. In terms of function, mobile payments build the broader 'payment ladder/ rails' from which other mobile financial services can leverage (Mas & Radcliffe, 2011; Donovan, 2012). Information systems scholars Dahlberg et al. (2008) define mobile payments as:
"*…payments for goods, services, and bills with a mobile device (such as a mobile phone, smart-phone, or personal digital assistant (PDA)) by taking advantage of wireless and other communication technologies"* (p. 1).
The most important characteristic of mobile payment facilities is that they are **transaction related**.

Why are mobile payments relevant to informal traders?

Previously in this literature review, the challenge of lack of access to finance for informal traders in South Africa was demonstrated. In the international development sector, mobile payments have been positioned as instruments towards increasing financial access for the unbanked or underbanked (Donner & Tellez, 2008; Mas & Radcliffe, 2011; WorldBank & InfoDev, 2012; Deen-Swarray et al., 2013; FinMark Trust, 2014; Kendall et al., 2014). Sitting at the intersection between finance and telecommunications on the one side (private interests) and increasing financial access (social good), these facilities illustrate the hybrid approach to development, which has come to be known as the 'bottom of the pyramid'[5] approach (Prahalad, 2009). This section reviews literature on the role of mobile payments within small and informal enterprises in Africa, acknowledging that mobile payments research is still an emerging body of literature (Dahlberg et al., 2008).

How do mobile payments facilitate access to finance: *The social good*

The financial access benefits of mobile payments are advocated by multiple international development organizations working towards increasing financial access for the world's unbanked and underbanked (Maurer, 2012). One of which is the World Bank, which dominates the narrative of financial inclusion. This is despite the fact that there is no convincing body of research demonstrating demonstrating how mobile technology can lead to financial inclusion (Donner & Tellez, 2008; Maurer, 2008). This is discussed in more detail in the literature review section titled Financial Inclusion.

The World Bank defines mobile payments as the "provision of financial services through a mobile device"(WorldBank & InfoDev, 2012, p. 61). Mobile payments exist in the intersection of finance and telecommunications, with a number of potential role players making up the ecosystem (Donovan, 2012; WorldBank & InfoDev, 2012). The World Bank report describes how a variety of business models and product designs have been created to deliver mobile financial services, in different contexts and with various imperatives. One imperative in the African context is financial inclusion (WorldBank & InfoDev, 2012). The World Bank states "exclusion from the formal financial system has increasingly been identified as one of the barriers to a world without poverty" (p. 62). Mobile payments offer a wide spectrum of underbanked or unbanked users in the developing world context with "an effective way to provide access to finance" (p. 62).

In addition to increasing access to finance, these international organizations position mobile payments as services which increase productivity and efficiencies; decrease transaction costs; generate new employment opportunities and overall contribute to enterprise development of small firms in developing countries (Donovan, 2012).

How do mobile payments generate profits for finance and telecom firms? *The private interests*

In order to situate mobile payments in the broader societal spectrum, it is important to outline criticisms of the facilities and their financial access imperatives. Maurer (2012) argues that finance and telecommunication firms exploit the untapped and underserved market of the unbanked and underbanked to increase revenues through these mobile payment products. Maurer (2012) is critical of the 'bottom of the pyramid' approach to development, as it frames

[5] 'Bottom of the pyramid': a term coined by C.K. Prahalad in his seminal work on how corporations can eradicate poverty through profit. The Fortune at the Bottom of the Pyramid (2004). One of the hallmarks of the bottom of the pyramid approach is the notion that "prosperity can come to the poorest regions only through the direct and sustained involvement of multinational companies" (Prahalad & Hart, 2002, p. 49).

the world's poor as a homogenous consumer class, who passively consume products and services designed to create a dependency. Maurer (2012) argues that this approach to development serves mostly the profit interests of these large finance and telecommunication corporates.

Mobile payments are a recent IS, and the strength of arguments for or against them is still developing. This study acknowledges that opinions in this body of research are ongoing and maturing, and takes the position that mobile payments do play a role as enablers of financial access.

Mobile payments adoption: ***Approaches to understanding the phenomena***

The adoption phenomena is the most widely explored in IS literature (Lee et al., 2003; Williams et al., 2009). However, literature on *mobile payment adoption* in the developing world context is still growing (Kendall et al., 2014; Deen-Swarray et al., 2013; Donner & Tellez, 2008). In this section, a brief review of dominant IS adoption models is given. An argument is made for the limitation of specifically the Technology Acceptance Model (TAM, 1989), premised on its inability to take into account the role of social and cultural factors as influencers of mobile payments adoption.

The IS adoption models: ***Reviewing the Technology Acceptance Model (TAM)***

The dominant model used for IS adoption is the Technology Acceptance Model (Davis et. al, 1989). This deterministic model has evolved over the course of the last 30 years, and has far from maintained its original form (Lee et al., 2003). The model is used mostly in quantitative studies, which fall into the positivist paradigm, and are largely survey driven (Lee et al., 2003). Due to TAM's predominance in IS adoption studies, the model's application to mobile payments adoption is the main focus of this literature review.

TAM is a popular model in IS research and is highly regarded as parsimonious and generalizable (Gefen, 2000; Venkatesh, 2000; Ventakesh, 2003; Benbasat & Barki, 2007; Bagozzi, 2007; Ventakesh, 2012). Initially, TAM was introduced in the 1980s, at the genesis of personal computer usage. The initial objective was to gauge an understanding of PC adoption in the organizational context, with the aim to increase corporate productivity (Davis, 1989). Over the years, TAM's wide usage has made it a powerful model, with high predictive validity (Lee et al., 2003; Ventakesh, 2007; Bagozzi, 2007).

TAM gauges technology acceptance based on two main variables: Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) (Davis et al., 1989). TAM is predicated on the notion that behavioural intention to use a technology is mediated by these two factors (Ventakesh, 2000). Davis (1989) defines each variable as follows:

Perceived Usefulness: "The degree to which a person believes that using a particular system would enhance his or her job performance" (Davis 1989, p. 320). Therefore, the potential user is driven by some extrinsic beliefs of benefit, such as increased productivity or the technology's capacity to enhance their output.

Perceived Ease of Use: "The degree to which a person believes that using a particular system would be free of effort" (Davis 1989, p. 320). Therefore, the potential user is driven by some intrinsic belief related to the usability and utility of that technology.

Although these two variables are based on subjective beliefs, the former relates to beliefs about how the technology will enhance or contribute to the potential user's performance and the latter relates to the physical technology itself and beliefs about its utility and usability. Therefore,

PEOU is more useful to discerning the functionality of the technology. TAM posits the two determinants as influencers to the attitude which determines whether an individual will be predisposed to adopt an IS.

The philosophical underpinnings of TAM

Davis (1989) explains that the two main variables of technology acceptance, PU and PEOU, are underpinned by the self-efficacy theory, which reflects the subjective judgment one makes on how well they can execute a task at hand. The second theory underpinning TAM is the cost-benefit paradigm (Davis, 1989). The cost-benefit paradigm is the cognitive trade-off between an effort and the resulting outcome of that decision, which is implicated by the complexity of that effort. Underlying these aforementioned theories, are antecedent theoretical backbones: The Theory of Planned Behaviour (TPB) and the Theory of Reasoned Action (TRA).

TPB is a general theory used to study subjective norms and perceived behaviours. It is a foundational theory from which to understand unique problems in other substantive areas (Ventakesh, 2007). TPB is considered a precedent to PU and PEOU in TAM (Benbasat & Barki, 2007). TRA has its roots in social psychology, and is predicated on the notion that a variety of beliefs about one's attitude to a particular behaviour is relevant to the study of that behaviour. Early research by Fishbein & Azjen (1975) and Azjen (1985; 1991) underpins the application of TRA in contemporary behaviour studies. TRA is a foundational theory which contributed to the development of TPB and the initial conceptualization of TAM by Davis (Ventakesh, 2003).

A critical review of the TAM adoption model

The bonds of perceived usefulness (PU) and perceived ease of use (PEOU)

TAM is premised on two variables, which has resulted in a certain level of homogeneity within TAM knowledge accumulation, based on the restrictiveness of these two variables. TAM's restrictive two variables have been criticized for their departure from TRA, which supports variety of reasons as explanations of adoption. Therefore, TAM is argued to be contradictory to TRA for this reason (Benbasat & Barki, 2007).

Both the PU and PEOU factors measure subjective beliefs (Lee et. al, 2003). Perceived usefulness, (PU), has been proven to strongly influence IT adoption (Gefen, 2000). This is due to the extrinsic nature of PU, as it relates to beliefs in the external motivations and rewards one believes to be awaiting subsequent to the adoption of an IS (Gefen, 2000).

However, the inclusion of PEOU has long been called into question (Davis, 1989; Adams et al., 1992; Venkatesh and Davis, 1994; Keil et al., 1995; Gefen, 2000). This relates to the intrinsic nature of PEOU, as a self-reported response to the usability and functionality of the physical technology under study (Gefen, 2000; Lee et al., 2003). Researchers have been challenged to isolate this variable as a direct determinant, often linking PEOU as influential to PU, Perceived Usefulness. These arguments in previous research demonstrate the redundancy of PEOU (Gefen, 2000). Even Davis (1989) himself has been stretched to find relation between PEOU and IS adoption.

Therefore, Gefen (2000) argues that PEOU is not relevant to IS adoption when the physical use of that technology is not an inherent quality of the phenomena under study. This requires adoption researchers to get specific about the IS under study, and ask: 'is the usability of the technology integral to the phenomena of adoption or tangential?' (Gefen, 2000). Gefen argues that in the case of ecommerce adoption, PEOU of the technology is not relevant. This argument

can be extended to mobile payments as an IS, where in today's age of mobile phone ubiquity, PEOU holds limited relevance.

The limitations of TAM in light of mobile technology

TAM's contemporary usefulness has not been rigorously reviewed and evaluated in light of mobile technology (Lule et al., 2012; Ayyagari et al., 2011; Cousins & Varshney, 2009; Scheepers et al., 2006). The review of TAM in light of technological advancements is necessary to the relevance of the theory in future IS studies (Bagozzi, 2003; Benbasat & Barki, 2007). Therefore, the model's questioned applicability to mobile technology research is a limitation on its application.

The abandonment of the social and cultural influences

TAM has been criticized for the model's lack of consideration for group, social and cultural factors in context (Bagozzi, 2003). This criticism requires a return to the initial objective of TAM: to offer a model which provides a better explanation of the complexities in IS adoption, in context (Davis, 1989; Benbasat & Barki, 2007).

Literature on the limitations of TAM demonstrate that there is a need for enhancements to be made to the model, specifically to explain how social, cultural and contextual variables influence adoption (Davis, 1989; Bagozzi, 2003; Benbasat & Barki, 2007). In the next sub-section, literature exploring specifically mobile payment adoption in Africa is reviewed. Here, the argument for enhancements to existing IS adoption models is made explicit, as the role of social and cultural factors as influencers of mobile payment adoption is demonstrated.

The role of social and cultural factors in mobile payment adoption

In this section, literature on mobile payment facilities adoption in Africa is reviewed. Based on the literature reviewed, the influential role of social and cultural factors to mobile payment adoption is demonstrated (Bankole et al., 2003; Donner & Tellez, 2008; Dahlberg et al., 2008; Morawczynski & Miscione, 2008; Crabbe et al., 2009). Therefore, this demonstrates the necessity for the modification of existing IS models, such as TAM, to embrace the inquiry into the influence of social and cultural factors.

How does context influence the adoption of mobile payments?

The notion of context as an influence to technology interventions is best explained as technology being 'context sensitive'. This is the argument that technologies are socially embedded and thus context and social conditions form an integral part of any technological intervention (Avgerou, 2001; 2008).

Avgerou describes context sensitivity as:

"the relationship between content and context refers to whether an IS study focuses on technological change or the interaction between technological change and socio-organizational change" (Avgerou, 2001, p. 45).

Regarding the developing world context, Avgerou argues that the site of a technological intervention carries increased significance. This comes as a result of the practice whereby technological applications designed primarily in response to trends and behaviours in the developed world, are transplanted into the developing world context (Avgerou, 2001). Other authors have made arguments for the influential role of context on technology adoption in the developing world (Akpan-Obongo, 2008; Bollou & Ngwenyama, 2008; Bailey & Ngwenyama, 2013). Therefore, literature suggests that when seeking to understand the adoption of technological applications in the developing world, it is important to make reference to the

context and how this influences behavioural intentions and attitudes to adopt a technology (Avgerou, 2008).

Regarding mobile payments, Donner and Tellez (2008) explore the role of mobile banking in Asia. The authors discuss the influence of context in mobile payment adoption and usage within the informal sectors. The authors acknowledge that mobile payments are economic transactions and thus socially embedded. They draw on Avgerou (2001) to support this argument. Donner and Tellez (2008) call attention to the gap in mobile banking literature which explores the "social, economic and cultural contexts surrounding the use of (mobile payment) systems" (p. 319). The authors explicitly highlight the need for research exploring the integral role social and cultural factors play in adoption and use, stating:
"There is a litany of social/contextual influences on m-banking/m-payments use. Both macro-level cultural factors and micro-level, locally-negotiated norms in families and among peers—particularly about money—are at play…" (p. 322).The authors argue for future mobile payment adoption studies to have an appreciation of how social and cultural factors influence adoption.

Secondly, Donner and Tellez (2008) explore the 'crosscutting issue' of trust in mobile banking use and adoption (p. 324). They unpack how trust is multi-dimensional, dynamic and shape-shifts as a technology matures in its context. The authors describe the multi-faceted nature of trust; how it influences the use of the mobile interface and engagement with financial institutions. Donner and Tellez (2008) explain how mobile banking is influenced by trust, describing how economic transactions and relations are located in the greater social context, which implicates relationships, networks, norms and trust.

How does trust influence the adoption of mobile payments?
Offering a definition of trust can be difficult, because of its underlying moral and ethical underpinnings (Hosmer, 1995). In addition to underlying assumptions confounding the attempt, there are various contexts and approaches to trust, namely:"(a) individual expectations; (b) interpersonal relationships; (c) economic exchanges; (d) social structures; (e) ethical principles" (Hosmer, 1995, p. 381). As this paper focuses on the role of mobile payments (a financial product) in the informal economy, this paper will focus on the definition of trust in the context of economic exchanges.

Now that the context of trust has been identified, a definition of trust can be posited. Trust encompasses two dimensions: the perception of credibility, that one person will perform an obligation and the intention of benevolence that accompanies such performance (Ganesan, 1994; Doney & Cannon, 1997).

Trust is relevant to mobile payment adoption because economic transactions, involving the exchange of money, engage the notion of trust (Granovetter, 1985; Morawczynski & Miscione, 2008). As previously mentioned in this literature review, mobile payments are transactional. Therefore, the notion of trust can be extended to understanding the dynamics around mobile payment adoption, as trust is implicated in this phenomena.

Trust is built on embedded past relations, which determine future relations (Hosmer, 1995; Granovetter, 1985). In the context of mobile payments adoption amongst informal traders, the notion of trust would therefore be contextualized in the historical relations between the informal traders and financial institutions. In the previous section of this literature review, arguments in research on informal trade in South Africa demonstrated that there are low levels

of trust between informal economy participants and formal institutions, such as banks and financial institutions (Bick et al., 2009; Perry et al., 2010). Therefore, it can be argued that trust influences mobile payment adoption amongst informal traders, as these are technologies that sit at the intersection of finance and telecommunications (Donovan, 2012; WorldBank & InfoDev, 2012).

The role of trust in mobile payments adoption amongst informal businesses in Africa

Molony's (2007) research focuses on the implications of trust in forming social capital, specifically in relation to the use of technology within informal businesses in Tanzania. Referencing Coleman's (1988) work on the utility of social networks, Molony describes how social capital can function towards the creation of economic relationships. He draws on the work of Granovetter (1985) to support this argument.

In a case study of how technology intersects with business practices in Tanzania, Molony's research reveals 'trust' to be an influential factor to technology usage amongst informal businesses in Africa. Molony defines trust as an overarching concept, and goes on to borrow from Humphrey and Schmitz (1998), who relate the importance of trust in economic transactions to the involvement of risk (p.33). Humphrey and Schmitz narrow the definition of trust into two branches: (i) Minimal trust, which is the fulfilment of explicit obligations and promises, necessary to build extended trust and (ii) Extended trust, which is created when more complex relationships are formed. In extended trust, the trust bridges the risks associated with relations in unexpected instances beyond explicit promises. This is the formation of "trust-based relationships" (Humphrey & Schmitz, 1998, p. 41).

With regards to informal enterprises in Africa, Molony (2007) states that perceived failure of the formal economic system and its institutions embolden the behaviour of informal businesses to seek solutions outside of the formal system. Molony (2007) argues that the formation of these informal economy norms are enabled by trust amongst informal economy participants. Therefore, Molony's argument points to how trust can be an influential factor to technology adoption amongst informal traders, as a factor encouraging these informal businesses to seek solutions within their social networks as opposed to in the formal system.

Regarding the implication of trust in mobile payment adoption, Morawczynski and Miscione's (2008) research looks at the case of M-Pesa in Kenya (refer to Box 1). In looking at the role of trust, the authors use a definition of trust that is 'relational'- namely, encompassing a transaction between two or more actors, either individuals or institutions. The authors define trust as "the expectations that people have of each other, and of the institutions with which they deal" (p. 291). This dynamic changes over time, due to various factors, including the shift in information, roles, society and culture.

Again, the authors relate the use of mobile payments to trust, as this is an 'economic transaction', which has a trust implication (Morawczynski & Miscione, 2008). This echoes the arguments of Donner and Tellez (2008). The authors focus on the successful case of M-Pesa (refer to Box 1), drawing on ethnographic fieldwork in Kibera, Kenya. They argue that the successful trajectory of M-Pesa is dependent upon "the trust relations that are established between the actors involved in these exchanges" (p. 287). This is the multi-faceted nature of 'trust' (Morawczynski & Miscione, 2008; Donner & Tellez 2008). The authors demonstrate this multi-faced nature of trust: where trust between the M-Pesa customer and the parent company Safaricom (who own M-Pesa) is strong; whereas the trust between the M-Pesa customer and the sales agents on the ground is weak (Morawczynski & Miscione, 2008).

Morawczynski & Miscione's (2008) research demonstrates how trust between potential mobile payment users and the institutions administering the services plays an influential role in adoption.

The authors explicitly point out a research gap in the literature on mobile payments non-adoption, stating that "there is very little empirical work examining the adoption of m-banking applications and discussing the numerous barriers to this process" (Duncombe & Boateng, 2009; Morawczynski & Miscione, 2008, p. 288).

How do social and cultural factors influence the adoption of mobile payments?
Dahlberg et al. (2008), deepen the gap pointed out by Morawczynski and Miscione (2008). They argue that the impact of social and cultural factors on mobile payment adoption and use are "entirely uninvestigated issues" (p. 1). Dahlberg et al. (2008) explicitly conclude:
"… it is especially important for future research to study how the *social and cultural factors* influence mobile payments services markets" (p. 6).

Since the time of Dahlberg et al.'s study, social scientists have developed research responding to this research gap. However, to the author's knowledge, little research has been conducted on the role of social and cultural factors in mobile payment adoption amongst informal businesses in South Africa. This research contributes to the body of literature responding to this research gap by exploring the social and cultural factors influencing non-adoption amongst informal traders in Cape Town, South Africa.

The role of social and cultural factors in mobile payment adoption in Africa
Relevant to the role of mobile payment adoption amongst informal businesses, Dahlberg et al. (2008) segment the merchant and consumer position, asking "how should merchants redesign their business process to include mobile payments?" (p. 11). The segmentation of the merchant and consumer in this market forms an integral distinction in this research, where the informal trader's (merchant) non- adoption of mobile payments is the focus of the inquiry.

Staying in the African context, a number of studies have explored specifically mobile payments or mobile banking adoption, using TAM (Davis, 1989) or extensions thereof. In varying ways, these studies have contributed to the conversation around the influence of social and cultural factors in mobile payment adoption in Africa.

Mbogo's (2010) research in Kenya looks at mobile payment usage amongst micro and informal businesses. She finds that these businesses use mobile payments across the supply and value chain. Mbogo's research finds that mobile payments are easily accessible and easy to use by large segments of the Kenyan population, including micro and informal businesses.

Staying in Kenya, the African country where the mobile payment service is most successful, Lule et al. (2012) explore the adoption of mobile banking and outline the limits of TAM in facilitating an understanding of the mobile technology adoption phenomena in the *everyday individual context*. The authors argue that the TAM model needs to be reviewed in light of mobile phone ubiquity and everyday usage. The researchers extended the original TAM to suit the mobile technology scenario, as they found TAM to be limited in this regard.

Bankole et al. (2003) research is premised on the argument that country *cultural trends* influence the results of various behavioural models, and thus the adoption of technology (Hofstede, 1980; Straub et al., 1997; Suh et al., 1998; Keil et. al, 2000; Srite & Karahanna,

2006). The authors studied mobile banking adoption in Nigeria, employing UTAUT, an extension of TAM (Ventakesh, 2003). Their research found culture to be an important determinant to adoption. This provides motivation for the influence of culture on mobile payment adoption in the developing world context.

In Ghana, Crabbe et al. (2009) explored mobile banking adoption in two groups, 'continued users' and 'non-users'. The study employs TAM. The authors commence their research by *stating explicitly that the impact of social and cultural factors requires more research*. The authors found that social and cultural factors do impact adoption in both groups, and significantly so. Therefore, Crabbe et al. (2009) contribute to theory development, modifying the original TAM model to account for cultural and social factors influencing adoption of mobile baking amongst users and non-users in the Ghanaian context.

Two studies are significant in the South African context, the country in which this present research is situated. Most recently, Raleting and Nel (2011) studied mobile banking adoption in the South African context, using TAM. This study reinforces the original TAM, finding that PU and PEOU do influence attitude to adopt mobile phone banking in equal effect. In an earlier study, and also in the South African context, Brown et al. (2003) conducted an exploratory study of cell phone banking the adoption, using a Singaporean model based on Roger's Diffusion of Innovations Theory (2003). Neither of these studies explored the influence of social and cultural factors. This research engages with the research gap presented in the South African context.

Gaps in the literature

The literature demonstrates that mobile payments can play a role in providing a gateway to financial access for the unbanked and underbanked (Mas & Radcliffe, 2011; WorldBank & InfoDev, 2012; Deen-Swarray et al., 2013; FinMark Trust, 2014; Kendall et al., 2014). However, low adoption trends in South Africa require further research, specifically engaging the influence of social and cultural factors on the phenomena. The literature reviewed demonstrates that there is a need to enhance and modify technology adoption models, in order for the models to determine social and cultural factors influencing the adoption phenomena. Researchers have called for such enhanced explanations encompassing the influence of context, social and cultural factors (Lee, 2003; Bagozzi, 2003; Ventakesh, 2007; Dahlberg et al., 2008; Donner & Tellez, 2008; William et al., 2009; Crabbe et al., 2009; Morawczynski, 2009). This research engages with the need for more research *at the intersection of mobile payment adoption and social and cultural factors* (Bankole et al., 2003; Donner & Tellez, 2008; Dahlberg et al., 2008; Morawczynski & Miscione, 2008; Crabbe et al., 2009), and contributes to this research gap in the South African context.

Box 1: The case of M-Pesa

Briefly described, M-Pesa is a Kenyan established mobile money service, started in 2007 by mobile operator Safaricom (Mbogo, 2010). The platform offers a variety of financial product offerings on the single mobile platform, most notably the functionality of transferring money through the platform. At year-end 2014, M-Pesa has a registered customer base of 19 million users in Kenya (SafariCom World Market Intelligence, 2013). The success of M-Pesa in Kenya has called into question dominant notions about technology penetration and adoption in Africa, revealing how context sensitivity and a responsiveness to the social logic can lead to success in technology interventions.

In trying to understand the adoption success of M-Pesa, as compared to elsewhere in Africa, Mas & Radcliffe (2011) list the conditions in Kenya which propelled Safaricom's M-Pesa product to such success:

i. In country demand for domestic remittances;
ii. The poor quality of available financial services in Kenya;
iii. A good working relationship between the banking regulator and the Central Bank of Kenya, which permitted Safaricom to experiment with different business models and distribution channels;
iv. A mobile communications market characterized by Safaricom's dominant market position and low commissions on airtime sales" (p. 173).

Technology for development

In this section of the literature review, research on technology for development is reviewed. Technology for development is an established body of literature, with multiple journals dedicated to this field of study, such as African Technology Development Forum, Information Technologies and International Development, Electronic Journal of Information Systems in Developing Countries and the Journal of Information Technology for Development. Amongst others, these journals were reviewed for this literature review.

As this discourse is expansive, the following filters were applied to the literature search: Firstly, only journal articles published between 2000 and 2015 were reviewed. Secondly, articles were manually filtered according to the abstract, and only articles focusing on the African context were selected for review. Lastly, peer reviewed and highly cited articles were prioritised. As this section aims specifically to review literature on *mobile* technology for development in Africa, the following search phrase was used: mobile technology for development in Africa. The search primarily employed Google Scholar, EBSCO Host and Science Direct.

Aside: The discourse of financial inclusion, discussed in the next section, is intimately linked to that of technology for development, and the critical themes are also very similar between the two discourses (Schwittay, 2011). Thus, only a *brief* overview of the technology for development discourse is provided in this section, because the focus of this literature review is

mobile payment technologies in Africa, which are primarily driven by financial inclusion imperatives, as opposed to technology for development. This is because the mobile phone is ubiquitous in Africa, with 80% of Africa's population covered by mobile cellular, as compared to 99% in the OECD countries (Andrianaivo & Kpodar, 2012). However, because mobile payments are a technology, and in some cases the financial inclusion imperative is labelled a development outcome of this mobile technology, the technology for development discourse is dealt with as an inroad into the financial inclusion discourse.

Definitions and clarity in the technology for development discourse

The technology for development[6] discourse pivots around two schools, what Heeks (2002) and Sein and Harindranath (2004) call the optimistic and the pessimistic camps. The optimistic camp believes that ICT naturally leads to development and the pessimistic camp believes this is not the natural course of events, especially if the ICT intervention is unaccompanied by social change (Avgerou, 1998; 2001; 2008; Bollou & Ngwenyama, 2008; Aker & Mbiti, 2010; Chavula, 2012). Research largely falls within this binary, and this section is presented according to these two arguments. To begin the section, a brief history of the technology for development project is provided and research providing conceptual clarity is reviewed.

History of technology for development

In the 1990s, with the advent of the internet, the notion of leveraging ICTs for development came to the fore of the development agenda (Heeks, 2002; 2010). ICTs were positioned as silver bullets to overcome access challenges caused by geographical proximity, create level playing fields and enable developing nations to leapfrog development (Heeks, 2002). Heeks (2002; 2010) describes how this new development agenda attracted the business of consultants, international organizations and the private sector- all looking to capitalize on the notion of ICT for development.

At this early stage of the ICT for development agenda, the leading project was the rural telecentre model (Bailey & Ngwenyama, 2011, 2013). Heeks (2002; 2008) calls this a mismatched attempt conceptualised in the developed world for a developing world context. In the early 2000s, the spirited beginnings of the ICT for development project soon deflated, as a number of reports demonstrated the failure of ICT projects in developing nations (Heeks, 2002). At this stage, many of the international organizations and the interested parties originally involved in the ICT for development project withdrew their interest (such as the UK's DFID). The ICT for development agenda resurrected in the late 2000s, largely influenced by the role of the mobile phone and its growing global ubiquity.

Seeking conceptual clarity

The technology for development discourse pivots around the notion that technology can be a catalyst for economic development (Becchetti et al., 2003; Lio & Liu, 2006; Bollou & Ngwenyama, 2008; Avgerou, 2010; Chavula, 2012). However, many authors have critiqued the opaqueness of the concept (Avgerou & Walsham, 2000; Wilson, 2003; Heeks, 2002; Madon, 2000; Sein & Harindranath, 2004). In this sub-section, the frameworks of Sein and Harindranath (2004) and Avgerou (2010) will be discussed, as studies seeking to clarify and conceptualise ICT for development research.

[6] This term is used interchangeably with Information and Communications Technology for Development (ICT for Development).

Sein and Harindranath (2004) respond to calls for more theorizing on the subject matter, by attempting to provide some conceptual clarity. Using the human development perspective as an index for national development (Sein & Ahmad, 2001; Soeftestad & Sein, 2003), the authors conceptually bridge the ICT for development narrative, first by defining development according to three perspectives (p.16):
a. Modernization: The modernization project calls for underdeveloped countries to emulate developed countries, through assimilating levers of power, such as control, in order to develop and demonstrate growth. This perspective has been discredited for it does not account for local context and culture (Sein & Harindranath, 2004).
b. Dependency: This perspective argues that poverty is not neutral, as it is a cause of the power relations between developed nations and developing nations, controlled by issues of trade and legacies of colonization. Therefore, ICT (predominantly originating from developed nations) is another tool employed to strengthen the positions of these developed powerful nations (Wilson, 2003; Heeks, 2010). Sein and Harindranath (2004) argue that this view is discredited for how it treats underdeveloped countries uncritically.
c. Human-centeredness (human development): This perspective rests on the imperative to create people-centred development, around the notion of realizing human potential.
Sein and Harindranath (2004) locate the ICT for development narrative in the human-centeredness development perspective. However, this perspective does not acknowledge that 'development' is a contested notion itself (Avgerou, 2010).

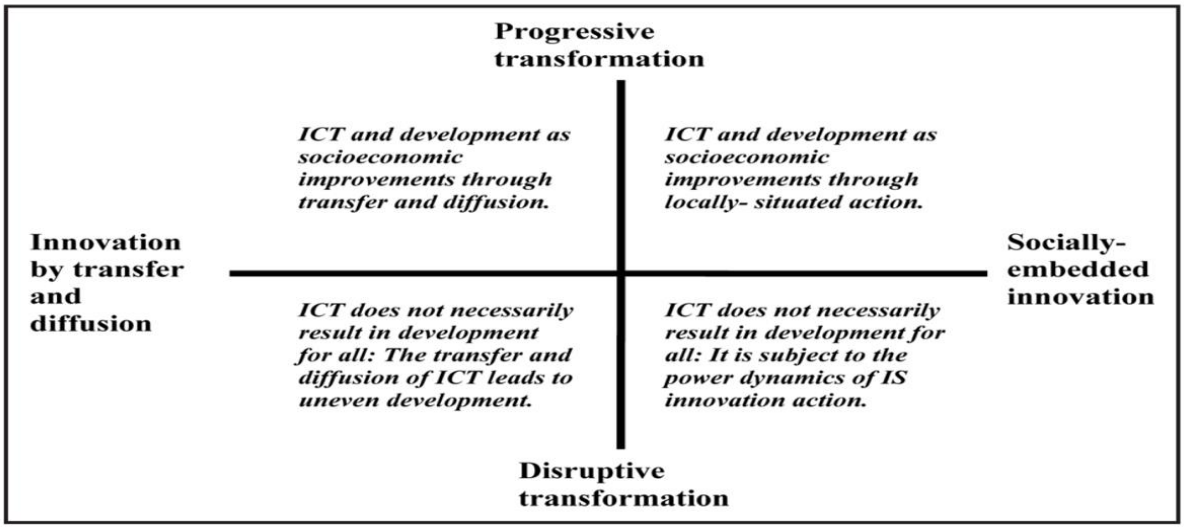
Next the authors outline three conceptualizations of ICT, much in the same way they broke down the notion of development. They move away from monolithic conceptualizations of ICT as a neutral tool, but consider ICTs to be socially shaped and informed by the context (Avgerou, 2010). Sein and Harindranath (2004) conceptualize ICT in three ways. Firstly, through its 'use', which views ICT as a commodity and a driver of the economy, a sector specific tool. Secondly through the lens of a component 'view', whereby ICT is a tool, a proxy, a computational item or part of a greater package of tools towards an outcome. Third, through its 'impact', which centres around the question assessing the effect ICT has on primary, secondary and tertiary levels.

Sein and Harindranath (2007) later revisit this topic and claim that conceptual clarity has still not arrived in the ICT for development discourse. The authors acknowledge the role of technology in development, but argue that without conceptual clarity on how ICT and development interface, it cannot be concluded that ICT interventions lead to development (Sein & Harindranath, 2007). This challenge in the ICT for development discourse is still pervasive, where conceptual clarity and lack of measurement discredits the argument that technology leads to development.

Also seeking clarity, Avgerou (2010) classifies ICT for development in four paradigms. She argues that this classification is not rigid, but rather serves the purpose of demonstrating the themes of argumentation about ICT for development. The four paradigms are:
ICT and development as socioeconomic improvements through transfer and diffusion of ICT required institutions: A techno-economic argument premised on developed countries as examples of ICT-based improvements to life conditions. This discourse is best described by the "catch-up" metaphor.
ICT and development as socioeconomic improvements through locally situated action: This discourse is premised on the social embeddedness of ICTs, that ICTs can only contribute to improvements if they are locally situated and context sensitive.

ICT does not necessarily result in development for all- the transfer and diffusion of ICT leads to uneven development: This discourse acknowledges the role of ICTs in development, but argues that ICTs can also reinforce power, domination and inequality.
ICT does not necessarily result in development for all- it is subject to the power dynamics of IS innovation action: This discourse is premised on a blended understanding of ICTs, as both socially embedded and disruptive. This discourse is based on critical theory. The argument deconstructs the dominant notion about ICT and development, juxtaposing the projected visions against the interests, imaginaries and experiences of the local context and social actors implicated in technology for development interventions (Thompson, 2004; Stahl, 2008).

Figure 1: Avgerou's (2010, p. 9) four discourses on ICT for development



The optimistic camp: ***The argument for mobile technology for development***
Contribution to productivity output and employment growth

It is argued by some authors that the supply of telecommunications services through mobile technology contributes to the output growth in African countries (Ding & Haynes, 2006; Lee, et. al, 2009; Qiang, 2009; Andrianaivo & Kpodar, 2012). Qiang (2009), writing for the World Bank, which has a vested interest in the technology for development narrative,[7] argues that specifically mobile technology penetration in developing nations has contributed positively to economic growth.

One such way that mobile phone operators contribute to government revenue is through various tax implications, income tax and VAT (Andrianaivo & Kpodar, 2012). Additionally, mobile banking, as a specific facility, has been linked to the facilitation of economic growth, through remittances (Andrianaivo & Kpodar, 2012; Kumar, 2013).

Another argument is that the mobile technology sector makes a contribution towards the creation of employment, through the ripple effect of supporting sectors and industries[8] (Andrianaivo & Kpodar, 2012). Therefore, the primary hook for the technology for

[7] This point is articulated in later sections of this literature review, where the vested interest of the World Bank in the mobile payments and financial inclusion project is demonstrated.
[8] In Africa, it is more likely that supporting sectors contribute towards employment, as opposed to manufacturing sectors. Mobile phone manufacturing is predominantly located outside of Africa.

development argument is that technology contributes to productivity gains and thus economic growth (Roeller & Waverman, 2001; Torero et al., 2006; Chavula, 2012).

Capital accumulation and productivity gains
The ICT sector is capital intensive and requires sizable investments (Andrianaivo & Kpodar, 2012). In the same vein, the ICT sector contributes to growth from productivity gains, which are stimulated by capital accumulation (Andrianaivo & Kpodar, 2012; Chavula, 2012). ICT has been shown to increase the productivity and efficiencies of firms (Samuel et al., 2005; Donner, 2007; Andrianaivo & Kpodar, 2012).

Network externalities
The growth effects of ICT are enhanced by network externalities. Some argue that the explosive penetration of the mobile phone in Africa has stimulated network externalities, and positively contributed to growth catalysed by mobile technology (Andrianaivo & Kpodar, 2012).

Market efficiency
The mobile phone contributes towards market efficiencies, through the reduction of transaction costs and increasing information flows for better functioning of markets (Andrianaivo & Kpodar, 2012; Chavula, 2012). Additionally, mobile phones contribute to more efficient telecommunications, lowering transport costs and opening new market networks (Andrianaivo & Kpodar, 2012).

Financial inclusion
Finally, the mobile phone is argued to increase financial inclusion, bringing more unbanked and underbanked people into the fold of the formal financial system (Heeks, 2010; Andrianaivo & Kpodar, 2012). This development outcome is positioned as positive for growth within African countries, as informal and small firms (which are often unbanked or underbanked) will participate in the financial system (Andrianaivo & Kpodar, 2012). This participation in the formal financial system creates opportunities for these firms to contribute to overall country-level productivity through the financial system, allowing the government to capture taxable gains (Andrianaivo & Kpodar, 2012).

The pessimistic camp: *A critical review of the technology for development project*
Lack of clarity and measurement of 'development' in developing countries
The correlation between technology and development is criticised for the lack of rigour in measurement (Garrido, 2004; Heeks 2007). Additionally, in light of increasing mobile technology usage in Africa, very few studies have investigated the impact of telecommunications on economic growth in developing countries, and specifically in Africa (Hardy, 1980; Chowdhury & Wolf, 2002; Gilward, 2005; Waverman et al., 2005; Nkama, 2007; Shiu & Lam, 2008). This calls into question the impact of the mobile technology for development project, as no convincing body of literature has demonstrated a measurement of success in developing nations (Chavula, 2012). A more convincingly conceptualised and rigorous body of knowledge is required (Heeks, 2010).

Technology for development, in the developing world, is conceptualized narrowly and does not consider structural issues
Regarding the narrow focus on technology and its nominal instrumentality, Chavula (2012) argues that for technology to lead to development in the developing world, there needs to be complementary access to broader infrastructures that support such development imperatives, such as electricity. In reference to technology as a tool in the greater social dynamic, Schwittay

(2008) argues that technologies are not neutral, as positioned by ICT for development practitioners, but are instruments towards profit gain by corporations, an oft ignored fact in the ICT for development narrative located in the developing world. Avgerou (2010) explains how the ICT for development narrative rests on a narrow assumption that developing countries are disadvantaged in relation to developed countries, which reveals how the discourse sits in a one-sided and limited frame of reference.

Lack of convincing knowledge on the correlation between technology, development and growth

In their research observing investments in technology for development across six African countries, Bollou and Ngwenyama (2008) demonstrated that using "ICT as an engine of economic growth is complex" (p. 303). This point is illustrated by other authors, who have argued that there is no convincing body of literature demonstrating that technology leads to development and economic growth in Africa (Bollou & Ngwenyama, 2008; Aker and Mbiti, 2010; Chavula, 2012). Aker and Mbiti (2010) specifically stress the dearth of empirical evidence demonstrating any correlation between mobile technology and development outcomes. Chavula (2012) argues that the correlation between technology and growth has only been demonstrated in the developed world context (Hardy, 1980; Waverman et al., 2005; Sridhar & Sridhar, 2007; Shiu & Lam, 2008). Shiu and Lam (2008) argue that in developing countries, technology adoption has not reached the required level of density to activate the economic benefits derived from network externalities. Waverman et al. (2005) found the same.

Financial inclusion has not been demonstrated from mobile payment usage

There is no convincing body of literature that demonstrates that specifically mobile payments lead to financial inclusion (Donner & Tellez, 2008; Maurer, 2008). This forms the point of departure for the next section of this literature review, as this is the point of argumentation.

The theme of financial inclusion and mobile payments is discussed next. Firstly, financial inclusion is defined. Secondly, criticisms of the financial inclusion project are presented, which mirror those against the technology for development discourse. Third, the benefits and causes of financial inclusion and exclusion, respectively, are discussed; and finally the role of mobile payments is discussed.

Mobile payments and financial inclusion

In this section of the literature review, research on the intersection between mobile payments and financial inclusion is reviewed. This is a growing body of literature, specifically in the African context. No one journal focuses on financial inclusion, and literature is dispersed across disciplines. Therefore, it was not possible to search in one particular journal or discipline.

As this section aims specifically to review literature on the role of mobile payments towards financial inclusion in Africa, the following keywords were used: financial inclusion in Africa, mobile payments. The search was conducted on the title, abstract, keywords and full text of articles published between 2008 and 2015. The articles were manually filtered to identify articles that focused on both mobile payments and financial inclusion. The search primarily employed Google Scholar, EBSCO Host and Science Direct. Although journal articles with higher citations and in peer-reviewed journals were identified and prioritised for review, this is an emerging research area, which called for the inclusion of practice area reports and conference proceedings.

In this section, literature on the role of mobile payments in the financial inclusion project is reviewed. Although this empirical study does not measure the financial inclusion impact or propose that mobile payments lead to financial inclusion, this subject area is discussed as it informs the mobile payment discourse.

As intimated in the previous section, the role of mobile technology in financial inclusion has not been demonstrated (Donner & Tellez, 2008; Maurer, 2008). In this section, the argument is deepened. In this sub-section, the literature reviewed supports the argument that *specifically* the role of mobile payments towards financial inclusion is still inconclusive.

What is financial inclusion?

In 2008, the World Bank introduced the financial inclusion conversation into the development arena, in their Policy Research Report on finance (Manji, 2010). In the report, the Bank outlines how financial inclusion is linked to broader structural reforms such as poverty reduction and economic development. Therefore, the World Bank legitimizes financial inclusion in "discourses of raising productivity, stabilizing livelihoods, and protecting against emergencies" (Schwittay, 2011, p. 385). These legitimization discourses will be discussed in this sub-section, followed by a review of literature that critiques the financial inclusion project. A number of international organizations such as GSM Association (GSMA), an association representing the world's mobile network operators, the World Bank's Consultative Group to Assist the Poor (CGAP), the UK Department for International Development (DFID), the Bill and Melinda Gates Foundation, FinMark Trust and the World Bank's International Finance Corporation (IFC), are all working towards financial inclusion for the world's unbanked and underbanked. Most notably, the World Bank has a broad influence on the financial inclusion narrative- housing organizations such as CGAP and IMF (Schwittay, 2011).

Besides these international development actions, financial inclusion is on the radar of private sector multinational companies with a profit interest, smaller social enterprises and 'philanthrocapitalists' (Schwittay, 2011, p. 390). The mix of these organizations demonstrate the wide-ranging interests in the financial inclusion project. However, the involvement of these parties in the financial inclusion imperative is contested. This is discussed in the sub-section on financial inclusion criticism.

Returning to definitions; in 2012 the World Bank defined financial inclusion as "the use of formal accounts" (Allen et al., 2012). Again, the Bank reiterates the role of financial inclusion to creating welfare and alleviating poverty. The Bank outlines how access to formal financial services can increase the savings and investment capacity of small enterprises, contributing to growth opportunities (Demirguc-kunt & Kiapper, 2012; Donovan, 2012). In this 2012 report, the Bank qualifies the financial inclusion project, by differentiating between access and use. The Bank also states that financial exclusion may be voluntary (Demirguc-kunt & Kiapper, 2012).

Outlining the role of technology, the Bank notes how the role of mobile money has changed the way people 'engage' with formal financial services (Demirguc-kunt & Kiapper, 2012). The mobile phone has emerged as an instrument of financial inclusion, by providing access to lower income, 'bottom of the pyramid' markets which were previously too expensive or too difficult for financial institutions to reach (Ilahiane & Sherry, 2012). Therefore, the case for mobile payments rests on the ubiquity and geographical reach of the mobile phone, which has provided a solution space for the causes of financial exclusion (Mas & Kumar, 2008; Schwittay, 2011; Andrianaivo & Kpodar, 2012; Oluwatayo, 2012).

What causes financial exclusion?

Although not exhaustive, the World Bank discuss four causes of financial exclusion (Demirguc-kunt & Kiapper, 2012). Firstly, the Bank argues that the unbanked population are geographically alienated from financial institutions. Secondly, the high cost of formal banking, for both the customer and the bank, are another issue. Examples of this are the minimum deposit requirement for customers and the high cost structures of banking infrastructure, which is required for commercial banks to handle the financial demands of a lower income or rural market. Thirdly, the lack of proper documentation on the part of potential customers is another cause of financial exclusion, which is particular to the informal economy (Mas, 2010). Finally, many of the unbanked have a fidelity to cash (Mas, 2010).

The issue of cash dominance is a pervasive cause of financial exclusion in the informal economy (Bromley, 2006; Donner & Tellez, 2008; Blanco et al., 2009; Bick et. al, 2009; Kendall et al., 2014). Cash-based economies are synonymous with developing nations, and this status is likely to hold firm for the near future (Sarin et al., 2007; Gupta et al., 2014). The trouble with cash-based economies for the unbanked and underbanked are outlined below. However, implications for the government are that cash-based transactions are often not documented and this results in a tax collection loss to the nation's coffers, impacting GDP (Gupta et. al, 2014). Therefore, governments of developing nations have a vested interest in financial inclusion and building measures towards migrating cash-economies to recordable transactions.

How does financial exclusion affect the underbanked and unbanked?

Financial exclusion, predominant in cash economies, creates certain pain points for the financially excluded (Mas, 2010; Gupta et al., 2014). These include difficulty in making remote payments with cash; issues of safety when travelling with cash; difficulty in building savings (Sarin et al., 2007); and difficulty in building credit history to engage with the financial system, a challenge which effectively decreases the trust between this market segment and the banks (Bick et al., 2009).

However, the World Bank is careful to note that the world's unbanked and underbanked already manage complex financial transactions daily, whether it be within or outside the formal

financial system (Demirguc-kunt & Kiapper, 2012; Donovan, 2012). Therefore, although they face the above pain points, they are already engaged in innovative financial behaviour, enabled by necessity. Mas (2010) reinforces this cautionary assertion, highlighting the innovative behaviour of the world's unbanked and underbanked.

To summarize: Recently, the financial inclusion imperative is leveraging the mobile phone to provide financial services to unbanked and underbanked people (Mas & Radcliffe, 2011). As previously mentioned, international organizations have recently become interested in this intersection between mobile technology and financial services and how this can contribute towards financial inclusion. In the next sub-section, the inconclusive role of mobile payments in the financial inclusion project is discussed.

A critical review of the financial inclusion project

Lack of conceptual clarity and means of measurement

As previously discussed, mobile payments are often linked to the outcome of financial inclusion, with no clear discernment about what the term 'financial inclusion' means or how it can be measured (Bettignies, 2009; Donovan, 2012; Gupta et al., 2014). Sarma's (2008) financial inclusion index[9] has attempted to rate inclusion on a country-level. However, the limitation with this index is the country-level aggregation of the data, which does not reflect what individual countries are doing towards financial inclusion (Kendall et al., 2010; Kumar, 2013). This contributes towards inconsistency in country scores (Kumar, 2013).

Regarding the term 'financial inclusion', Schwittay (2011) warns that the problem with 'inclusion' is its overly positive undertone, which intones the imperative to pure benevolence. She argues that financial inclusion is not all encompassing, nor are relationships between the poor and financial institutions devoid of discriminatory legacies (Schwittay, 2011). This is particularly poignant in the South African context, where the banking system only began servicing the black population post-1994, in light of the democratic dispensation.

Power relations

The financial inclusion project, spearheaded by financial institutions and technology firms, is complicit in the implicitly forceful motive to formally bank the world's poor, unbanked and underbanked (Schwittay, 2011). The financial inclusion project increasingly marginalizes those who are not participating in formal banking, which can lead to predatory relations between the world's poor and financial institutions (Schwittay, 2011). This leads to another criticism of the financial inclusion project, the lack of attention given to the social responsibility role of financial institutions, particularly in providing banking products to those in the 'bottom of the pyramid'- the unbanked and underbanked (Bettignies, 2009; Ilahiane & Sherry, 2012). Bettignies (2009) argues for the necessity of a study on the social responsibility role of financial institutions, as powerful players in the financial inclusion space.

Control and dominance

Another criticism is the co-option of poverty by market-influenced development initiatives. Clothed in benevolence, large financial institutions and technology outfits seek profits at the 'bottom of the pyramid'- through financial inclusion style initiatives (Schwittay, 2011; Ilahiane & Sherry, 2012). Schwittay (2011) argues that these types of financial inclusion initiatives position the global poor as 'fiscal subjects and financial consumers', with the financial inclusion project being both a development and market opportunity. At this intersection

[9] The Index of Financial Inclusion.

between development and finance, what Schwittay terms the 'financialization of development', is where poverty alleviation is at risk of being a new frontier for capitalism to exploit (Schwittay, 2011, p. 383).

Fetishization of technology as a solution

This argument is based on the need to explore the diversity of financial needs amongst the world's poor and the need to question market-serving assumptions about not only the socio-economic impact of financial inclusion measures but also consumption at the 'bottom of the pyramid' (Bettignies, 2009; Ilahiane & Sherry, 2012). Linked to this criticism is the role of technology in financial inclusion, identified as a low hanging fruit which blankets over structural inequality (Schwittay, 2011; Ilahiane & Sherry, 2012).

In light of these criticisms to the financial inclusion project, how have mobile payments contributed towards greater financial inclusion? Literature demonstrates that this is inconclusive.

How do mobile payments contribute towards financial inclusion[10]?

As previously mentioned, the mobile phone is viewed as ubiquitous in Africa, which has opened up conversations about how it can be used to provide a means towards closing Africa's financial infrastructure gap and facilitating access to finance (Schwittay, 2011; Andrianaivo & Kpodar, 2012). Adding to that, the mobile cellular coverage in African countries largely mirrors that of developed nations (Andrianaivo & Kpodar, 2012). Based on the argument that financial inclusion and the number of banked individuals in Africa lags behind developed nations, financial institutions and technology companies offer the mobile phone as a potential solution (Andrianaivo & Kpodar, 2012). This is due to the mobile phone's ability to facilitate branchless banking. However, there is no convincing body of research that concludes in-country person to person mobile payments lead to financial inclusion (Donner & Tellez, 2008; Maurer, 2008). In this section, this argument is demonstrated.

The role of mobile payments towards financial inclusion in Africa

Organizations such as the World Bank have been explicit in arguing for the benefits of mobile payments. This comes as no surprise, as the organization is heavily invested in the financial inclusion project. The organization outlines how mobile banking can provide individuals with access to savings schemes, which increases savings (Aportela, 1999; Ashraf et. al, 2010a) and productive investment (Dupas and Robinson, 2009).

Besides the proclamations of the World Bank, perhaps the most articulate case of mobile payments and some measure of financial inclusion is in Kenya. The high rate of M-Pesa adoption (refer to Box 1) is credited for moving a largely cash and barter based economy to a formal banking system (Mas & Morawczynski, 2009; Morawczynski, 2011; Suri et al., 2011; 2012). Suri et al. (2012) argue that M-Pesa has introduced resilience into Kenyan households against adverse socio-economic shocks. The relevance of this increased resilience towards adverse shocks is that along with low labour productivity, adverse shocks perpetuate poverty

[10] A note: In this section, the role of mobile payments towards financial inclusion based on remittances is not discussed, as this is not the focus of this research. Regarding remittances, authors note that there is little research confirming the hypothesis that mobile payment remittances contribute towards financial inclusion (Toxopeus & Lensink, 2007). Rather, remittances have been found to contribute to the growth of local economies, job creation, consumption, income and investment (Stahl and Arnold 1986; De Vasconcelos 2005; Toxopeus & Lensink, 2007; Gupta et al., 2009; Nyamongo et. al, 2012; Donovan, 2012). Despite these studies, authors point out that the correlation between remittances and economic growth has not been studied at depth (Giuliano & Ruiz-Arranz, 2009).

(Mas, 2010). Therefore, it can be argued that M-Pesa has contributed towards poverty alleviation in Kenya.

Set in rural Nigeria, Oluwatayo's (2012) study explores the role of mobile financial services to rural households. The authors also acknowledge the role mobile financial services play towards resilience, on both a household and enterprise level in rural households (Oluwatayo, 2012). However, the authors do not conclude any measure of financial inclusion due to mobile payments, and credit this finding to the low rate of mobile banking usage in study area (Oluwatayo, 2012).

Deen-Swarray et al. (2013) echo Dahlberg et al. (2008), and outline a number of net positive outcomes of mobile payments, one of which is that they have the potential to facilitate greater financial mobility. The authors discuss the theme of mobile payments and their role in enabling financial access amongst informal businesses. However, in both research instances, the authors do not explicitly conclude that mobile payments lead to financial inclusion.

Acknowledging the challenge around financial access for informal businesses, Deen-Swarray et al. (2013) state: "One of the major challenges faced by informal business owners is lack of access to the formal banking system, in particular capital" (p. 63). The authors acknowledge mobile payments as a gateway to financial inclusion, but argue for further research on the social and cultural factors influencing the use and adoption of mobile payment facilities, stating: "Interestingly, most businesses tend to send cash with someone when they need to transfer funds. This could be due to lack of alternatives, or there may be some social factors that underlie the face-to-face interaction by businesses" (p. 63). The authors state that these factors need to be explored in further research. Allen et al. (2014) explore the financial inclusion and development landscape in Africa and find that population density is a key factor to financial inclusion and development. The authors find that mobile banking has spread very fast across Africa, but do not conclude that these facilities have led to financial inclusion.

Gaps in the literature

The above literature reviewed shows that there is no convincing body of research that demonstrates that mobile payments lead to financial inclusion (Donner & Tellez, 2008; Maurer, 2008). Although this research does not measure the correlation between financial inclusion and mobile payments, it contributes towards the dialogue in this research gap. Additionally, there is limited academic research discussing the role of mobile payments in South Africa. Most of this research occurs in a practice related space. Therefore, this research also contributes to that dialogue.

Chapter III

THEORETICAL PERSPECTIVES

In this chapter and the next, the communication style temporarily changes to that of the first-person, as I describe the theoretical perspective, in this chapter, and the research methodology, in the next chapter.

This social science research falls within the critical social theory (CST) paradigm and employs the hermeneutic cycle. Both theoretical perspectives engage the act of interpretation, which implicates the researcher's subjective self (Lee & Baskerville (2003). In CST, the researcher prescribes meaning to the social actor's accounts, which are in the form of the everyday language and experiences of the social actors in the study. In this study, I seek to understand and explain how informal traders (the social actors) do not adopt mobile payments (the social phenomena under study), an explanation which is influenced by my worldview. However, there are particular principles that govern research activities in CST and critical hermeneutics, which address the risk that subjectivity poses on validity and reliability. These principles will be described for both theoretical perspectives, followed by a presentation of how the theories were particularized in this study.

Critical social theory in IS research

Before discussing how the CST approach has contributed to new ways of understanding how complex social dynamics influence technology use and adoption in the context of information systems research (IS), I must once again present a definition of an IS, and specifically one which acknowledges the social implication on IS. Hirschheim et al. (1994) defines an IS as follows:
"… a technological system that manipulates, stores, and disseminates symbols (representations) that have, or are expected to have, relevance and an impact on socially organized human behaviour" (p. 2).
By defining an IS in relation to organized human behaviour, information systems are placed in the social context, which provides motivation for understanding how society dynamics influence the use and adoption of that IS. CST research is concerned with the pursuit of knowledge that is grounded in the human experience. Therefore, CST research in IS opens up new ways of understanding technology use and adoption in this way. Lyytinen and Klein (1985) agree, and suggest that CST is an appropriate theoretical perspective for such alternative inquiries in IS research. Hirschheim et al.'s (1994) definition echoes the work of Lyytinen and Klein (1985), who argue that IS knowledge inquiries should not only pursue increased efficiency in organizations, but also increased human understanding and emancipation from socio-political control. As demonstrated in the discussion on the principles of CST, this paradigm is appropriate for such pursuits.

I chose to conduct this study in the CST paradigm on the basis of a hunch I developed early on in the research project, whilst formulating the research question: *'Why don't informal traders in Cape Town use mobile payment facilities?'.* It became apparent to me that the interpretation of the social actor's accounts would be fundamental to the pursuit of this question, and that the reasons for non-adoption would be socio-political and culturally sensitive. Therefore, when

strategizing *how* I would answer this question, I thought to situate this research within a meta-theory which is associated with interpretive research and the understanding of how society, cultural and power determine human behaviour. In selecting CST as the research paradigm, I found the paradigm and the research sphere (IS) to be complementary, as both IS research and CST paradigm deal directly with "information, knowledge and essential human interests" (Klein & Huynh, 2004, p. 217).

The application of the CST paradigm in IS research is not novel. This body of work includes, amongst others, Cecez-Kecmanovic, Klein, and Brooke (2008); Hirschheim and Klein (1993; 1994); Lyytinen (1992); Lyytinen and Hirschheim (1988); Ngwenyama (1991) and Ngwenyama and Lee (1997). This study contributes to this body of work, and advances knowledge which is a departure from positivist and deterministic research approaches to IS adoption. A CST perspective acknowledges that IS are "a variety of information technologies (IT) such as computers, software, databases, communication systems, the Internet, mobile devices" ***but*** that they perform tasks which "inform various actors in different organizational or social contexts" (Boell & Cecez-Kecmanovic, p. 4959, 2015). The CST researcher's deference to the human experience in IS research produces research which improves the theory and practice of research in this sphere, by more readily advancing knowledge that pursues the improvement of the human condition (Ngwenyama, 1991). Specifically, in relation to *IS adoption research*, studies in the CST paradigm open up the space to advance an understanding of the adoption phenomena which is determined by the accounts of the social actors and the influence of context on their actions (Ngwenyama, 1997).

In this study, Habermas' Frankfurt school of CST is the chosen perspective, as this is the most dominant school of critical social theory in IS research (Ngwenyama & Lee, 1997; Howcraft & Trauth, 2004; Klein & Huynh, 2004). In the next sub-section, I provide a brief historical background of CST and focus on Habermas' CST.

Historical background of critical social theory

The term critical social theory was coined by Max Horkheime in the 1930s, as a counter to "traditional social theory", which evolved along the lines of positivism (Ngwenyama & Lee, 1997, p. 151). As one of the most widely used social theories, CST emerged as a response to instrumentality as an explanation in social theories (Hirschheim et al., 1996). The epistemology of CST is found within the spectrum between Marxism and psychoanalysis (Myers, 2004; Silva, 2007).

One of the earliest thinkers on CST is Jurgen Habermas, who is part of the Frankfurt school of CST, and is largely credited for developing CST (Myers, 2004). Habermas' conceptualization of CST is adopted in this study, for its value in scope and depth towards the treatment and development of the theory. It must be noted that I do not intend to present an exhaustive discussion of Habermas' extensive work, as this is too broad for this thesis. I only reference two prominent Habermas' texts, as they are most influential on CST.

The reasons for aligning this research with Habermas' CST are two-fold, based on his two prominent texts:

First, Habermas' social action theory is *orientated towards understanding social problems in modern society*, such as the 'problem' in this thesis. He discusses this theory in his text The Theory of Communicative Action (1987). Habermas' social action theory also forms a core base for CST, which is the most prominent social action theory in contemporary social sciences

(Hirschheim et al., 1996). The fundamental principle of social action theory is the understanding of the behaviour or phenomena from the viewpoint of the social actor (Hirschheim et al., 1996). This principle lays the foundation for the theme of social construction of reality, which is central to CST. Habermas' social action theory is not only foundational to the conceptualization of CST, but also fully informs the objectives of this research inquiry, which is to provide an explanation of mobile payments non-adoption which is grounded in the accounts of the social actors (informal traders). Thus providing motivation for Habermas' CST.

Second, in Habermas' earlier work, Knowledge and Human Interest (1972), he argues that *society is a human-organized construct*, and therefore because of this self-organization, humans are able to effect their formation (Klein & Huynh, 2004). This argument lays the foundation for CST's concern with emancipation. In the same text, Habermas' presents the three knowledge concerns driving human inquiry: a) technical b) practical and c) emancipatory (Ngwenyama & Lee, 1997). In this work, Habermas rejects the notion that scientific knowledge is objective, and that technological applications are neutral (Silva, 2007). The argument for the holistic integration of these three knowledge concerns forms the base from which CST was developed, and underpins CST inquiries (Ngwenyama, 1991). The emancipatory concern of CST also supports this research, which seeks an explanation based on emancipation, and departs from imposing a technical and deterministic explanation.

Therefore, given the objectives of this study, Habermas' CST provides a complementary vantage point from which to study mobile payments non-adoption amongst informal traders in Cape Town, South Africa.

Principles of critical social theory

Ngwenyama (1991) provides some clarity around the principles and assumptions of Habermas' CST. Although Ngwenyama does not intend to provide an exhaustive explanation of the CST paradigm, he provides some conceptual clarity on the principles and assumptions framing the Habermasian CST paradigm, which is helpful as a CST researcher, as no CST framework exists. These conceptualizations are borrowed for this discussion, to organize this sub-section in some structured format.

The world is socially constructed

Habermas argues that humans (social actors) are dynamic and social life does not follow any nomothetic rule, as is the norm in the natural sciences. Rather, there is a multiplicity of understandings and accounts that can arise from the social sciences. (Hirschheim et al., 1996). This is Habermas' integrative principle, which is at the core of idiographic reasoning, which forms a cornerstone of CST. Idiographic reasoning is applied in CST, and stands in contrast to nomothetic reasoning, by accommodating the dynamism of social actors and the multiplicity of understandings and accounts that can arise therein. Idiographic reasoning is achieved through activities of sense-making on the part of the CST researcher, which is an emergent process of continuous interpretation (Hirschheim et al., 1996). The distinction between idiographic and nomothetic reasoning also forms the core difference between observing nature versus observing people (Ngwenyama, 1997). CST is concerned with the latter, the observation of people in their socialness.

The engagement with the wider social context, and how it influences and constrains the social actor in an IS for development intervention, is a practice central to the work of the CST researcher. Acknowledging the influence of the context, social institutions and relations of

power and domination, allows for an emergence of the multitude of interpretations and explanations of technology use and adoption (Avgerou 2001; 2004). This emergence is essential to understanding the complexities in the social science inquiry, from the perspective of the social actor (Howcraft & Trauth, 2004). Specifically, in this study, where Habermas' CST is applied, this version of CST is concerned with questioning and revealing assumptions, power relations and hidden suppressions (Stahl, 2008). This concern was primary in this study, where the objective was to understand mobile payments non-adoption from the perspective of the social actors (informal traders). In order to reach this understanding, I engaged in a critical interrogation of the validity of my claims and sought justifications for the claims I was making (Stahl, 2008).

Reason and critique as inseparable and reflexive

CST is concerned with the social phenomena, and this concern defers to the experience of the social actor, as "active processors or interpreters who are not mere receptacles of meanings transported to them, but who create or enact the meanings that they come to hold" (Ngwenyama & Lee, 1997, p. 152). The social actor is involved in creating and enacting meaning in his/her social world, which also holds true for the CST researcher. Both the social actors and the researcher are involved in meaning making, a process influenced by their social conditioning. Berger and Luckmann (1966) illustrate this dialectical nature of man's social construction of reality, in this quote: "…the relationship between man, the producer, and the social world, his product, is and remains a dialectical one" (p. 78).

Following from the inseparability of reason and critique and the dialectical nature of man's social construction of reality, is the notion that the CST researcher must therefore be reflexive and collaborative in his or her research (Ngwenyama, 1991; Howcraft & Trauth, 2004). On the part of the researcher, reflexivity is the ability to recognise and keep cognisance of how one's own worldview and attitude influences the research inquiry. The researcher is kept in check by allowing an open and collaborative environment in the pursuit of knowledge, whereby the researcher continuously exposes the inquiry to the social actors and public critique. This requires a discursive orientation on the part of the researcher, which is important in CST research, as the influence of subjectivity poses a risk to the reliability of the findings. This can weaken the claims and argumentation in the study. In this study, I aimed to be cognisant of my subjectivity and maintain a reflexive disposition. I also took measures to guard against the risks to reliability and validity, and discuss these measures in the sub-section on particularizing the frameworks.

Emancipation and human agency

Linking up to the notion that social actors are engaged in the activity of constructing and interpreting their socialness, another concern of CST is that of emancipation, which is a core theme in the Habermasian tradition. Although CST acknowledges that knowledge interests in the empirical sciences serve a purpose in research orientated towards technical control and the prediction of a phenomena, CST rejects technological determinism (Howcraft & Trauth, 2004). Rather, CST pursues a more critical discourse in understanding social phenomena, influenced by the concern with emancipation (Ngwenyama, 1991; Alvesson & Willmott, 1992: Myers, 2004). This difference highlights the appropriateness of CST to this study, where the objective is not the pursuit of deterministic or technical explanations, but rather an understanding of how the social and cultural factors influence non-adoption.

Applying the critically orientated lens to explain and understand social behaviour, it is the critique of the status quo, as opposed to a reproduction thereof, which informs our pursuit of

knowledge as CST researchers (Ngwenyama, 1991; Howcraft & Trauth, 2004). This is built on the commitment to the freedom of individuals from power relations and the pursuit of alternatives to societal oppression (Ngwenyama, 1991; Alvesson & Willmott, 1992; Myers & Avison, 2002). CST researchers look towards a solution space that "more adequately address(es) human desires" (Ngwenyama, 1991, p. 2).

In this study, I aimed to find balance between a) critique of the status quo; b) understanding the causal influences of the status quo on the informal trader's behaviour and c) remaining open to the agency of the informal trader in his decision-making. The theoretical contribution, which explains the informal trader's non-adoption of mobile payments, is the result of a conversation between these imperatives.

Critical hermeneutics

In this study, I use critical hermeneutics as a theoretical framework for the empirical analysis. Critical hermeneutics falls within the critical paradigm, and is therefore, rooted in the same epistemology of CST. As a mode of analysis different to pure hermeneutics, *critical* hermeneutics shares in the principles and assumptions of CST, which were discussed in the previous sub-section.

By way of brief background, critical hermeneutics is an integration of Habermas' critical social theory and Hans-George Gadamer's hermeneutics, and emerged from debates between the two scholars (Myers, 1994; Myers, 1995; Klein & Myers, 2001; Myers, 2004). It was further developed by the German philosopher Martin Heidegger, who together with the French philosopher Paul Ricoeur, is largely credited for developing the critical hermeneutic approach in contemporary social sciences.

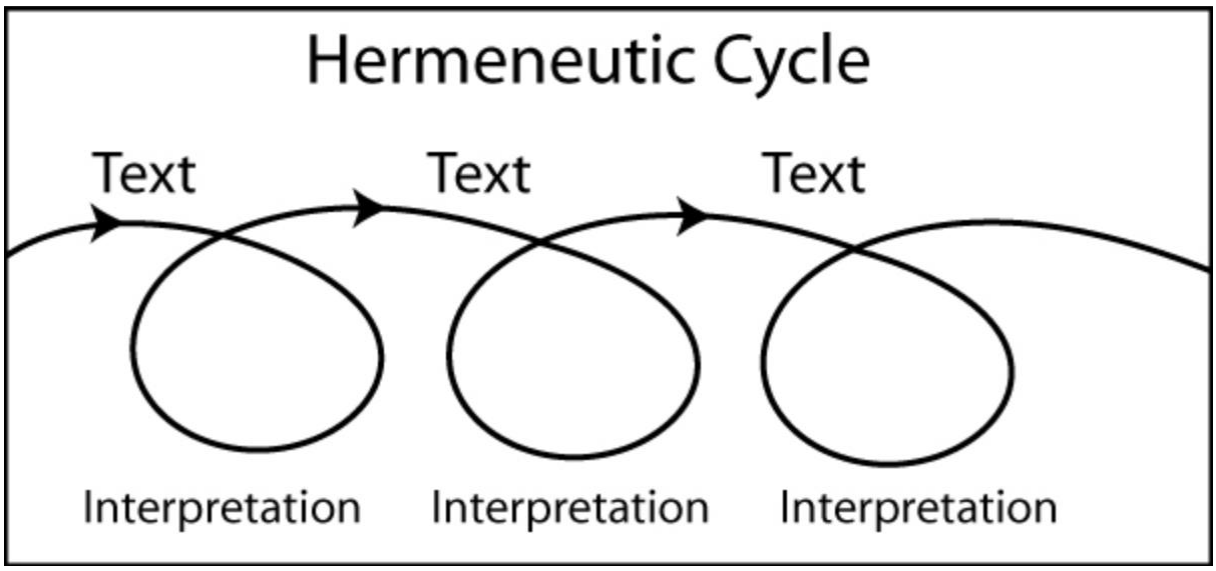
The hermeneutic cycle

More specifically, Gadamer's hermeneutic cycle (1976) informed the empirical analysis in this research project. In the cycle, the act of interpretation is underpinned by the fundamental principle of hermeneutics, the interpretive interplay between the whole and the parts, between the social actor's accounts and the broader socio-political context. This principle is discussed in more detail in the next sub-section.

Myers (2004) notes that the work of most contemporary CST researchers draws on hermeneutics. This study continues in that tradition. The hermeneutic cycle represents the virtuous and infinite act of interpretation, and is a process underpinned by the researcher continuously exposing himself/herself to the text (the data). In order to exit the cycle, the researcher can validate interpretations either rationally or empirically (Taylor, 1971; Silva, 2007). The former relates to demonstrating the interpretation is logically correct, whilst the latter relates to validating the interpretations with empirical findings that were not privy to the researcher's subjectivity (Silva, 2007). This research employs the latter strategy for the validation of findings, drawing on extant literature to corroborate the empirical findings.

Figure 2 below is a representation of the iterative and infinite process of interpreting the text in the hermeneutic cycle, as discussed above.

Figure 2: Hermeneutic cycle



The fundamental principle of the hermeneutic cycle

At the core of critical hermeneutics, is a concern with 'meaning'- pursued through the act of interpretation (Myers, 1995). The act of interpretation is pursued through an interplay between the whole and its parts, which is the fundamental principle of the hermeneutic cycle (Klein & Myers, 2001). This principle is derived from Gadamer, who explains this interplay: "It is a circular relationship… the anticipation of meaning in which the whole is envisaged becomes explicit understanding in that the parts, that are determined by the whole, themselves also determine this whole" (Gadamer, 1976, p 117). Therefore, the exercise of interpretation is located in this continuous movement "from the whole to the parts and back to the whole" (p. 117). For Gadamer, all understanding is pre-determined, and is shaped by social and cultural traditions (Klein & Huynh, 2004). Therefore, the researcher engaged in this act of interpretation should be reflexive and conscious of how his/her subjectivity and historicality influences the exercise of making meaning in the study (Radnitzky, 1970; Myers, 2004).

In critical hermeneutics, the researcher orientates this process of continuous interpretation of the social actor's accounts in the broader socio-political context (Orlikowski & Baroudi, 1991; Ngwenyama & Lee, 1997). In this way, researchers are involved in the double hermeneutic, which is the exercise of interpreting both the accounts of social actors and the social context. The integration of these multiple perspectives, is a fundamental aspect to critical hermeneutics, and requires of the researcher a close association to the language of the social phenomena under study, in order to understand the social actor's narratives and the dynamics in that social context (Orlikowski & Baroudi, 1991; Ngwenyama & Lee, 1997; Klein & Myers, 2001).
The interpretation of the data through the hermeneutic cycle is informed by six principles. Table 1 below lists the principles and their application to interpretive research. These principles underscore the fundamental activity of conducting interpretive research: the iteration and interplay between the whole and its parts.

Table 1: Principles of interpretive research (Klein & Myers, 1999, p. 72)

Principle	Application to interpretive research
1. Contextualization	The researcher must reflect on how socio-historical factors influence the current social phenomena.

2. Interaction between the researcher and subjects	The researcher should take a critical reflection on how the social construction of reality informs the collection and interpretation of the data.
3. Abstraction and generalization	The researcher should elevate the first-level constructs (the data) to a second-level constructs (theoretical framework).
4. Dialogical reasoning	The researcher should have a sensitivity to both the social actor's accounts (the data) and the social context, in order to identify contradictions and bias.
5. Multiple interpretations	The researcher should have a sensitivity to the nuances and differences in interpretations amongst the accounts of the social actor's- in a constant analytical stream.
6. Suspicion	The researcher should have a sensitization to biases and distortions in the narratives collected from the social actor's.

Particularizing the frameworks to this study

The objective of this research is to develop an empirically grounded explanation of mobile payment non- adoption amongst informal traders in Cape Town, specifically an explanation that acknowledges the influence of social and cultural factors on technology use and adoption. Therefore, because this empirical research departs from providing a deterministic explanation of mobile payment non-adoption, the act of interpretation was necessary to provide such an empirically grounded explanation from the accounts of the social actors. Both CST and the hermeneutic cycle are rooted in interpretivism (Silva, 2007). Therefore, there is congruence between CST, as a meta-theory, and the analytical framework, critical hermeneutics.

Additional congruence in this study is achieved in the following ways: Firstly, critical hermeneutics is a product of critical social theory, and therefore fits within this overarching paradigm. Secondly, Gadamer's hermeneutic cycle is complimentary to the process of abduction, which is the inquiry strategy in the data analysis. Further, both the hermeneutic cycle and abductive logic are concerned with the act of interpretation, and thus fall within the hermeneutic tradition. The abductive inquiry strategy is discussed in more detail later in this chapter. In this sub-section, I describe how CST and critical hermeneutics were particularized in this research.

The world is socially constructed: *Understanding the social phenomena in this study*

In this study, which is a departure from IS adoption research in the positivist paradigm, I seek to understand the social and cultural factors influencing mobile payments non-adoption amongst informal traders. The CST perspective, which locates an inquiry in the social realm, was instrumental to detecting these social and cultural factors, which would not have easily been identified by any positivist and deterministic frameworks and models (Ngwenyama & Lee, 1997). I appropriated the CST principle of integration and idiographic reasoning, by pursuing the research question through multiple ways of data collection, including interviews

and participant observations, In this way, I was able to integrate multiple perspectives into exploring the inquiry.

As a CST researcher, moving between the world view of the informal trader and pursuing an understanding of the greater social context is a continuous cycle of analysis and interpretation. The deference to the accounts of the social actors, a fundamental of CST, offered me a lens through which to make sense of the worldview of informal traders, and specifically, how they socially organized themselves to navigate the access to finance challenge. These accounts were first-level constructs, which is the data as per the interviews with and observations of the research interlocutors (Lee & Baskerville, 2003). Understanding these first-level constructs was informed by my personal and professional exposure to the informal trade sector and refugee and immigration law. I also engaged in continuous interrogation of the data and the claims I was formulating in my analysis and continuously revisited my argumentation on this basis.

In conducting my analysis, I applied the principle of contextualization, in order to understand how the social context influences the informal trader's reality, which is socially constructed. Acknowledgement of the social construction of reality and the application of dialogical reasoning increased my sensitivity to the data.

The modified TAM, which is the theoretical elaboration made in this study, was derived from concepts developed from the first-level constructs. I applied the principle of abstraction and generalization in developing this second-level construct. The process of abductively understanding the informal trader's experiences and accounts (first-level constructs) as a precursor to formulating the modified TAM (second-level construct), roots this study in the human experience of the social actors (Lee & Baskerville, 2003).

Reason and critique as inseparable and reflexive: ***Deference to the social actors and reflexivity in my interpretations***

In this study, my own subjectivity enabled me to articulate how social experiences in post-apartheid South Africa influence the actions of informal traders towards mobile payments non-adoption. This research asks why informal traders do not adopt mobile payments, which is not a deterministic pursuit, but rather a question requiring an understanding and explanation. A sensitivity to the social dynamics in the empirical situation is required by the CST researcher when pursuing the research inquiry. I aimed to maintain a reflexive and self-critical orientation throughout the research project.

By maintaining the connectedness between my reason and critique, I continuously engaged with the notion that mobile payments can contribute to financial inclusion, but that also, technology is not predetermined as the social solution but rather is a part of and influenced by socialness. In critical hermeneutics, this is the principle of multiple interpretations, whereby the researcher has a sensitivity to the nuances and differences in the social actor's accounts. This principle of multiple interpretations is informed by the CST concern with the improvement of the human condition and the emancipation of social actors.

In pursuing such an understanding of how the informal trader's worldview informs his/her decision to adoption, I observed how power relations, institutional arrangements and history shaped and constructed their social reality. Such dynamics influence the social actor's orientation towards other members of the society and social institutions (Berger & Luckmann, 1966; Howcraft & Trauth, 2004). I applied the principle of dialogical reasoning in the context

of this study, this enabled me a heightened sensitivity to the accounts of the informal traders, when describing their attitudes towards to financial institutions.

Often, this attitudinal reference was not obvious, but embedded in narratives. I applied the critical hermeneutic principle of suspicion, which required me to have a heightened sensitization to biases and distortions in the social actor's accounts. After conducting the data analysis, I discussed and interrogated my claims and argumentation with fellow scholars, people working within the informal trade sector and the social actors in the study in order to remain reflexive and self-critical of my subjectivity in the interpretation of the phenomena.

Emancipation and human agency: ***Adopting a critical disposition as a researcher***

Inherent to CST is a critique of technological determinism, which views technology independently from society (Avgerou, 2002; Howcraft & Trauth, 2004). CST is concerned with a critique of the status quo, and not a reproduction thereof (Ngwenyama, 1991; Howcraft & Trauth, 2004). Therefore, as CST is rooted in the critical social sciences, it rejects such a notion of technology determinism.

In this study, the inquiry into the social and cultural factors influencing mobile payments non-adoption, required that I adopt such a critical perspective, in order to understand the set of socio-cultural and political conditions that influence informal trader's attitude to not adopt mobile payments. This required me to engage in the act of interpretation, which is crucial to understanding causal influences (Probert, 2004).

As this study is located in the CST paradigm, this required that I observed how the broader socio-political condition (post-Apartheid South Africa) influence the status quo of informal traders in the empirical situation. On the one hand, I remained critical of how technologies and social institutions in the formal economy exclude and marginalise informal traders, but I also remained open-minded to the agency of the informal trader in navigating particular challenges like access to finance. I aimed to be reflexive in my interpretation and analysis of the social context, bearing in mind my own subjectivity, as a member of South African society.

In pursuing an understanding of the social actor's relationship to the mobile finance project, I interrogated the social actor's responses to questions about how they relate to the formal banking system in South Africa (Berger & Luckmann, 1966). Social institutions such as banks, by their very nature, hold within them antecedent characteristics, entrenched prior to the social actor's interaction with them (Berger & Luckmann, 1966). I also engaged in thinking about how the informal trader's 'histirocality' comes to bear on their present experience. 'Histirocality' is what Heidegger defines as the historical events and conditions that shape and determine social subjects (Heidegger, 2000).

Similarly, I interrogated the deviance of the informal trader from the formal financial system, and how the enacting of his/her agency influences the decision to not participate in the mobile finance project. CST's concern with emancipation made it imperative that I not assume any incapacity on the part of the informal trader, by assigning him/her to a passive recipient of an intervention. Rather, I engaged the research inquiry in such a way that opened up a dialogue about how the informal trader actively creates alternative substitutes and mechanisms, that allow him/her to navigate the access to finance challenge.

Through a deference to the social actor's accounts and applying the principles of dialogical reasoning and suspicion, I invoked an alternative perspective on the adoption phenomena: that

non-adoption by informal traders could potentially be a deliberate act of emancipation. Applying these principles opened access to an understanding of non-adoption that engaged both the role of the social actor's relations with financial institutions and the implications of a particular socio-political condition in South Africa and the social actor's agency and emancipation.

Role of the researcher

The aforementioned theoretical frameworks share epistemological and ontological principles, which creates internal consistency between their application in this study. However, it is my own social conditioning and patterns of meaning making which created a certain sensitivity to the data, and influenced my orientation and interpretations in this study. In my pursuit of an understanding of the informal trader's experience, I continuously held an internal and critical dialogue between the accounts of the social actors and my beliefs and interpretations thereof. As the researcher with a pre-existing understanding of the informal trade sector and immigrant issues in South Africa, I drew on this pre-existing knowledge when making claims and arguing particular interpretations.

An in-depth understanding of the meanings and references made by the social actors in their social context is fundamental to effective interpretive analysis of qualitative data (Walsham, 1995; Myers, 2004). In order to preserve the integrity of the findings and demonstrate the validity of the data collection, my subjectivity and sensitivity to certain social cues in the empirical situation is important to articulate. However, in this sub-section, my intention to is explain how my personal and professional experiences influenced and contributed to the manner in which the data was collected and interpreted.

My professional experience in refugee and immigration law allowed me an understanding of certain social cues. Specifically, references made to legal status issues and the labour migration and the foreign national experience in South Africa were interpretable to me. Additionally, fluency in French and Wolof gained from time living in Dakar, Senegal, was helpful when approaching Francophone research interlocutors. The above skills were an asset, as a large portion of the informal traders interviewed were not South African. Professional experiences as a development practitioner working in local urban economic development, and specifically on policy and planning issues related to the informal economy, was also an asset. I drew on this practical knowledge and experience to interpret the dynamic between informal trader's and institutions in the formal economy.

Abductive inquiry

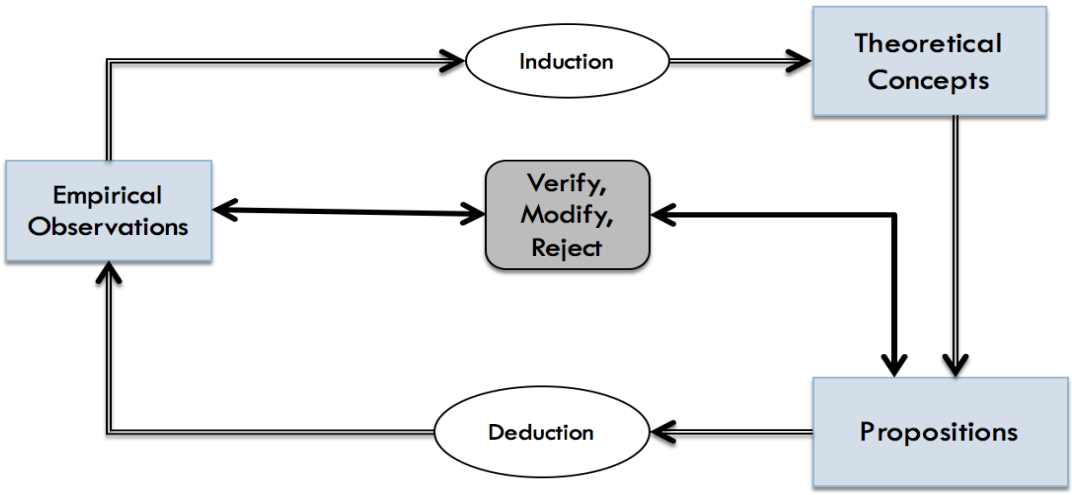
This research inquiry is abductive, which is one of the four inferential logic strategies. This strategy was chosen for its suitability to the exploration of "why" research inquiries, such as the question in this study, and for it being complimentary to the principles of CST and critical hermeneutics. In this sub-section, I elaborate on these reasons and discuss how I appropriated the principles of abductive inquiries in this study. I also defend the appropriateness of my inquiry strategy choice.

The process of abduction

According to Blaikie (2004), abduction "is the process used to generate social scientific accounts from social actor's accounts (thus) deriving technical concepts and theories from lay concepts and and interpretations of social life" (p. 114). In terms of how this process plays out,

an abductive inquiry commences with induction, whereby the researcher's interpretations of the social actor's lay accounts are a precursor activity to the act of deduction, which is the theoretical elaboration of the empirical findings. The figure below graphically represents this process.

Figure 3: The abductive strategy (*The knowledge reproduction cycles* Ngwenyama, 2015)



The principles of the abductive inquiry and their appropriation in this study

Social construction of reality

Access to the world of the social phenomena is imperative, as this is where social actors construct their lives (Blaikie, 2004). Researchers employing an abductive strategy argue that it is only possible to understand the phenomena through access to the world of the social actor and a knowledge of the social language therein. As a researcher with professional experience which exposed me to the challenges and issues in the informal trade sector, I was able to engage this knowledge and gain access to meanings of the social language in the empirical situation. The sensitivity required in abduction, to the social construction of reality, is complimentary to both CST and critical hermeneutics.

In abductive inquiries, accessing the social world facilitates the understanding of what the social actor's mean when referring to complex socially constructed notions (Blaikie, 2004). This process empirically grounds the inquiry, an aspect which corresponds to the objective of this research: to develop an empirically grounded explanation of mobile payment non- adoption amongst informal traders in Cape Town.

Sensitivity to social cues

Sensitivity to the everyday cues comprising potential knowledge is imperative, as "social life is routine and is conducted in a taken for granted, unreflective manner" (Blaikie, 2004, p. 117). Through this sensitivity to the social cues, the researcher employing an abductive inquiry is able to gain insights into the worldview of the social actors, which form the first-level constructs (the data). The researcher then has to interpret this data through the lens of a analytical framework. In this study, I inquired into the social and cultural factors influencing mobile payment non-adoption through the process of abduction, which places emphasis on

emergence and not determinism through a pre-existing theoretical framework. This openness to emergence resonates with CST and critical hermeneutics, where a deference to the accounts of social actors is characteristic of those approaches (Blaikie, 2004).

As part of the abductive process of generating technical concepts and theories from the social actor's accounts, I interpreted the empirical findings through the analytical framework, the hermeneutic cycle. The abductive approach has its foundations in "interpretive approaches to social inquiry", which creates coherence with the analytical paradigm, critical hermeneutics (Blaikie, 2004, p. 114). Additionally, the abductive strategy, is a cycle of knowledge production (represented as such in Figure 3), and like the hermeneutic cycle, is recurring and virtuous. This creates additional congruence between the application of the two frameworks.

Reflexivity in the research process

The research process is reflexive, in order to "discover the meanings and theories" required to be able to puzzle together meaning (Blaikie, 2004, p. 117). This process makes abductive logic complimentary to the pursuit of discovery and "why" research questions, such as in this study, which require an interpretive orientation (Peirce, 1955). In this study, I ask: *Why don't informal traders in Cape Town use mobile payment facilities?* This question required me to interpret the social actor's accounts, in order to identify the factors influencing mobile payment non-adoption. The process of abduction engages in the pursuit of such social inquiries, through the interpretations of social life and the social actor's accounts, which makes this strategy appropriate to the research inquiry in this study (Peirce, 1955; Blaikie, 2004; 2007; 2010).

Chapter IV

RESEARCH METHOD

This chapter is a presentation of the research method, and is divided into three sections: First, the interpretive case study method is discussed and the appropriateness of using this method for this research inquiry is defended. Second, the empirical situation is presented as the case in this study. Third, the techniques of data collection are described and the choices thereof defended. I maintain the voice of the first-person in this chapter, to describe the research activities I conducted.

The interpretive case study method

Despite case studies being common to the social sciences, a universal definition of 'the case study' is challenging to pin down (Benbasat, 1987; Blaikie, 2004). Yin (1989) defines case studies as empirical inquiries which investigate a phenomenon in situ, and are useful in instances where the interplay between the phenomena and the context are instructive. Goode and Hatt (1952) define the case study according to two characteristics: a social unit is under study (whereby the individual and group are treated as one unit) and the data is organized towards a unitary character, bound by time and/ or an activity (the case). Interpretive case studies, such as in this research project, are a specific type of case study.

Background and criticism of interpretive case studies

The field of ethnographic research in anthropology provides a good starting point to understand the philosophical underpinnings of the interpretive case study (Walsham, 1995; Blaikie, 2004). Firstly, the primary activity in ethnography is the interpretation of symbolic behaviour and actions to create some explanation or description. To a large extent, interpretive case studies are based on the same activity. In ethnographic studies, the accounts of the interviewee are first-order data, which the researcher develops into second-order concepts, based on "good theory and insightful analysis" (Walsham, 1995, p. 75). The same process of interpretation and theoretical elaboration form the core activities of interpretive case studies.

As this is a CST research project, the interpretation of the informal trader's narrative and the social context was a fundamental activity throughout the study. This is based on two foundational principles of CST, that reality is socially constructed and the deference to the social actor's accounts. Additionally, the act of interpretation informed the abductive exploration of the data analysis through the hermeneutic cycle. In critical hermeneutics, the researcher's orientation is to determine the influence of social structures on the phenomena, which he enacts through interpretation (Probert, 2004). Therefore, the combination of an interpretive case study in the CST paradigm is complimentary, based on the iterative and continuous activity of interpretation, that is required in CST and critical hermeneutics (Orlikowski, 1991; Walsham, 1995).

Secondly, another similarity between the anthropological tradition and interpretive case studies is the shared characteristic of thick descriptions. In both interpretive case studies and ethnography, dense descriptions are employed to understand complex and often intertwined conceptual structures (Walsham, 1995). In this study, I collected thick descriptions from the social actors through interviews and participant observations. These narratives provided the

detailed data I required to interpret an understanding of the informal trader's attitude towards adopting mobile payments.

Reasons for the choice in research method

In this sub-section I discuss the three reasons for the choice of the case study method in this research project. This sub-section demonstrates the congruency between the interpretive case study and the research inquiry strategy, the research method and the theoretical perspectives in this study.

This research employs an abductive inquiry strategy

Case studies can be used in exploratory, explanatory and descriptive studies, and are particularly useful to answering 'why' and 'how' questions (Yin, 1989; Yin, 2003). Benbasat (1987) states that case studies are useful to research where the researcher does not have a "priori knowledge of what the variables of interest will be and how they will be measured" (p. 370). Therefore, the case study method is suitable to this study, which takes an abductive approach to the explanation of mobile payment non-adoption. The case study approach, which permits multiple sources of data, allows the researcher exposure to complex factors and relationships (Yin, 2003; Easton, 2010). This complements the abductive approach, which involves iterative motions of interpretations through exposure to the data.

This research inquiry is explanatory and employs multiple sources of data

As is the norm in case study research, data is collected through more than one technique (Blaikie, 2004). In this study, two data collection techniques were employed: semi-structured interviews and participant observations. As I discuss the motivation for these choices later in this chapter, here I pre-empt that discussion by stating that multiple data collection techniques are complimentary to the case study method.

This research is located in the information systems and critical social theory paradigms

Benbasat (1987) describes how the idiographic quality of the case study is useful to the IS discipline, as this method provides a basis from which to understand the phenomena in context and from the social actor's perspective. The case study approach in IS studies is well supported (Orlikowski, 1991; Walsham, 1993; Klein & Myers, 1999; Ngwenyama & Nielsen, 2014). Additionally, the case study is an appropriate and common method for research in the CST paradigm (Klein & Huynh, 2004). Case studies seek to build a deep understanding of phenomena or behaviour, thus being a complimentary method to inquiries located in the CST paradigm, such as this research project (Walsham, 1995; Walsham, 2006).

Limitations of the case study method

In this research project, the data was analysed abductively, a strategy which seeks to generate social scientific accounts from the narratives of social actors. In both abductive inquiries and interpretive case studies, a criticism is whether these research strategies and methods are useful towards generalizing and theory generation (Lee & Baskerville, 2003). This criticism is based on arguments that the researcher's interpretation of the accounts of social actors have the potential to be biased, based on the researcher's subjectivity. This potential bias is thought to impact the generalizability of interpretive case studies and the reliability of the findings thereof (Orlikowski, 1992; Walsham, 1993; Blaikie, 2004).

These criticisms have been dealt with by authors in defence of the interpretive case study method in IS research, who have argued that this method can support theory development from the empirical observations (Orlikowski, 1991; Walsham, 1995; Klein & Myers, 1999; Yin,

2003; Lee & Baskerville, 2003; Ngwenyama & Nielsen, 2014). In particular, Yin (1989) defends the research method succinctly: interpretive case studies are "generalizable to theoretical propositions" (p. 21). Therefore, generalizations from interpretive case studies are "explanations of a particular phenomena derived from empirical interpretive research in a specific setting", which may be of value to future research in analogous environments (Walsham, 1995, p. 79).

It must be noted that this study does not pursue theory generation, but rather theory modification of TAM (1989), and the generalizations from the interpretive case study in this research project are theoretical propositions explaining mobile payment non-adoption amongst Cape Town's informal traders. Therefore, the theoretical elaboration in this research project is suggested to apply in similar future studies. However, this shortcoming of the interpretive case study method is acknowledged.

Empirical situation: *Presenting the case*

The South African informal economy is relatively smaller than the informal economy in other African countries (Pieterse, 2013). However, the informal economy in South Africa makes a healthy contribution to South Africa's gross domestic product (GDP), injecting $20 billion into the $350 billion economy in 2013 (Statistics South Africa, 2013). A global trend of interest to this research is the cash based nature of the informal economy (Porta & Shleifer, 2011). This trend plays out in South Africa's informal economy too, and is enabled by characteristics particular to the informal economy, such as embedded social and cultural norms, which influence how informal enterprises conduct their business practices (Vigouroux, 2013).

The informal trade sector is the most financially lucrative in the informal economy. From a labour force perspective, it is reported that over 1 million people work as informal traders in South Africa (Skinner, 2012). In greater Cape Town, there are 58 000 informal traders, earning roughly $200 per month (Petersen et al., 2015). Informal trade activity in South African cities emerged as a means to economic participation by predominantly black South Africans during apartheid, a period whereby the structural oppression of black South Africans was legalized. This system was based on a separation of races and the denial of black people's socio-economic rights. Amongst the myriad of rights infringements, was the denial of access to economic opportunities and financial services, which could enable black South Africans opportunities to asset build. Inner city informal trade activity, located near transport interchanges and other high foot traffic areas, emerged as a response to these right denials.

During apartheid, "informal, black and illegal" were considered interchangeable (Skinner, 2012). Therefore, informal traders in predominantly white urban centres were considered illegal (Skinner, 2007; Skinner, 2012). Informal traders in South Africa suffered under "the apartheid state's complex web of national and local laws, (which) effectively banned street trading" (Skinner, 2008, p. 9). Informal trade has since been legalized, and with the advent of South Africa's 1994 democracy, the term 'informal trade' is now used to describe this form of enterprising urban street side activity.

Besides legalization, another development in the informal trade sector is the change in demographic trends. Today, most informal traders are black non-South African foreign nationals from other African countries (Fauvelle-aymar, 2014). Despite the diversity of national identities, there is a sense of neighbourliness and 'place' in the markets.

In its current legal status, informal trade is an organized urban economic activity, occurring in designated areas such as market contexts. Informal trade activity, which is located on pedestrianized streets or public space amphitheatres, forms part of the urban planning and design project. These markets each have a unique flavour, differing from one to the other based on the dominant merchandise sold in that trading site. The range of trading markets spans everyday consumer product types to specialist tourist orientated markets. This clustering of product types creates a reputational stance and culture for each market.

Within the informal trading markets and amongst traders themselves, a symbiotic relationship exists. At lunchtime, you can witness a Senegalese trader making tea over a small and well-managed coal fire, and the sharing of meals and tools amongst artisanal traders. It is common for informal traders to preside over the stall of a neighbouring informal trader when either has an errand to run. The 'breaking' of money, to make spare change for a fellow informal trader, is a common practice. This is particularly useful amongst informal traders, as the acceptance of cash-only transactions is an embedded practice. As is the fixing of prices, so as to not 'out-compete' other traders selling the similar product in the same market. However, despite the apparent strong social networks and high levels of co-production in informal trade markets, conditions in the sector should not be romanticized.

There is a move to formalize the operations and business practices of informal traders, with interventions geared towards regulation. Each informal trading market has its own trading association, governing the interactions within the market and mediating between traders and local government. Traders in these markets are required to have a permit for their trading unit, acquired from local government. Registration for a permit requires recognized identity documentation and a bank account, and the application for inner city permits is competitive. This is compounded by the persisting challenge amongst informal traders: limited access to finance, which negatively influences the informal trader's capacity to achieve a sustainable livelihood (Bukasa, 2014).

Currently, informal traders operate out of makeshift stands, assembled daily. This demonstrates the temporary nature of the informal trader's professional environment. The contestation for urban space, between law enforcement, informal traders and formal business, continues to be a difficult lived reality for many informal traders in Cape Town, South Africa (Bukasa, 2014). These challenges are compounded by a lack of infrastructure. There are no covered trading spaces, ablution facilities or adequate electricity and water near trading services (Bukasa, 2014). Despite overtures towards formalization, opinions are divided on whether the informal trade sector should adopt the business practices akin to formal enterprises. For many in the informal economy, the agility in the sector is the draw card to participation.

Aerial view of tourist-centric market, Greenmarket Square (2015), and the surrounding businesses (a mix of office blocks, hospitality, residential and retail)

(photo credit: Zarina Nteta)

As shown in the image of Greenmarket Square (2015) below, informal trade stalls are modular and assembled daily. The stalls in the research sites generally have the following appearance:

(photo credit: Lisa Burnell)

Data collection

As mentioned in the previous sub-section, this study employs multiple data collection techniques: semi-structured interviews and participant observations. Multiple data collection techniques support the case study method and contribute to the thick descriptions which are characteristic of this method. In this sub-section, I discuss these techniques and their application, and demonstrate their appropriateness to this research inquiry. Prior to commencing that discussion, I present the sampling method for this case study.

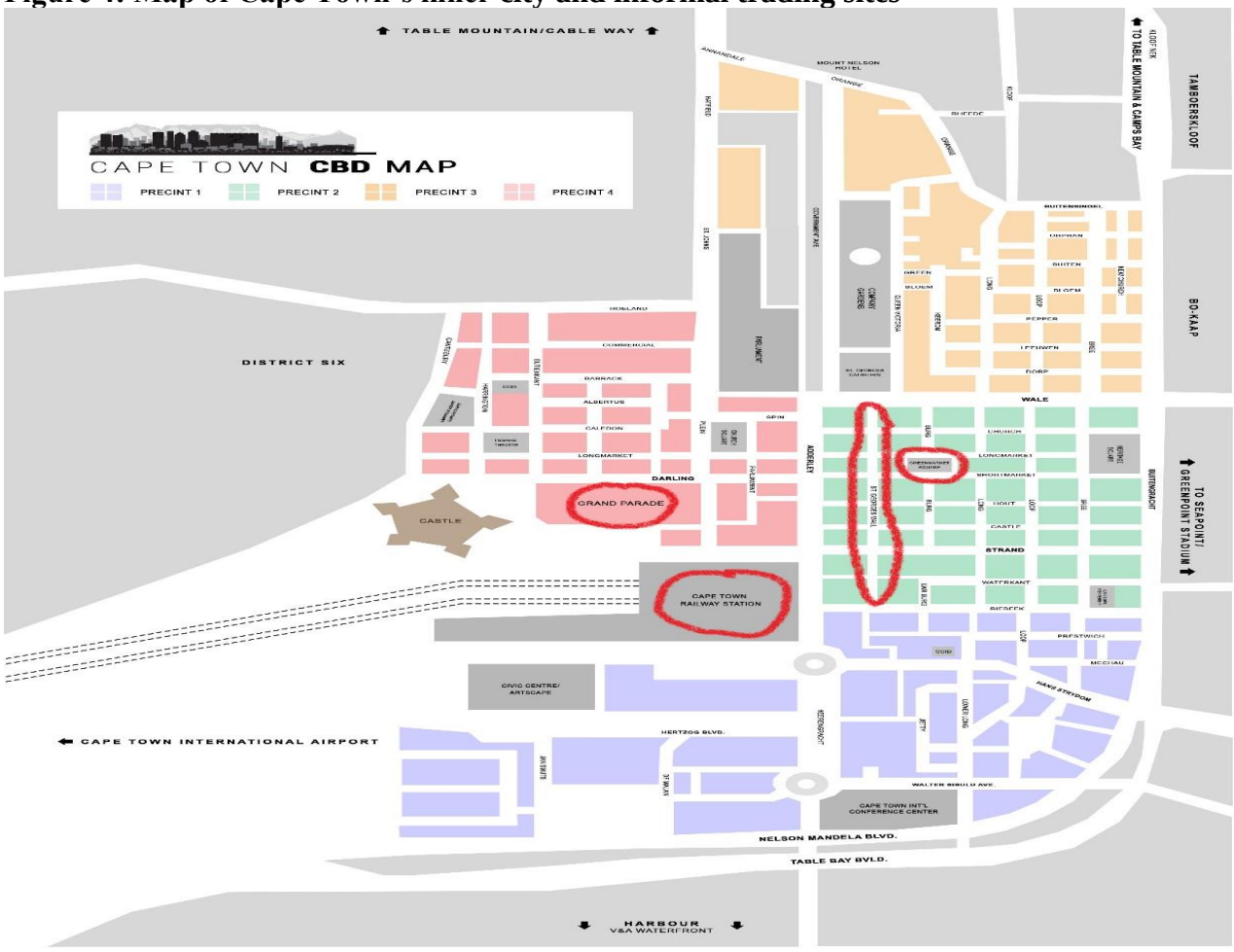
The sampling method

The sample of twenty (20) informal traders was chosen from the informal trader population in Cape Town's inner city. In this sub-section, I will describe the multi-stage sampling method employed, and provide a rationale for the choice of techniques. The rationale for the overarching approach of a multi-stage sampling method was to achieve cost efficiencies in the data collection and to concentrate my research efforts within these resource constraints.
The two stages of sampling were (i) cluster and (ii) snowball sampling. For ease of reference, the sampling method will be referred to as two-stage cluster sampling. It must be noted that although cluster sampling is a probability method and snowball sampling is a non-probability method, it is possible to combine both probability and non-probability methods within multi-stage sampling (Blaikie, 2004). I will describe the application of both in detail below.

Cluster sampling

The research sample was identified through cluster sampling, and the clusters were identified as the *four different* and *only* informal trading market sites within Cape Town's inner city, which is the geographical focus of the study. These four clusters are Greenmarket Square, St George's Mall, Grand Parade and Station Deck. The clustering is geographical, and is mutually exclusive and collectively exhaustive within the inner city informal trader population sampled. Therefore, because of the cluster sampling being collectively exhaustive, the clusters are inclusive of all possible inner city informal traders See figure 4 below, where the four inner city informal trading sites have been highlighted.

Figure 4: Map of Cape Town's inner city and informal trading sites



Design credit: Brandon Roberts

Regarding sampling errors, there is potential that similarities within the cluster are either underrepresented or overrepresented, as the clusters were not created by any scientific criteria, but were defined along the parameters of pre-existing informal trading sites. Additionally, cluster sampling is implicated by the complexity of ensuring that all clusters are equal in size. However, this was not a factor in this research, as the clusters are pre-existing clusters within themselves (Blaikie, 2004). Therefore, I could not manipulate the cluster size, as the four clusters are existing groupings of informal traders, and such provided logical nodes for clustering along these lines. However, I aimed to achieve equal weighting of research interlocutors within the clusters, by interviewing a proportionate number of informal traders from each informal trading site. I identified these research interlocutors using the snowball sampling method, described below.

Snowball sampling

The second stage within the cluster sampling entailed snowball sampling, which involves "network, chain referral or reputational sampling" (Blaikie, p. 205, 2004). This form of sampling is appropriate to instances where the research interlocutors are difficult to identify and reach, and the researcher may be best served by contacting one or two respondents, and asking for referrals to others in the group (Blaikie, 2004). I developed the network of research interlocutors through professional networks. Prior to the fieldwork, I approached my professional contacts in the urban development sector and requested to be introduced to members of the informal trading associations. This was at the early stages of the research project. Through these professional connections, I initiated dialogue with certain informal traders and members of informal trade associations. This rapport granted me the access to arrange initial interviews with a group of traders in Greenmarket Square, and also facilitated the meeting of other informal traders in St George's Mall, Grand Parade and Station Deck, who I subsequently approached for interviews.

Determining the sample size

The size of my sample was determined by the nature of this research inquiry, the analytical mode, and the overall estimated size of the informal trade population in Cape Town's inner city (Blaikie, 2004). The City of Cape Town has 489 registered informal traders in the inner city. I interviewed twenty traders, which is 4% of this population. Besides the aim to achieve an equal weighting across the clusters sampled, there was no predetermined level of confidence which I was aiming to meet, as this is not a quantitative or statistical study. Therefore, applying conventional sampling size measurements does not correspond with the nature of this study. However, I considered twenty interviews sufficient as an observable social unit or group, as required in the case study (Blaikie, 2004). The reasons for this are two-fold:

First, this study abductively explores the question: *Why don't informal traders in Cape Town use mobile payment facilities?* Yin (1989) writes that the nature of the research question is instructive in determining the size of the sample, known as the social unit in case studies. This question was explored through the social actor's accounts, which I accessed during semi-structured interviews and through participant observations. This type of qualitative inquiry, which is non-deterministic, requires thick descriptions. I decided upon a smaller sample size, because it afforded me access to the in-depth data required for thick descriptions. This choice suited the time period limitations of this Masters-level study, the financial resources constraints and that only one person was conducting the study.

Secondly, this is a case study, and the findings are generalizable only to the theoretical propositions. Therefore, a sample of twenty is deemed sufficient for this level of

generalizability. Additionally, a small sample size supports analysis in the critical hermeneutic paradigm, as this mode of analysis requires a close association to the text, during the act of interpretation. Therefore, the sample size aligned with the analytical mode in this study.

The research techniques

Semi-structured interviews

Semi-structured interviews are a common research technique in contemporary social science research (Blaikie, 2004). As a result of their flexibility, they remove an element of artificiality that structured interviews have. This creates the space for "the social actor's meanings and interpretations" (p. 234). The semi-structured interview is appropriate to case studies which analyse a unit, such as a social group, as this technique allows the researcher to gain deep insights into this group. The openness of semi-structured interviews allows for the accumulation of thick descriptions, which are complementary to building an explanation grounded in the empirical data. Therefore, this technique is suited to this research inquiry, which seeks a grounded explanation to the non-adoption of mobile payments amongst informal traders.

Semi-structured interviews have two weaknesses: they are open to the bias of the social actor's self-reporting, and being an interview set-up, the dialogue is removed from the natural setting (Blaikie, 2004). However, semi-structured interviews can be in-depth and qualitative, which can reveal meaningful accounts and interpretations of the social actor (Blaikie, 2004). This technique was selected because this research inquiry seeks an explanation of the non-adoption phenomena from the perspective of the informal trader. In order to access this explanation, the accounts of the social actors had to be revealed. The openness of semi-structured interviews enables the social actor's accounts to flow in dialogue.

The semi-structured interviews with the informal traders were relaxed face-to-face conversations. Twenty informal traders were interviewed in their work locations in St George's Mall, Greenmarket Square, Station Deck and Grand Parade in Cape Town. The interviews were conducted on weekdays (Monday to Friday), at the trading stalls of the research interlocutors, during trading hours (09h00 to 17h00). The interviews were based on a template of questions, which was flexible and allowed for deviation (see Annexure 2 for the interview questions). The rationale behind choosing to interview informal traders during trading hours and in their business environments was to document contextual observations and reference points before and after the interviews.

During interviews, I captured answers on an answer sheet and recorded the interviews on my mobile phone device. The use of the mobile phone as a recording device is likely to have compromised the conversation, as the research interlocutor was aware that the interview was being recorded. However, by recording and scribing the interview simultaneously, I could ensure a comprehensive and permanent recording of each interview, in case one format was lost. Most of the interviews were in the 20-minute length range, and were often interrupted by a sales transaction or another informal trader inquiring as to what was happening. Semi-structured interviews allow for this flexibility in the interview moment. The interview recording continued through interruptions.

Notes were taken during and after the interviews, to capture any thoughts and observations, such as the type of products sold and how often the informal trader being interviewed used their mobile phone. These behaviours were important to note, as they supplemented an

understanding of certain interview answers. These observational notes were incorporated into the data set.

Participant observations

Participant observations are a "classic anthropological method" and are complimentary to case study research, such as this inquiry (Blaikie, 2004, p. 234). This research technique is ethnographic, and involves participatory immersion into the social phenomena or objective observation (Blaikie, 2004). The latter was employed in this research project. Through the observations, the researcher's sense-making of the social phenomena produces "a picture of the way of life of some group" (p. 234). These observations are then incorporated into the rich description of the empirical setting.

Participant observations were made in the research sites in February 2015, prior to the fieldwork, and thereafter in October 2015 when the fieldwork was completed. I sat near to (but not in sight) the trading sites to observe interactions between informal traders and their customers. The frequency of trading activity and the relations amongst informal traders themselves and between informal traders and surrounding retail were noted. These observations contributed to the building of the case description.

The October 2015 observations related more contextually to the research inquiry, as the interview data analysis was underway. For example, the geographical proximity of informal traders to the surrounding formal retail was noted. These observational memos were added to the data set.

Reasons for the choice of research methods

The primary reason for choosing the semi-structured interview technique in this study, is that an open form of dialogue gave me access to thick descriptions of the "social world, social actions and events from the viewpoint of the people being studied" (Blaikie, 2004, p. 251). These thick descriptions comprise of the social actor's accounts, and provide the basis from which to explore the literature and theoretical concepts which characterise the phenomena under study (Blaikie, 2004). The viewpoint of the social actor is found in the everyday language, which is best accessed in conversational dialogue. In seeking thick descriptions, this technique required of me to make entry into the social actor's reality, to understand their social construction of reality. Due to my personal and professional experience, I possess a knowledge of the everyday language that informal traders use to describe their norms and experiences. In this way, I was able to access an intimate understanding and interpret the social actor's accounts. This technique resonates with the principles of the critical social theory paradigm and critical hermeneutics.

Participant observations are an appropriate technique to access the social actor's worldview and their accounts, as this access requires that the researcher be embedded in that context over extended periods of time (Blaikie, 2004). This access to the social world facilitates a deeper understanding of the dynamics in the empirical situation, which contributes to the thick descriptions, and lays the foundation for the researcher to take a nuanced disposition in the interviews. The participant observations I conducted facilitated the access to thick descriptions, and informed my subsequent interview interactions, as I had a foundational understanding of the dynamics of the informal trade environment before approaching the interviews.

Summary of the data collection activities

The primary data was collected from 8 July to 16 September 2015. Each interview was recorded on an iPhone 6 smartphone device. After the interviews, I manually transcribed the recordings into analysable text (MS Word format). Transcribing the interviews personally was useful in two ways; it allowed me to gain a deeper acquaintance with the data and provided me with an opportunity to reflect on each interview and the data set as a whole. These reflections were recorded on memos. Once transcribed, the interviews amounted to 67 pages.

Table 2: Summary of the date and audio length of each individual interview

Interview number	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Date d/y/2015	8/7	8/7	10/7	10/7	10/7	21/7	21/7	21/7	7/8	7/8
Length in minutes	17:11	17:58	33:01	22:44	14:42	12:50	12:48	10:52	20:26	10:07
Interview number	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
Date d/y/2015	7/8	4/9	4/9	8/9	8/9	8/9	8/9	16/9	16/9	16/9
Length in minutes	11:50	13:25	19:51	17:27	15:24	15:51	17:19	10:14	09:10	10:16

Chapter V

DATA ANALYSIS

This section is a presentation of the abductive data analysis process, which was carried out in two phases. Firstly, the data was reduced through the activity of coding, which is the act of identifying uninhibited similarities and differences in the data. *Open coding* is the iterative process of grouping and comparing of data into codes, to identify alike and non-alike concepts in the data (Boudreau & Robey, 2005). ATLAS.ti, a software tool which facilitates the systematic analysis of qualitative data, was used to arrange the text into the codes. Secondly, the data was interpreted through the lens of the hermeneutic cycle (refer to Figure 1 and Table 2).

The inquiry began with a puzzle, which sought to solve the following question: *Why don't informal traders in Cape Town adopt mobile payment facilities?* The initial empirical analysis conjectured that informal traders did not adopt mobile payments because of various social and cultural factors. Therefore, explanations based on technical concerns, such as the usability and utility of the technology, were not identified. This initial conjecture stimulated further analysis, which lead to the empirical question: *What are the **social and cultural factors** influencing mobile payment **non-adoption** amongst informal traders in Cape Town?* The two-phase data analysis process is discussed next.

Phase I: *Reduction of the data into empirical observations*

The coding in Phase I was an iterative process, conducted over September 2015 to March 2016. The codes were repeatedly analysed and refined over this period, until a final tally of eleven codes was identified.

i: The twenty (20) analysable text documents were imported into ATLAS.ti. The text documents were labelled in ATLAS.ti according to the research interlocutor's name and the date of interview. ATLAS.ti is useful because it allows for a systematic analysis of the data set, based on a set of sorting and query tools in the programme. The programme requires an active participation from the researcher, and a knowledge of 'what' you want to achieve. In this study, the empirical question guided the activities in ATLAS.ti.

ii. In coding stage 1, the aim was to identify the factors influencing mobile payment non-adoption. From the accounts of the social actors, repeated explanations to non-adoption appeared, and these were classified into ten codes. At this early stage, the empirical analysis revealed the dominance of social and cultural factors as prevailing factors influencing mobile payment non-adoption.

iii. In coding stage 2, the codes were refined to reflect this conjuncture, and increased to twelve in count. At this stage, the role of literature and interpretative analysis was operationalized. The process of labelling the empirical observations involved simultaneously reviewing literature to identify corresponding concepts. Amongst others, concepts such as social capital, cultural capital and trust were explored through literature.

iv: Coding stage 3 spanned the course of four months, and entailed analysing the codes against each other. In the final cycle of analysis, the codes were revisited and streamlined to a tally of eleven. The table below sets out a full description of the codes as per the three coding stages.

Table 3: Progression of codes as per coding stage

Coding stage 1	Coding stage 2	Coding stage 3
Fear	Fear	Illegality
Ignorance	Ignorance	Unbanked
Trust	Trust	Trust
Social capital	Social capital	Social capital
Banked	Banked	Banked
Smartphone	Smartphone	Smartphone
Technology literacy	Technology literacy	Mobile payments knowledge
Cash	Cash	Cash
No mobile payments	No mobile payments	No mobile payments
Yes mobile payments	Yes mobile payments	Yes mobile payments
Cultural capital	Cultural capital	Cultural capital
	Illegality	

Table 4: Interpretation of all codes

Code	Interpretation
Fear	An informal trader expressing personal safety concerns, in relation to approaching the bank for formal banking products
Ignorance	An informal trader who does not know about mobile payments, and has never heard of the facility
Technology literacy	An informal trader who demonstrates high technology literacy, possessing not only a smartphone device but also using multiple technology platforms and applications
Banked	Informal traders holding a South African bank account
Cash	Informal traders demonstrating a high preference for cash sale transactions
Cultural Capital	Informal traders possessing an aggregate knowledge of cash-based cultural norms in the informal economy, which is a body of capital which such trader can leverage to remain cash-based
Illegality	An informal trader's socio-political condition of illegal migrant status, and also those holding the opinion of inability to access formal banking products based on perceptions of illegality and ineligibility, which influences the financial management decisions of informal traders
Mobile payments knowledge	An informal trader possessing knowledge of mobile payment facilities

No mobile payments	A non-user of mobile payments, who has never tried to use the facilities
Smartphone	Informal traders using a smartphone device
Social capital	Informal traders with social networks, and their related facilities, that such can draw on in order to facilitate non-cash transactions
Trust	Informal trader expressing low levels of trust for the mobile finance project based on the belief that that transactional banking on a mobile phone lacks credibility
Unbanked	Informal traders without a South African bank account
Yes mobile payments	An informal trader currently using mobile payments

v: In order to clean up the coding landscape on ATLAS.ti and identify relationships between the codes, the eleven codes were grouped into four code families. Code families are a useful filtering tool for the organization of codes into easily accessible groups. These families were formed on the basis of likeness between the codes. These groups had no conceptual anchorage, they were formed through an iterative analysis of the eleven codes which revealed similar characteristics with other codes.

Phase II: ***Interpretive analysis of the empirical observations***
The primary activity in Phase II involved interpretive analysis of the data in relation to the phenomena under study: mobile payments non-adoption amongst informal traders. This activity was informed by the principles of the hermeneutic cycle, as described in Chapter 3.

i: The codes were analysed, and it was observed that the data could be classified into two distinct document groups- those who were pro-mobile payments facilities or anti-mobile payments facilities. These were easily identifiable according to the 'no mobile payments' and the 'yes mobile payments' codes, which labelled the research interlocutor's response and attitude to the questions posed about adopting mobile payments. This division is quite significant for this research, as it informed the further systematic analysis of the codes in relation to the phenomena under study: mobile payment facilities non-adoption amongst informal trader who are non-users.

ii: The 20 documents were divided into two document groups: i) uses mobile payment facilities (USERS) and ii) does not use mobile payment facilities (NON-USERS). The document groups were created according to whether they were coded the 'NON-USERS' or 'USERS'. Fourteen (14) of the documents fell into the 'NON-USERS' group and six (6) documents were classified in the 'USERS' group. To get an overview of how the various codes fell into each document group, a **codes document table** was generated. This table displays a high-level analysis of the code frequencies in each of these document groups. From a viewing of this table, a high occurrence of certain codes could be discerned in the 'NON-USERS' as opposed to the 'USERS' group.
Three queries were run in each document group. The first query was based on a set of codes which reflected social and cultural factors. There appeared to be a high frequency of the 'trust'; 'illegality'; 'cash'; 'social capital' and 'cultural capital' codes in the NON-USERS group. These factors did not occur in the same density in the 'USERS' group. By referring back to the interview documents in the 'USERS' group, it could be inferred that the references to 'trust'; 'illegality'; 'cash'; 'social capital' and 'cultural capital' were not linked to a decision to adopt.

Rather, these instances were explanations of challenges leading to non-adoption. Therefore, there was no causality in the 'USERS' group, between these codes and adoption, because the research interlocutors had eventually made a decision to adopt, despite these challenges. These interpretations of adoption challenges strengthened the findings for the 'NON-USERS' group. The second query was run to show the distribution of the 'smartphone' code within each document group. These results showed that smartphone usage was evenly distributed across both the 'NON-USERS' and the 'USERS' group. Therefore, no inferences were made about the relation between technology usability and functionality and mobile payment non-adoption. The third query assessed the relation between the 'unbanked' code and the non-adoption phenomena. In the 'USERS' group, all the research interlocutors were 'banked'. In the 'NON-USERS' group, there was a less even distribution of the 'banked' code, and a higher distribution of the 'unbanked' code. Therefore, being 'unbanked' was interpreted to be an influence of mobile payment non-adoption, but required further exploration. Another query was run to understand how the 'banked' and 'unbanked' codes interacted with the 'cash' code in the 'NON-USERS' and 'USERS' group. The query results showed low prevalence of the 'cash' code in the 'USERS' group, which was interpreted as banked individuals having a lesser preference for cash. The 'NON-USERS' group had a lower number of banked individuals but a significantly higher rate of cash preference. The link between the prevalence of the 'unbanked' and 'cash' codes was interpreted as relational; meaning, that a lower rate of banked individuals was a result of a higher preference for cash amongst 'NON-USERS'. Extracts of relevant document tables are attached in Appendix 3.

iii: In order to analyse the frequency of the codes in the 'NON-USERS' group, the **co-occurrence tool** was used. This provides a deeper and contextual analysis of the dominant codes within the 'NON-USERS' document group. The significance of the co-occurrence tool is that it locates instances in the text where two or more codes overlap with each other, giving insight into where two or more codes are situated in a single quote. This helps to build an understanding of the relationships between the codes. Using the filter mechanism, constraints on the co-occurrence query were made to search for co-occurrences of codes in the 'NON-USERS' group. A full description of the co-occurrence table is attached in Appendix 3.

iv: The co-occurrence query results confirmed the identification of three distinct social and cultural explanations for the non-adoption of mobile payments amongst informal traders (those in the NON-USERS group). These form the empirical observations, namely: *Trust; Social Capital and Cultural Capital.*

These factors were identified on account of their dominance in the 'NON-USERS' group and their dominance as explanations of other codes co-occurring with them. The three social and cultural explanations were further explored through **network views**, a feature in ATLAS.ti which graphically represents relationships between codes. The network view between the 'cash'; 'social capital' and 'cultural capital' codes in the 'NON-USERS' group revealed a high co-occurrence between those codes. This means that there was a co-occurrence of quotes within these codes. Referring to the co-occurring quotes and analysing them through the co-occurrence analysis query demonstrated that 'cash' co-occurred with either 'social capital' or 'cultural capital'. Therefore, social and cultural capital related to one another through their relation to cash.

From the analysis of these relationships, the following explanation emerged: 'cash' not only informs the presence of social and cultural capital, but social and cultural capital reinforces the

dominance of cash amongst informal traders. The relationship between these factors was tested by referring back to the co-occurrence between these codes.

Network views between the 'trust'; 'social capital' and 'cultural capital' codes did not reveal a relationship between them. The 'trust' code had no relationship to either 'social capital' or 'cultural capital'. To test this non-relationship in the empirical findings, a co-occurrence query was run between 'trust'; 'social capital' and 'cultural capital'. The query results demonstrated that no co-occurrence between these codes was present. Therefore, 'trust' was an influencing factor to mobile payments non-adoption, but not related to either the 'social capital' or 'cultural capital' codes.

v: The query run in the 'NON-USERS' group, to determine the occurrence of the 'illegality' code, demonstrated that this code was common in this group. All research interlocutors in this group were coded with the 'illegality' code. Upon a re-reading of the interviews, it was evident that all the 'NON-USERS' were classified as non-South African. However, the 'illegality' code was not explained by any of the previous queries and did not have an explicit relationship with either of the aforementioned codes. Based on the high occurrence of the 'illegality' code in the 'NON-USERS' group, it was inferred that the condition of illegality was an influence to mobile payment non-adoption. Therefore, another category was added to the empirical observations, namely: Illegality.

vi: The 'Illegality' empirical observation does not fall into either of the above distinct social and cultural explanations or any other categorization of a social and cultural factor. Therefore, this outstanding empirical observation reflects a set of socio-political conditions influencing the non-adoption of mobile payments amongst informal traders, but is not a social and cultural factor.

Chapter VI

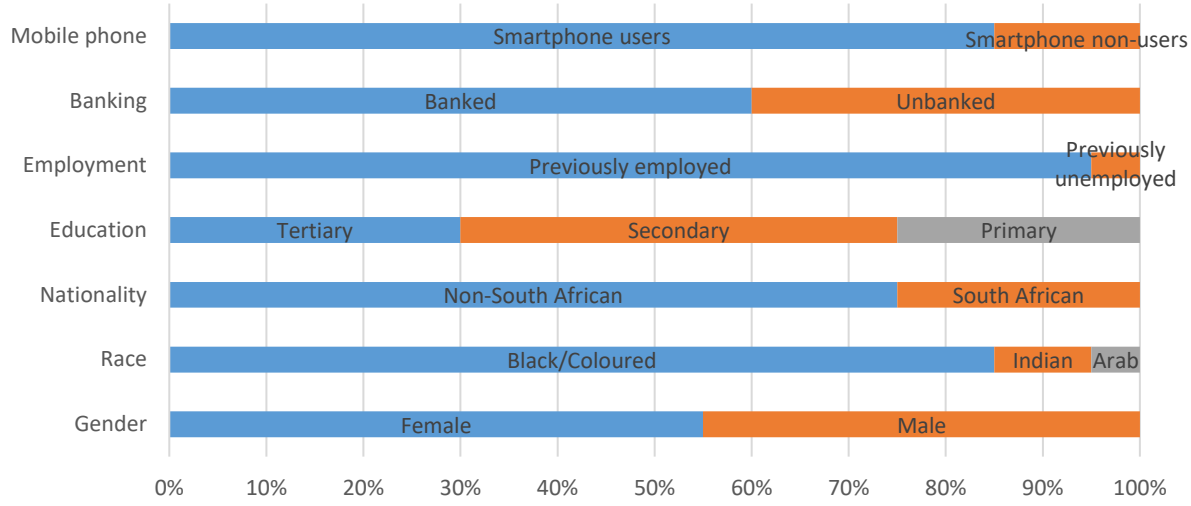
EMPIRICAL FINDINGS

This chapter is a presentation of the empirical findings. First, the chapter commences with a discussion of the demographic elements in the research sample. This is to contextualize the empirical findings. Second, the empirical observations are discussed, namely: illegality, trust, social capital and cultural capital. A definition of these factors in the empirical situation is rendered, and quotations to support these findings accompany the presentation of these findings.

Demographic findings

Certain demographic elements were categorised in this research, to understand the research sample as a social unit. Some of these categories were created on the basis of common demographic factors such as age, education level, nationality, race and gender. The rest of the categories were defined in relation to the research inquiry, and include trends in mobile phone type, banking activity and employment history amongst the research interlocutors. These demographic elements are presented in Figure 5 below.

Figure 5: **Summary of the demographics of the interviewees**



The mean age in the research sample is of a mature adult, namely 41 years old. This was calculated by taking the sum of the research interlocutors ages and dividing it by twenty (20), the total number of research interlocutors. Figure 5 reflects the distribution of education levels, showing that the majority of research interlocutors are educated, on either a secondary or tertiary school level. Figure 5 also demonstrates how the majority of the sample have held previous employment, which makes sense when the mean age and education level are considered in tandem. It is important to highlight that informal traders in this sample are both older than the legal working age and educated, these findings are contrary to normative views on 'who' participates in the informal economy.

The distribution of nationalities amongst the research sample is also of interest. As shown in Table 4, 75% of the research interlocutors are non-South African. This trend is consistent with other research findings on migration flows in the informal economy, where informal traders have been found to be mostly foreigners to the country where they conduct business (Skinner, 2008; Brown et al., 2010; Fauvelle-aymar, 2014). It is insightful to view this finding in light of

other factors: The increased formalization and regulation of South Africa's informal trade sector requires legal documentation to engage in many of its administrative processes. Commercial banks in South Africa also have similar requirements for people seeking to open a bank account. Therefore, although the majority of the sample is non-South African, when coupled with the finding that 60% of the research sample are bank account holders, it can be deduced that the majority of informal traders hold some legitimate form of identity documentation and are working in South Africa legally. This is contrary to normative views on the legal status of informal economy participants.

Empirical observations: *Presenting the findings*

The data reduction and interpretive analysis revealed three distinct social and cultural factors and a fourth finding reflecting the socio-political condition which influences mobile payment non-adoption. These observations will be discussed in turn, and are supported by quotes from the data. A code table, related to the findings under discussion, is presented at the end of each section.

Making choices in a condition of illegality

The perceived condition of illegality amongst predominantly non-South African informal traders challenges the adoption of mobile payment facilities. Although the condition of illegality is perceived, it negatively influences the informal trader's ability to access financial products such as mobile payment facilities. Illegality in the empirical situation is defined as the socio-political condition based on the perception of illegality and ineligibility, which influences the financial management decisions of informal traders. This definition was developed from the empirical observations.

The condition of illegality is a reflection of the social context within which informal traders navigate decision-making. In the research sample, 75% of the informal traders are foreign nationals, and therefore, non- South Africans. Research interlocutors described how their sometimes tenuous legal status position in South Africa impacted on their decision to adopt mobile payments. These concerns related to the challenge of providing recognised legal identity documentation. In relation to opening up a bank account, one informal trader explains: "*"We are refugees in a country, we don't pay attention for everything. When you go there [*the bank*][11] they say 'do you have a South African ID?'. They ask us everything we don't have. It is better to not pay interest to things like that."*

Thus, the illegality condition influences mobile payment adoption because in most circumstances, mobile payment facilities are linked to a bank account, e.g. the leading mobile payment service in South Africa, SnapScan, links payments to the merchant's bank account. Therefore, legal identification is required to open up a bank account and subsequently access any formal financial products, such as mobile payments. The condition of perceived illegality, creates a challenge to the adoption of mobile payments amongst mostly non-South African informal traders. The identity documentation requirement places an administrative burden on the foreign national informal trader, to acquire such, in order to engage in the formal banking system. This administrative burden constitutes a factor which negatively influences the intention to adopt mobile payments, which are part of the formal banking system.

However, the condition of illegality must be considered in the *whole context*: 60% of the research sample is banked. This implies that they have some form of legally recognized identity documentation, as required by the Financial Intelligence Centre Act 38 of 2001. This Act

[11] All words and phrases in [brackets] are the author's own.

stipulates that every person opening a bank account in South Africa should provide legally recognized identity documentation when doing so.

In this Act, a distinction is made between the legal requirements for minors (under the age of 18 years), adults and South Africans and non-South Africans in both categories. Previously, the accepted identification documents for non- South Africans were a valid foreign passport, valid permanent residence permit or work permit. These documents would often be difficult to obtain as a refugee or asylum seeker. As of the year 2010, for non- South Africans, banking institutions accept both the asylum seeker permit and the refugee permit as forms of identification. Therefore, post-2010, there is more flexibility in presenting recognized legal documentation for non-South Africans. This suggests that the largely non-South African research sample would be eligible to present alternative identity documentation as an entry requirement into the formal banking system. Understanding the implications of the Financial Intelligence Centre Act 38 of 2001, it can be argued that the condition of illegality and ineligibility for formal financial products is perceived.

Therefore, there is a *contradiction* between concerns amongst the research interlocutors about the influence of the condition of illegality and the reality as sanctioned by legislation, whereby a wide spectrum of legal identification is permitted to engage financial services in South Africa. However, regardless of the issue of illegality being one that is perceived by the informal trader, it is a condition influencing mobile payment non-adoption.

Concept: Illegality	Quotes
	"No. Because I have asylum [refugee identity paper]. That's why I can't make my account." Code 1.12
Empirical definition: The socio-political condition based on the perception of illegality and ineligibility, which influences the financial management decisions of informal traders.	"We are refugees in a country, we don't pay attention for everything. When you go there they say do you have a South African ID. They ask us everything we don't have. It is better to not pay interest to things like that." Code 7.7
	"It depends, but at the moment, by cash. I don't have any machine… I wish to have one because you know sometimes I wish to have. I already saw someone from ABSA Bank, Nedbank, even to FNB, sometimes they do that. Because for the paperwork, with the paper we are using [foreign nationals], ja." Code 11.11
	"They say I must have a business account, but I don't have papers to do business account." Code 20.11

Trust in the mobile finance project

Trust amongst the research interlocutors was expressed in the negative, as distrust. In the empirical situation, distrust is defined as low levels of trust for the mobile finance project based on the belief that transactional banking on a mobile phone lacks credibility. This definition was developed from the empirical observations and draws on the works of Ganesan (1994) and Doney and Cannon (1997). It was interpreted from the empirical observations, that a lack of trust in either or both the mobile interface and financial institutions, is influential to mobile payment non-adoption. This factor was significant in the research sample, with twelve individual instances where research interlocutors expressed distrust in the mobile finance project (60% occurrence rate).

Firstly, research interlocutors expressed distrust for the mobile interface, which was shown to be based on personal experiences with or perceptions of the mobile payment function. Secondly, distrust was found between informal traders and financial institutions, based on the relationship between informal traders and banking institutions.

Trust in the mobile interface

In relation to trusting the mobile interface, the common thread amongst research interlocutors was distrust in receiving money through a mobile phone. Research interlocutors explained the distrust of mobile payments being due to the immateriality of mobile money. As one research interlocutor stated: *"I don't know. How would I know the money is in my account? How would I know that they won't cancel it afterwards? You understand what I am saying. Like when I do a debit order, I can go to the bank and cancel the debit order. People are very clever nowadays."* This shows a distrust in the intangibility of receiving payments through the mobile phone.

The distrust in the 'intangible money' element to mobile payments was reinforced by the preference for payment systems that were accompanied by some form of hardware. One research interlocutor's response to whether they would use mobile payments was: *"Too much technology. Me I am no, too much technology."* Amongst research interlocutors who did express an openness to exploring non-cash payments, there was still a preference for options

which offered a tangible product, like a PoS[12] or card reader. These options were perceived to be "safer" to use.

Trust between informal traders and financial institutions

Distrust between informal traders and financial institutions is another dimension of the trust factor. Research interlocutors expressed a distinct fear of fraud and "robbery", specifically within the banking system. One informal trader said: *"There's too much con artists. You not safe in the bank…."* This response reflects a fearful and distrusting view of the banking system. In South Africa, most mobile payment facilities are linked to bank accounts; thus a distrusting view of the banking system causes mobile payment non-adoption.

Additionally, research interlocutors expressed distrust and fear of fraud in the electronic payment process of the banking system. The primary example used was that people could purchase goods via the mobile payment facility and subsequently cancel the payment transaction at a later stage. One informal trader described a previous incident of payment interception: *"I don't know. How would I know the money is in my account? How would I know that they won't cancel it afterwards? You understand what I am saying. Like when I do a debit order, I can go to the bank and cancel the debit order. People are very clever nowadays."*
Fear of payment interception and fraud reveal the research interlocutor's distrusting view of how the banking system functions. This lack of trust in the banking mechanism and financial institutions influences mobile payment adoption, as mobile payments are a function of this financial system. As discussed and defined in Chapter 2, mobile payments are transactional banking facilities that bridge traditional banking infrastructure with mobile technology. Therefore, if there is a lack of trust in the banking system, this implicates any attempt to extend banking activity to the mobile phone.

[12] A PoS, or point of sale, is a wireless machine used to facilitate transactions at retail selling points.

Concept: Trust	Quotes	Quotes
Theoretical definition: The perception of credibility, that one person will perform an obligation and the intention of benevolence that accompanies such performance (Ganesan, 1994; Doney & Cannon, 1997).	"I don't know, I have difficulty. Maybe someone is going to come and speak strong English and I can't hear it properly." (code 2.8)	"I have that fear in me, so much of robbery." (code 10.7)
Empirical definition: Low levels of trust for the mobile finance project based on the belief that that transactional banking on a mobile phone lacks credibility.	"No it's not safe." (code 2.9)	"There's a lot of fraud." (code 13.7)
	"But some people say it's not working, I don't know. Most of the time the customer they don't have it. It's not working. Nobody is using it." (code 3.5)	"No, it is not good idea. Because it happen to me one day, someone buy thing here, we went to collect the money there where we are supposed to, there by the shop. They say, no that person used already all the cash they have…" (code 14.5)
	"Yes, because if I see it's operational, I would have the courage to." (code 3.6)	"But then they gonna take away the commission as well." (code 17.9)
	"No no no no. No no no, not yet." (code 4.5)	"Because some people they don't know how to use that, you know it is my first time to hear that. And some people they can't trust this thing." (code 17.10)
	"No no. Too much technology. Me I am no, too much technology." (code 4.6)	"I don't know. How would I know the money is in my account? How would I know that they won't cancel it afterwards? You understand what I am saying. Like when I do a debit order, I can go to the bank and cancel the debit order. People are very clever nowadays." (code 18.8)
	"It is a lot of risk. They can bring the fake card and it works but you will have a problem with the cash." (code 7.12)	"I heard about SnapScan but I didn't look into it. I don't know, I am not sure about that, but I like and think it's safer with the one with PayPal." (code 19.10)
	"Aaah, you know something, you don't know 100%, me I don't want to get something I don't know about. Because the risk." (code 8.9)	"I'm not sure, I hear about it but I'm not sure about. It's a new thing, I heard. I'm just staying with my thing. That's for me safer and you know the procedure, and this thing is quick quick quick [SnapScan]. I'm not sure about that actually." (code 19.15)
	"There's too much con artists. You not safe in the bank, how can you be safe with a mobile. They phone you every time to ask you were are from certain place, and we want your details because we want to upgrade your account. Me I say I don't have anything." (code 10.5)	"I don't know. How would I know the money is in my account? How would I know that they won't cancel it afterwards? You understand what I am saying. Like when I do a debit order, I can go to the bank and cancel the debit order. People are very clever nowadays." (code 20.7)

Creating alternatives to mobile payments through *social capital*

The dominance of cash amongst informal traders is reinforced by the practice of borrowing PoS services between an informal trader and a surrounding retailer. This practice creates an alternative method of satisfying transactions, by providing a substitute means to facilitate non-cash transactions, thereby replacing the utility of mobile payments. This practice is a form of exchange, whereby an informal trader borrows the PoS services of a surrounding formal retailer in exchange for a commission owed to the formal retailer. To settle the transaction, the formal retailer gives the informal trader the cash equivalent of the payment processed electronically.
In the empirical situation, social capital is defined as the social networks, and their related facilities, that an informal trader can draw on in order to facilitate non-cash transactions. This definition was developed from the empirical observations and draws on the definitional work of Bourdieu (1986).

In the empirical situation, informal traders use their social capital with surrounding formal retailers to facilitate transactions where the customer does not have cash on hand. One informal trader explained this exchange: *"There's other people there, like on the other side. You go there and say, this people [*customer] *want to use card [*machine*]… Like … Kalamari* (an adjacent formal retail shop located near the informal trader, not interviewed for this research), *this shop just behind Greenmarket Square… they take 10 to 16% [*commission*]".*
This practice is significant in that it hems in the use of cash, by providing alternatives to remain cash-based and circumvent the use of mobile payments. Thus, this practice influences mobile payment non-adoption amongst informal traders, and occurred in 5 individual instances amongst research interlocutors (25% occurrence rate).

This practice is commonplace in the urban environment, as the geographic proximity of informal traders to surrounding formal retail allows for this exchange. The image below shows the proximity of informal traders to surrounding formal retail shops.

(Photo credit: Zarina Nteta)

Although this practice elegantly substitutes a PoS machine, it exists out of necessity. The PoS hardware is not only costly, but eligibility is subject to the same requirements as those for opening a bank account. Since the majority of the research sample (60%) is banked, and thus holds legally recognized identity documentation, it can be inferred that the cost of the hardware is the cause of the low rate of PoS usage amongst informal traders. Only one informal trader in

the sample of twenty has his own PoS machine. He is orientated towards the tourist market, selling goods at a higher price point. He expressed how these factors were a motivation for acquiring a PoS, as his patronage often requested and used the facility. The image below is the business card of this informal trader. Printed on the business card are the '*Visa and "MasterCard*" logo, signifying the availability of these services to customers.

(Photo credit: Zarina Nteta)

Concept: Social capital	Quotes
Theoretical definition: The aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition (Bourdieu, 1986).	"I'm gonna say let's go to the shop, it's around the corner there". (code 8.6)
Empirical definition: The social networks, and their related facilities, that an informal trader can draw on in order to facilitate non-cash transactions.	"Sometime I go with them to my friend who work and he has machine. Some customers can't accept to go, see. Sometimes I can tell him to go to draw money. And the customer they say "uh no its fine" and they don't go". (code 11.4)
	"There's other people there, like on the other side. You go there and say, this people want to use card- but it takes a long time to get the money. Like a week…Kalamari, this shop just behind Greenmarket Square". (code 16.7)
	"Some if they have cards, I will take them to the shops, the big shops". (code 17.5)
	"We have to go to a restaurant or something like that. Maybe Baran's or Fisheries [restaurant adjacent to Greenmarket Square]." (code 20.10)

Identifying with the *cultural capital* of cash

The cash-only basis on which informal traders operate is a well-established norm amongst informal traders and their customers. Informal traders in the research sample self-identify with this practice, at times proudly proclaiming this norm: "*I want cash, cash good*." In other instances, informal traders dejectedly admit submission to this norm. One informal trader expressed the difficulties in working on a cash basis: "*It is not fine for me, but I am forced to accept this*." These quotes demonstrate how the cultural norm of cash-based transactions is embedded in the informal economy, locking informal traders into this practice. As a result of the unquestioned acceptance of cash, cash-based practices are reinforced and perpetuated across the informal trade sector value chain.

In the empirical situation, cultural capital is defined as the aggregate knowledge of cash-based cultural norms in the informal economy, a body of capital which an informal trader can leverage to remain cash-based. This definition was developed from the empirical observations and draws on the works of Bourdieu (1986) and Vigouroux (2013).

The knowledge of informal traders operating on a cash-only basis and the acquiescence of the customer to the exclusive use of cash, also contributes to establishing this norm between the merchant and the customer. When the customer does not have cash on-hand to pay for the purchase, the informal trader either suggests the customer withdraw cash at a nearby ATM and return, or accompanies the customer to the nearest ATM. The data showed a high occurrence rate (12 instances) of instances when individual informal traders made this suggestion, which is a 60% occurrence rate in the research sample. Despite the fact that customers request alternatives to cash, informal traders continue to identify with and re-enact cash-based practices. Like instances of social capital in practice, this form of cultural capital is exercised in urban centres, where there is a proximity to ATM facilities. One informal trader explained: "*The ATMs are close to the market*".

This norm creates a form of cultural capital, based on the identification with and knowledge of cash-only transactions in the informal trade sector. This culture of cash-only transactions is entrenched amongst the local customer segment of informal traders. In Grand Parade, a trading location selling mostly everyday household goods, one informal trader explained: *"Most of the customers know that this is an informal business. So they come here with cash".* This trading location services mostly local customers. Therefore, a segment of the customer base is knowledgeable that informal traders are cash based, and acquiesces to the norm of withdrawing cash from nearby ATM to pay for products. The tourist customer is often drawn to products and merchandise such as African art and artefacts, which have a higher price point. However, tourists are not always aware of this norm.

Two of the four research sites in this research project are tourist-centric, namely Greenmarket Square and St George's Mall. Research interlocutors explained that their tourist customers often do not have sufficient cash on hand to buy their more expensive merchandise. In these instances, the informal trader leverages cultural capital, by relying on the knowledge that transactions are cash-only. In other words, the trader requests that the customer go to the nearest ATM and withdraw cash to pay for the goods. As one informal trader succinctly puts it: *"I just convince them to go to the ATM and draw money".*

What emerges as a result of this dynamic is a form of cultural capital enabled by acquiescence, based on the knowledge of cash-based business practices within the informal trade culture. This cultural capital is identified with by informal traders, as one trader succinctly put it:

"…*here we need cash*". Informal traders operationalize this norm by 'encouraging' the customer to withdraw money. One informal trader describes how tapping into this cultural capital prevents informal traders from losing paying customers who do not have cash: *"We encourage them, the ATM is across the road. We have to satisfy the customer, we can't lose a customer."* Therefore, the informal trader taps into the knowledge and culture of cash-only transactions in the sector.

Thus, the cash-only culture of informal trading has created a norm which operates as cultural capital: the suggestion of cash withdrawals to satisfy transactions where the customer does not have cash. By acquiescing to this suggestion, the customer completes the picture, by reinforcing the use of cash amongst informal traders and entrenching a cultural norm of cash withdrawals and payments in the sector. This cultural capital locks in the use of cash amongst informal traders, which obstructs migration to newer payment facilitation technologies, such as mobile payments.

Concept: Cultural capital	Quotes
Theoretical definition: Cultural capital refers to a set of dispositions… which enables individuals to sustain a living especially in adverse socioeconomic environments (Bourdieu, 1986; Vigouroux, 2013).	"Ja, but I don't have a card. You see I am selling the small small things, like R50. If I put the machine card, you know they take 10% and this card machine will charge. If the customer don't have cash, I say: go to FNB [ATM]."(code 1.7)
Empirical definition: The aggregate knowledge of cash-based cultural norms in the informal economy, a body of capital which an informal trader can leverage to remain cash-based.	"I leave people, you must go. Sometimes I say go bank, ATM."(code 2.12)
	"Most of the customers know that this is an informal business. So they come here with cash."(code 3.7)
	"I just convince them to go to the ATM and draw money." (code 3.8)
	"I say: go to the ATM." (code 5.7)
	"We send them to the ATM." (code 7.10)
	"I send the customer to the ATM." (code 9.9)
	"Yes, you can go to the bank." code 10.9)
	"You should go to the nearest ATM." (code 12.8)
	"The most of our buyers use cash." (code 13.9)
	"Sometimes you say go to the ATM." (code 14.7)
	"We encourage them, the ATM is across the road. We have to satisfy the customer, we can't lose a customer." (code 15.9)
	"Yes there is sometimes customers, then they ask where is the bank. And I must take them to the bank." (code 18.9)

Chapter VII

THEORETICAL DISCUSSION

In this chapter, the empirical findings are theoretically elaborated and the modified Technology Acceptance Model (TAM) is presented. This chapter is structured as follows:

Discussion of the empirical findings: The empirical findings are discussed in relation to the literature reviewed. The empirical findings are: trust, social capital, cultural capital and illegality, which are social and cultural factors that influence mobile payment non-adoption amongst informal traders in Cape Town. In this sub-section the argument for the influential role of social and cultural factors on mobile payments non-adoption is strengthened, as the support of literature for the empirical findings is demonstrated.

Technology Acceptance Model: The TAM is briefly discussed, with particular reference to arguments in previous research that highlight the limitations of TAM. The limitation of TAM which is relevant to this research is the argument that TAM is limited in its capacity to determine how social and cultural factors influence adoption. Based on this limitation, an argument is made for the importance of this empirical research, which modifies TAM to predict the social and cultural factors influencing non-adoption of mobile payments.

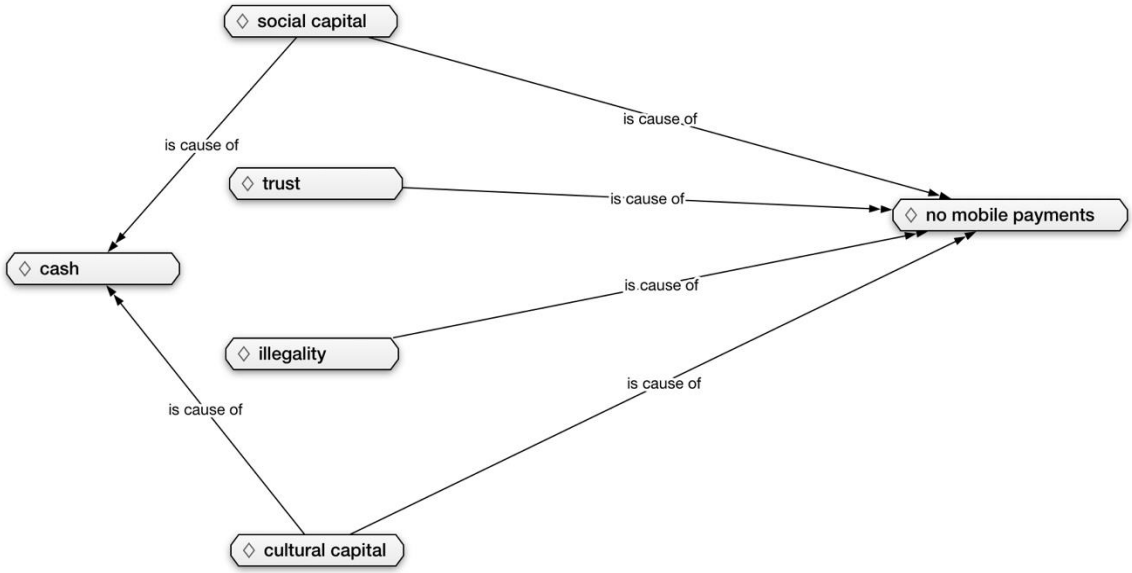
A modified TAM: Finally, a modified TAM is proposed, which reflects the theoretical contribution made by this research. The modified determinants in this proposed TAM enhance the model's capacity to determine social and cultural factors influencing mobile payment non-adoption in similar contexts as this study. In this sub-section, the modified determinants are discussed in relation to the empirical findings, and literature on mobile payment adoption is discussed to support the theoretical propositions presented.

Discussion of the empirical findings

The empirical findings provide crucial insights into the social and cultural influences of mobile payment non-adoption amongst informal traders in Cape Town. Literature backs the importance of this discussion and supports its connection to the objectives of this study: to explore social and cultural factors influencing mobile payment adoption, since research on the influence of these factors is limited (Dahlberg et al. 2008; Donner & Tellez, 2008; Crabbe et al., 2009; Morawczynski, 2009).

The findings demonstrate that amongst informal traders in Cape Town, social and cultural factors do influence mobile payment non-adoption. The empirical findings identified are *three* distinct social and cultural factors and a perceived socio-political condition of illegality, which explain the non-adoption of mobile payments amongst informal traders. Each of these findings will be discussed in turn, with reference to supporting literature. Figure 5 below provides a graphic representation of how these factors interact with one another and influence the phenomena of mobile payment non-adoption.

Figure 6: Empirical observations: social and cultural factors influencing mobile payment non- adoption amongst informal traders (exported from ATLAS.ti)



As shown in Figure 6 above, social and cultural capital are associated with each other. This is a result of the preference for cash, which underpins both. These two factors have a bi-directional relationship with the entrenched use of cash, being both a cause of and being enabled by the preference for cash amongst informal traders. The social and cultural capital informal traders leverage and tap into, comprises of practices and norms which provide the means to substitute and circumvent the necessity to migrate from cash and adopt new technologies such as mobile payments. Therefore, one can draw the conclusion that these two associated factors are a direct cause of mobile payment non-adoption.

Social capital

The practice of informal traders borrowing the PoS machine of neighbouring formal retailers, to facilitate non-cash payments, provides informal traders with the means to substitute the adoption of mobile payments. Through this alternative payment, the informal trader receives cash in return, from the formal retailer. As shown in Figure 5 above, social and cultural capital are associated with each other, and have a bi-directional relationship with the entrenched use of cash, being both a cause of and being enabled by the preference for cash amongst informal traders.

Literature supports the argument that social capital is often leveraged to overcome challenges such as lack of access to finance (Lyons & Snoxell, 2005; Brown et al., 2010). Social capital, being the aggregate resources in one's personal network, has been found to be influential and operable in the informal trade context (Bourdieu, 1986; Coleman, 1988; Fafchamps & Minten, 2001; Lyons & Snoxell, 2005; Vigouroux, 2013). Particularly, the role of mutual help arrangements, such as the borrowing of tools and resources amongst informal traders, is an example of how social capital can be leveraged (Coleman, 1988; Lyons & Snoxell, 2005). In the empirical findings, the informal trader's borrowing of the formal retailer's PoS machine demonstrates this. Coleman (1988) explains how social capital can facilitate certain actions, such as a cash preference, or constrain other actions, such as mobile payment adoption, as is the case in this research.

Cultural capital

The cash-only norm in the informal trade sector is reinforced by the request that non-cash holding customers withdraw cash at a nearby ATM to pay for goods. The acquiescence of the customer and the commonality of this request from the informal trader demonstrates how this norm has become culturally acceptable. This behaviour is underpinned by a preference for cash, as the informal trader receives cash for the goods sold.

Literature supports the argument that cultural capital, which is the economic and cultural investments people make over time (Bourdieu, 1986), can provide alternative ways to navigate challenges such as lack of access to finance (Vigouroux, 2013). Cultural norms which have been invested in over time, such as the cash-only preference, can shape informal trade business practices. This is supported by literature which demonstrates the influential role cultural trends plays on the adoption of any behaviour (Hofstede, 1980; Straub et al., 1997; Suh et al., 1998; Keil et al., 2000; Bankole et al., 2003; Srite & Karahanna, 2006). Again, Coleman (1988) explains how this cultural capital can both facilitate certain actions, such as a cash preference, or constrain other actions, such as mobile payments adoption, as is the case in this research.
Trust and illegality, are the two resulting social and cultural causes of mobile payment non-adoption. The empirical analysis revealed that these factors were found to have no relation to each other or the other empirical observations. Distrust (or rather, lack of trust) of the mobile finance project directly causes mobile payment non-adoption. The *fourth* finding of illegality is not a social and cultural factor, but rather encapsulates the socio-political condition informal traders live within, which influences the non-adoption of mobile payments. The perceived condition of illegality directly influences the non-adoption of mobile payments. Informal traders do not adopt mobile payments based on the belief that mobile payments are not legally accessible to them.

Trust

The findings suggest that distrust (lack of trust) in the mobile finance project, influences the decision to not adopt mobile payments. Distrust of transacting through the mobile phone and the lack of credibility in financial institutions, inform the beliefs which negatively influence mobile payment adoption. Lack of trust and credibility in the mobile finance project diverts informal traders away from mobile payments facilities.

Literature supports the argument that distrust can be an influential factor to technology adoption amongst informal traders (Morawczynski & Miscione, 2008; Donner & Tellez, 2008). In the case of mobile payments, the influential role of trust in the adoption phenomena is premised on the fact that these technologies are based on economic transactions, which commands trust (Granovetter, 1985; Morawczynski & Miscione, 2008).

In some cases, distrust of the financial system and technology interventions associated with them, can encourage these informal businesses to seek solutions within their social networks as opposed to in the formal system (Molony, 2007; Bick et al., 2009; Perry et al., 2010). Such is the case in this research, where informal traders tap into and leverage their social and cultural capital to access payment facilitation methods outside the formal banking system.

Illegality

The perceived condition of illegality influences the non-adoption of mobile payments, as the informal trader considers mobile payments to be legally inaccessible to her/him. Most informal traders in the research sample are non-South African, and believe that they do not have the legal documentation required to qualify for mobile payments. This belief is perceived, as the

majority of the research sample is banked (60%), and the eligibility requirements for a South African bank account and mobile payments are largely the same. Therefore, this demonstrates how a perceived condition of illegality and ineligibility can influence mobile payment non-adoption.

Literature supports the argument that the condition of illegality presents difficulties to the lives of informal traders in South Africa (Peberdy, 2000; Hunter & Skinner, 2003; Skinner, 2008; Brown et al., 2010; Fauvelle-aymar, 2014). Specifically regarding access to finance, illegality poses a challenge to providing the required documentation to formally bank (Bick et. al, 2009). This in turn creates further obstacles to enterprise growth and development (Xaba & Horn, 2002; Bick et al., 2009; Woodward et al., 2011).

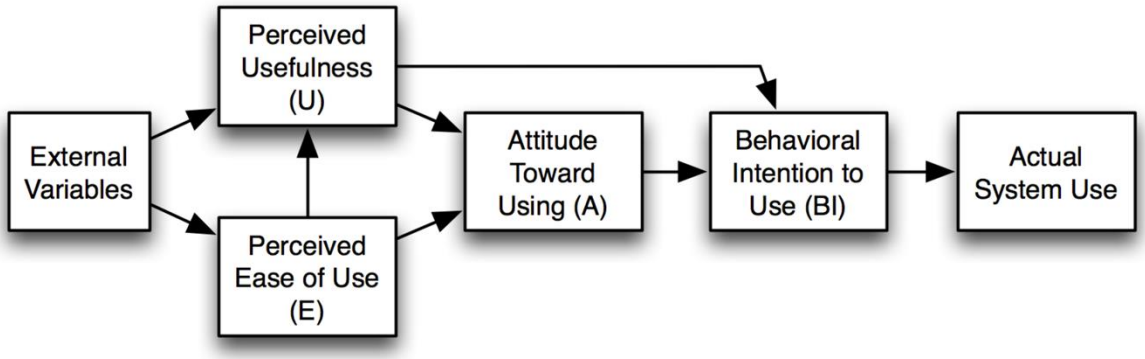
Technology Acceptance Model: *The existing framework and its limitations*

A recap of TAM

This theoretical discussion engages with the Technology Acceptance Model (TAM) as originally posited by Davis (1989). TAM was initially developed by Fred Davis in his 1986 PhD thesis. This year marks the 30th year anniversary of the model, and this study modifies TAM and extends the model to determine social and cultural influences to mobile payment non-adoption. This extension of the model is underpinned by the findings in this empirical study.

The original TAM is presented in Figure 7 below. The model gauges' technology acceptance based on two main determinants: perceived usefulness (PU) and perceived ease of use (PEOU). The behavioural intention to use a technology is mediated by these two factors (Ventakesh, 2000).

Figure 7: TAM (1989)



TAM is a popular model in IS research and is highly regarded as parsimonious and generalizable (Gefen, 2000; Venkatesh, 2000; Ventakesh, 2003; Benbasat & Barki, 2007; Bagozzi, 2007; Ventakesh, 2012). It is made even more powerful by the fact that adoption is the most widely researched phenomena in IS studies (Williams et al., 2009). Over the years, its wide usage has made TAM a powerful model, with high predictive validity (Lee et al., 2003; Ventakesh, 2007; Bagozzi, 2007). The model has been modified and extended many times, which has produced a certain linearity in the IS adoption research space.

Modifications and extensions to TAM

The TAM model has moved through two popular cycles of modifications, most notably, TAM2 (Ventakesh & Davis, 2000) and The Unified Theory of Acceptance and Use of Technology, known as UTAUT (Ventakesh et al., 2003).

TAM2 elaborated the model and defined variables external to PU and PEOU (Lee et al., 2003). The initial core concepts were kept, but external variables such as 'social influence process' were included. (Ventakesh, 2000). A criticism of the 'social influence' factor added to TAM2 its their unidirectional nature, where the influence of a social factor on the potential user is coming from some external constraint, as opposed to being a personally held belief (Bagozzi, 2003).

UTAUT was positioned as a more holistic model, collating eight previous models (Ventakesh, 2003). Additional moderating factors were added, including 'social influence'. UTAUT explicitly engaged with the inclusion of social factors, a controversial move in technology adoption models which has researchers split on the matter. The UTAUT model has been used in various contexts and has thus fortified its generalizability (Ventakesh, 2007). However, it has also been criticised for its overwhelming number of factors, which have contributed to confusion in the IS adoption research stream (Bagozzi, 2003). Another criticism of the added moderating factors is their conceptual weakness, lending them to descriptions such as "crude", a reference made by Bagozzi (2003), one of the core researchers who initially developed TAM. A further UTAUT2 emerged in 2012, including concepts which aimed to deepen the understanding of behavioural intent (Ventakesh, 2012).

Including Roger's Diffusion of Innovations Theory (2003), these theoretical models have largely determined IS adoption research. The uniformity in IS adoption studies, caused by the dominance of TAM and its extensions, leaves the door open for research to use different approaches and explore how the TAM model can be modified to accommodate the influence of social and cultural factors on the adoption phenomena, an invitation accepted by this study.

The argument for modifying TAM in this study

Due to TAM's dominant use in technology adoption studies, this study engages with TAM to theoretically elaborate the empirical findings. In doing so, this study contributes to the theory's development, and also fulfils the objective of this research: to develop an empirically grounded explanation of mobile payment non- adoption amongst informal traders in Cape Town, specifically looking at the influence of social and cultural factors. The argument for modifying TAM is based on the following points:

Researchers have called for such modifications to IS adoption models

The empirical findings are social and cultural explanations for mobile payment non-adoption. These findings provide the empirical base from which to modify determinants in the model, which is a response to calls for research that enhances explanations of IS adoption through a dialogue with the social, cultural and contextual influences (Lee, 2003; Bagozzi, 2003; Ventakesh, 2007; Dahlberg et al., 2008; Donner & Tellez, 2008; William et al., 2009; Crabbe et al., 2009; Morawczynski, 2009). By modifying TAM (1989) and orientating the model towards identifying influential social and cultural factors, this research contributes to the body of knowledge comprising technology acceptance.

Certain limitations to TAM merit its modifications

This study also engages with the limitations of TAM, outlined by authors in Table 5 below.

Table 5: Summary of limitations of TAM, 1989

Limitation	Supporting research
Restrictiveness of the two determinant factors.	Lule et al., 2012; Benbasat & Barki, 2007; Crabbe et al., 2009.
Development of TAM (1989) has been based on PC and not mobile technology, which is modular, ubiquitous and engages an everyday use.	Lule et al., 2012; Crabbe et al., 2009; Scheepers et al., 2006.
Perceived Ease of Use not strongly correlated to IS adoption.	Davis, 1989; Adams et. al, 1992; Venkatesh and Davis, 1994; Keil et al., 1995; Gefen, 2000; Crabbe et al., 2009.
TAM does not account for social and cultural influences on IS adoption.	Lee, 2003; Bagozzi, 2003; Ventakesh, 2007; Dahlberg et al., 2008; Donner & Tellez, 2008; William et al., 2009; Crabbe et al., 2009; Morawczynski, 2009.

Specifically, the limitation of TAM to account for social and cultural influences is engaged with. The modified TAM extends the model to account for the identification of social and cultural factors. Authors argue that there is limited research exploring the social and cultural influences of mobile payment adoption in Africa (Donner & Tellez, 2008, Dahlberg et al., 2008; Morawczynski & Miscione, 2008). This research fills that gap in South Africa, contributing to the body of knowledge on mobile banking/payment adoption studies in Africa (Bankole, 2003; Crabbe et al., 2009; Mbogo, 2010; Lule et al., 2012).

This study goes further and extends the TAM model into another dimension of mobile technology, namely: mobile payment services. Literature demonstrates the need for continued research on the mobile technology adoption front, to bring TAM into relevance (Lule et al., 2012; Ayyagari et al., 2011; Cousins & Varshney, 2009; Scheepers et al., 2006). As mobile payments are an emerging technology, the adoption research is still developing (Donner & Tellez, 2008). This research orientates TAM to this technology in the South African context, where mobile payments show a low adoption rate (Pew Centre Research, 2014).

A modified TAM: *Extending the model into the social and cultural*

TAM has been modified numerous times (Lee et al., 2003). However, a recent study exploring the influence of social and cultural factors in the African context, through the TAM model, is instructive to the theoretical elaboration in this present study. The Crabbe et. al (2009) study proposes new determinant factors in TAM, and contributes to the development of the theory. To recap from the literature review, Crabbe et al. (2009) explored mobile banking adoption in Ghana. The study splits the research sample into two groups: continued users and non-users. Using TAM, the authors developed the original model to account for cultural and social factors influencing the adoption of mobile banking amongst non-users in Ghana.

The authors add three new key constructs to their modified non-user's model, which is relevant to this research as non-adoption is explored. This empirical research borrows two constructs from the Crabbe et al. (2009) non-user's modification of TAM. The following three key constructs were added by Crabbe et al. (2009) to the TAM model, two of which are relevant to this research:

Perceived elitisation (Moore & Benbasat, 1991; Venkatesh and Davis, 2000):
"an individual's wilful exclusion (or inclusion) of oneself as incapable (or capable) of using a technology because it is made for a specific class of users, perceived elitisation can motivate or impede adoption" (Crabbe et al., 2009, p. 519).

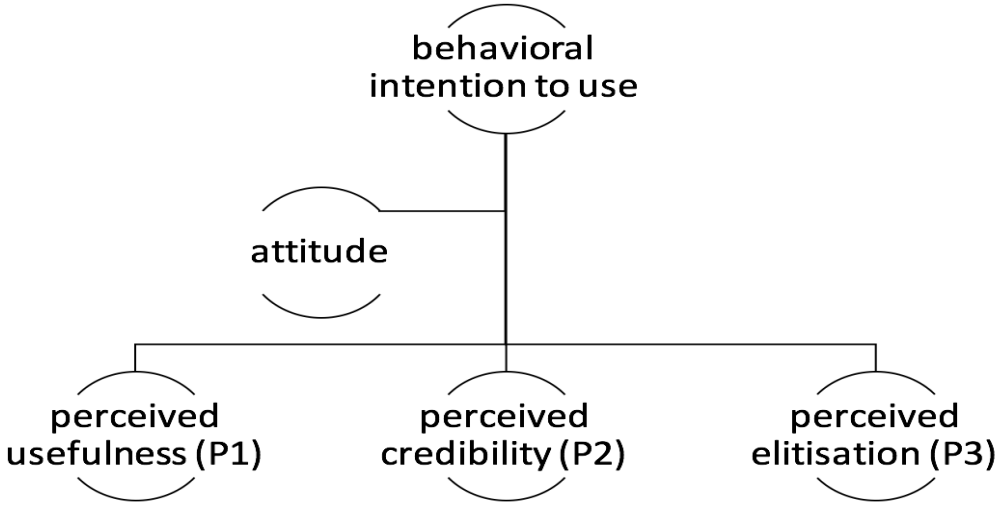
Perceived credibility (Luarn and Lin, 2005; Brown et al., 2005; Lule et al., 2012):
"a component of trust in transactional relationships is defined as the extent to which one partner believes that the other partner has the required expertise to perform a job effectively and reliably" (Crabbe et al., 2009, p. 520).

Sustained usefulness and sustained usage (Chau, 1996):
"the belief that mobile banking has the ability to retain its usefulness consistently or progressively, long after its initial adoption" (Crabbe et al., 2009, p. 521).

The former two, *perceived elitisation* and *perceived credibility*, are of particular interest to this research, as these are specifically said to have "social and cultural implications" (Crabbe et al., 2009, p. 517). The modified TAM proposed in this study borrows these two constructs to theoretically elaborate on how the illegality and distrust factors identified in the empirical findings influence mobile payments non-adoption. Sustained usefulness and sustained usage is not borrowed as a construct as it did not correlate with the empirical findings, and in any case, does not relate to a social and cultural explanation.

The modified model presented next returns to Davis's (1989) motivation for a technology acceptance model which presents a better explanation of the IS adoption phenomena, one which engage with social complexities. Referring to the social logic and the implementation context of a technology is particularly important in Africa and the rest of the developing world. As this study is in the critical social theory paradigm, the acknowledgement of social and cultural factors is argued to theoretically strengthen the Technology Acceptance Model (TAM, 1989), as this positions the model to identify socio-cultural influences. It is suggested that when operationalized in the future, this model will provide a means to explain mobile payment non-adoption across various developing world contexts. This modified TAM is presented in Figure 8 below.

Figure 8: A modified TAM for determining the social and cultural factors influencing mobile payment non-adoption



The findings of this research modify the two original determinant factors. Perceived Usefulness (PU) is found to be an influencing determinant, and encompassing of social and cultural influences. Perceived Ease of Use (PEOU) was not found to be an influencing factor of mobile payment non-adoption. Two additional factors were added to the model, Perceived Credibility and Perceived Elitisation (Crabbe et al., 2009). These determinant factors and how they influence non-adoption, will be discussed in turn. To support the addition of the new determinant factors, theoretical propositions are presented, which are supported by the empirical findings and literature on mobile payment adoption.

A discussion of the modified TAM: *Revisiting the determinants*

Perceived usefulness

In the empirical situation, the Perceived Usefulness (PU) of mobile payments is conceptualized in the social and cultural. This research evolves the definition of PU, to fit into the developing world context, where social and cultural norms and practices are instructive. Therefore, in this modified model, the theoretical definition of PU is *the degree to which a person believes that using a particular technology would compliment and be useful to his social and cultural context.* This was developed from the conceptualizations of social and cultural capital in the empirical observations and builds on Davis' (1989) definition of PU. The slight departure from Davis, and other authors who locate PU in the realm of organizational productivity and performance related activities, is that, in this empirical research PU is defined in relation to the potential users social and cultural environment.

Social and cultural capital are forms of capital which are entrenched practices and norms that facilitate the use of cash and allow for the substitution and circumvention of mobile payment adoption, and as such, these factors influence the perceived usefulness of the technology, by offering alternatives and substitutes to the technology itself. Collectively, these forms of capital affect the behavioural intention to adopt mobile payments.

Informal traders engage in the borrowing of PoS services of surrounding formal retail to facilitate payment when the customer does not have cash on hand. In this instance, they leverage social capital, through their social networks with surrounding formal retail, to substitute the need to adopt mobile payments. This practice is underpinned by a preference for cash. Additionally, informal traders tap into a cultural norm within the sector, enacted between the informal trader and their customer. The informal trader requests that the customer withdraw cash from nearby ATM, in order to pay for the purchase with cash. This practice is underscored by a knowledge of and preference for cash-only transactions in the informal trade sector. Both of these activities influence the attitude and intention to use mobile payment facilities, by providing substitutes and means to circumvent the adoption thereof. Therefore, the following theoretical proposition is posited:

P1: *When informal traders have access to social and cultural capital, their preference for cash is enabled, which negatively influences the perceived usefulness of mobile payment facilities and causes non- adoption.*

The finding of perceived usefulness is corroborated by literature. As a core concept of the original TAM (1989), Perceived Usefulness (PU) has consistently been found to influence technology adoption (Venkatesh, 1999; Venkatesh, 2000; Gefen, 2000). Initially, the PU measurement related to an increase in productivity as a result of technology adoption in the organizational context (Lule et al., 2012). A different conceptualization of PU is required for mobile technology, which is akin to everyday use (Lule et al., 2012). Additionally, in the developing country, the influence of social and cultural factors is instrumental to PU, where the strongest competition to mobile technology is not necessarily other technological substitutes but analogue mechanisms. Therefore, when it comes to informal trade, these alternatives are relational facilities within a social network, through actions like borrowing or exchanges; or tapping into cultural capital, and leveraging those cultural norms.

The empirical findings show that by engaging in the practice of borrowing the PoS services within their social network, informal traders create a form of social capital that can be leveraged to facilitate non-cash transactions. Therefore, this practice decreases the perceived usefulness of mobile payments for informal traders, as it provides a substitute mechanism.

The empirical findings also demonstrate the influence of cultural norms, such as a cash-only preference, on perceived usefulness. The findings demonstrate that the informal trade sector operates on a cash-only basis. The request for the customer to withdraw cash from nearby ATM, in order to pay for the purchase with cash, is one such cultural norm. This norm is commonplace, and not only reinforces the culture of cash-only transactions in the informal trade sector but also provides an alternative to mobile payments, which decreases the perceived usefulness of the technology.

These findings are corroborated by literature, which demonstrates that social and cultural capital is influential in two ways:
a) as capital which can be converted into economic gain and; b) as capital which can positively or negatively influence the accumulation of economic capital (Bourdieu, 1986; Coleman, 1988; Putman, 2000; Vigouroux, 2013).
Therefore, the well-established perceived usefulness factor is modified to reflect the influence of social and cultural capital. These forms of capital cause mobile payment non-adoption and decrease the perceived usefulness of mobile payments for informal traders.

Perceived ease of use

Perceived Ease of Use (PEOU) is based on the usability and functionality of a technology (Davis, 1989; Gefen, 2000). Like PU, in most TAM studies, this is a self-reported determinant and thus subjective. Despite being a core determinant in the TAM model, researchers have struggled to prove strong correlations between this factor and adoption, which calls its relevance into question (Davis, 1989; Adams et al., 1992; Venkatesh and Davis, 1994; Keil et al., 1995; Gefen, 2000).

PEOU was not identified in the empirical findings. This is consistent with previous studies which criticised PEOU and struggled to identify this factor (Davis, 1989; Adams et al., 1992; Venkatesh and Davis, 1994; Keil et al., 1995; Gefen, 2000).

Firstly, the high rate of smartphone adoption (85%) in the research sample is instructive. This connects to the ubiquity of mobile phone technology, a limitation which the original TAM (1989) model could not address. Mobile phones, and increasingly smartphones, are a common feature in both professional and private use in both the developed and developing world. This reflects a change in the ubiquity and presence of technology from the early days of TAM and personal computer (PC) adoption. None of the research interlocutors intimated to the difficulty in using mobile technology applications. Therefore, this research conjectures that in current times, where the mobile phone is so ubiquitous, TAM's conceptualization of PEOU are not relevant or applicable to the adoption phenomena as it relates to mobile technology. This is corroborated by the aforementioned studies which have struggled to find the PEOU factor relevant over the years.

Secondly, as this study explores non-adoption, PEOU was not positioned as a determining factor as the majority of the research sample did not use and had never used mobile payments. Therefore, the usability of the mobile payment function was not tested in this study.

New additions to TAM (1989)

Perceived credibility

In the empirical situation, perceived credibility is influenced by notions of trust, which is a departure from research which separates the two and further distinguishes perceived credibility from risk (Wang et al., 2003). This research engages the notion of trust as an antecedent informant of perceived credibility, and separates the notion of trust from the behaviour succeeding the gaining of trust (Gefen, 2000). The definition of perceived credibility in this theoretical model, which is based on a set of subjective beliefs, is borrowed from Crabbe et al. (2009):

"a component of trust in transactional relationships is defined as the extent to which one partner believes that the other partner has the required expertise to perform a job effectively and reliably" (p. 520).

Therefore, this definition of perceived credibility, which is informed and preceded by trust, is the belief in the benevolence and the predictability of the other party. A number of authors have posited a definition of trust based on these conditions (Granovetter, 1985; Ganesan, 1994; Hosmer, 1995; Kumar, 1995; Doney & Cannon, 1997; McKnight et al., 1998; Gefen, 2000; Morawczynski & Miscione, 2008).

Distrust in both financial institutions and the mobile interface is essentially distrust in mobile payments, which are transactional. The performance of economic transactions occurs in the social environment. Therefore, as an essential component to the performance of economic transactions, trust is influenced by social and cultural factors. When understanding 'trust', the

reasons ‘why, where and how’ people behave as they do, is of interest. In this research, the empirical findings show that there is a lack of trust and low beliefs of credibility in mobile payment facilities. Informal traders distrust the mobile interface as a means to financially transact and accept payments. Therefore, informal traders distrust the mobile banking mechanism. This was shown to be a factor causing mobile payment non-adoption. Additionally, informal traders do not trust banking institutions. This finding was underpinned by fear of payment interception, fraud and unsafety. Therefore, the notion of trust extends to a distrust of financial institutions and the banking mechanism. The following theoretical proposition is suggested:

P2: *When the perceived credibility and trust beliefs in the mobile finance project are low, informal traders do not adopt mobile payments.*

Literature supports this theoretical proposition, which demonstrates the multi-faceted nature of trust and how it is influential to technology non-adoption. Firstly, literature shows that trust is often built upon embedded past relations, which determine future relations (Hosmer, 1995; Granovetter, 1985). The empirical analysis shows that distrust of the mobile finance project is rooted in relationships. These relationships are located in the greater historical context of South Africa, and how historical views of the informal trade sector as being illegitimate and illegal inform how those merchants engage with formal institutions, such as banks (Bick et al., 2009; Skinner, 2012).

Secondly, literature shows how trust is incremental and how it influences the nature of interactions. The distrust and low credibility expressed by informal traders towards mobile payments reflects the limited and negative interactions between informal traders and banks. This pattern of weak relations between informal traders and banking institutions is corroborated by Humphrey and Schmitz (1998), in what they call minimal trust and extended trust. Minimal trust, which encompasses the fulfilment of basic promises, must be in place for the latter to take form. Extended trust engages more complex transactions, such as mobile payments, which require an extended trust because of the added element of money intangibility and the novelty of transacting on a mobile phone. Therefore, if minimal trust is not present, this reflects low perceived credibility between informal traders and banking institutions, which causes mobile payment non-adoption.

Finally, literature shows that trust is instrumental to economic transactions. Therefore, because mobile payments are transactional, they are influenced by trust beliefs. This argument is corroborated by literature, which demonstrates that trust underscores and influences economic transactions (Granovetter, 1985; Ganesan, 1994; Hosmer, 1995; Doney & Cannon, 1997; Molony, 2007; Morawczynski & Miscione, 2008).
Therefore, this new determinant is added to the TAM model. Perceived credibility, which encompasses the distrust (lack of trust) in financial institutions and the mobile interface, directly influences mobile payments non-adoption.

Perceived elitisation
In the empirical situation, the concept of perceived elitisation is informed by the condition of illegality, which is underpinned by feelings of exclusion and inaccessibility to the mobile finance project. Therefore, elitisation negatively influences adoption, as opposed to being an aspirant motivator for the adoption of the technology. In this theoretical model, the definition of perceived elitisation is borrowed from Crabbe et al. (2009):

"an individual's wilful exclusion (or inclusion) of oneself as incapable (or capable) of using a technology because it is made for a specific class of users, perceived elitisation can motivate or impede adoption" (p. 519).

In this research, the perceived elitisation of the mobile payment facility is so perceived by informal traders, because of the socio-political condition that most non-South African informal traders find themselves in. The perceived elitisation concept is influenced by social processes (Crabbe et al., 2009). The condition of illegality, coupled with the manner in which participants in the informal economy engage with social institutions, such as banks, leads to the perception that mobile payments are elite and inaccessible to them. Therefore, the following theoretical proposition is suggested:
P3: *When informal traders consider themselves to be outside the group of people to which mobile payment facilities are accessible, they do not adopt.*

Literature corroborates this theoretical proposition and demonstrates that perceived elitisation, which is subjective and based on one's feelings of self image, does influence technology adoption (Moore & Benbasat, 1991; Venkatesh and Davis, 2000). This moderating factor is well established in conceptualizations of TAM, as perceived elitisation has long been introduced into the model (Moore & Benbasat, 1991; Venkatesh & Davis, 2000; Crabbe et al., 2009). The empirical findings are corroborated by the literature, as perceived elitisation in this research was found to be experienced by the informal trader, in response to considering mobile payments. Informal traders felt that this technology was beyond the scope and reach of their social status and identity.

Therefore, this determinant is added to the modified TAM model presented in this study. The perceived elitisation of mobile payments encompasses the manner in which subjectivity in the form of beliefs about oneself and position in society influences non-adoption amongst informal traders. This subjective belief is influenced by the socio-political condition of illegality, which although perceived, informs the informal trader's decision-making in financial management matters. Given that the informal trader feels ineligible and disqualified from the formal banking sector, he/she does not adopt mobile payments, which are part of the finance project.

Chapter VIII

CONCLUSION

This empirical research interrogated the question: *What are the social and cultural factors influencing mobile payment non-adoption amongst informal traders in Cape Town?* This question was explored in a new and different empirical situation: the social context of informal traders in Cape Town, South Africa. The empirical findings identified were trust, social capital, cultural capital and illegality, as the social and cultural factors influencing non-adoption. These factors were identified inductively, through conversations and interviews with informal traders.

The empirical findings contributed to the extensions made to the modified TAM model. The determinant factors in the modified model, namely: perceived usefulness, perceived credibility and perceived elitisation, were developed from these empirical findings. The theoretical contribution of the modifications are: a) new determinants have been added to the model, namely: perceived credibility and perceived elitisation, which modify the model to determine social and cultural factors influencing mobile payment non-adoption and b) the notion of perceived usefulness is redefined, and taken out of the organizational and corporate productivity context into the socio-cultural context. These modifications respond to the knowledge gap articulated by IS researchers: for explanations of IS adoption that encompass social and cultural influences (Lee, 2003; Bagozzi, 2003; Ventakesh, 2007; Dahlberg et al., 2008; Donner & Tellez, 2008; William et al., 2009; Crabbe et al., 2009; Morawczynski, 2009). The modified TAM answers the main research question: *Why don't informal traders adopt mobile payments?* The model's modified determinants provide a framework to identify why this is the case. The relevance of presenting this modified model finds its basis in the identified research gap: mobile payment non-adoption in the South African informal economy context. This research is relevant for two reasons: a) mobile payments can *potentially* contribute to financial inclusion in the informal economy, where limited financial access is a challenge and; b) the South African mobile payment market demonstrates weak performance in comparison to East Africa and other developing countries. In future studies, this research can contribute to exploring technology adoption questions in similar empirical situations as this study.

Research limitations and considerations

There are some limitations to this research that should be noted here:

(1) This study is cross-sectional, meaning, interviews with informal traders were conducted over one-time period, namely three months. This factor weakens the generalizability of the study (Blaikie, 2004). Cross-sectional studies form a snapshot, and are limited in their generalizability as they do not reflect continuance in the experience of the research interlocutors or measure the phenomena over longer periods of time. Therefore, the relevance of the research findings is somewhat limited, as they speak quite specifically to the present day conditions.

(2) The informal traders interviewed trade in Cape Town's inner city, being an inner city trader constitutes a uniform factor across the research interlocutors. Informal traders in this location are unique because of their proximity to formal retail and the increased contact and exposure to law enforcement. Therefore, a unique set of conditions determine their informal trading experience. This factor qualifies the generalizability of the data findings, as the location of the research sample impacts the representation of a wider informal trade sector (Lee & Baskerville, 2003). Therefore, this research project pertains to inner city informal trade activity, and does not relate to such activity in the peri-urban or rural location. Additionally, informal traders in these locations are au fait with development interventions and the process of participating in

academic research. This impacted the data collection, as during interviews, certain research interlocutors did assume a rehearsed disposition. This was noted in the interview memos.
(3) A final limitation to this research is the level to which the proposed theoretical model can be generalized. This limitation is based on the modified model emerging from a case study in the critical social theory paradigm. Both this research method and the theoretical paradigm have been questioned in relation to how the researcher's subjectivity can influence the interpretation of findings. Although the issues of reliability and validity around the research method in this study are dealt with in Chapter 3 and 4, the limited generalizability of the theoretical contribution is the fourth limitation of this study. It must be reiterated that the modified TAM presented in this study is generalizable to the theoretical propositions presented.

Implications of this research for academia

This research modifies TAM (1989) to accommodate inquiries on how social and cultural factors influencing mobile payment non-adoption in contexts similar to this empirical study. However, the model was not operationalized in this research. This forms the basis of the first suggestion for future research, to determine the application of this model.

A second suggestion for future research centres around the narrowness of the problem statement: the weak performance of mobile payments in South Africa. This research does not explore the role of formal financial institutions and telecommunications operators in the adoption phenomena. This inquiry focuses on the individual perspective of the informal economy participant as a potential user of the technology. For future critical social theory research looking to more pointedly understand this phenomenon in South Africa, the role of formal institutions in delivering broad-based and inclusive banking strategies in South Africa is instructive. This is suggested as future research.

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Appendix 1: Summary of the literature reviewed

Discourse	Author	Title & year	Key issues dealt with
Informal economy	Keith Hart	Informal Income Opportunities and Urban Employment in Ghana, 1973	Seminal definition of "informal economy"
	Ray Bromley	Introduction - the urban informal sector: Why is it worth discussing?, 1978 Street vending and public policy: a global review, 2000	Academic criticism of dualist definition of informal economy as posited by Hart and the International Labour Office. Review of global street trading, including observations on its organisation and interaction with the state and formal economy.
	Martha Chen	Informality and Social Protection: Theories and Realities, 2009 The Informal Economy : Definitions , Theories and Policies, 2012	An argument for a holistic definition of the informal economy and an integrated approach to social theories explaining labour in the informal economy.
	Guillermo Perry	Exit and Exclusion, 2010 BOOK CHAPTER	A discussion of causal explanations for work in the informal economy and the role of the social contract in creating informal economies.
	Cécile B. Vigouroux	Informal economy and language practice in the context of migrations, 2013 BOOK CHAPTER	An ethnographic study of cultural capital in the informal economy.
	Pierre Bordieu	The forms of capital, 1986 BOOK CHAPTER	The definition of social and cultural capital and an argument for the utility of these forms of capital in human advancement (both as individuals and as classes)
	James S. Coleman	Social Capital in the Creation of Human Capital, 1988	A study of the role of social capital in the construction of modern economies.
	Robert Putman	Bowling Alone: America's Declining Social Capital, 2001 BOOK	An discussion of the term social capital and its status in contemporary American society. The author argues that social capital is a positive element in prosperous societies and leads to human development.
	Michal Lyons & Simon Snoxell	Creating urban social capital: Some evidence from informal traders in Nairobi, 2005	An argument for the role of social capital amongst informal traders in Nairobi , Kenya.
	Douglas Woodward et. al	The Viability of Informal Microenterprise in South Africa, 2011	An analysis of informal microenterprises in South Africa.
	Geoff Bick et. al	The Informal Economy and its Development: The Case of Natalspruit Trading Area, Ekurhuleni, 2009	A case study of business practices amongst informal traders in Ekurhuleni, South Africa.
	Jantjie Xaba et. al	The Informal Sector in Sub-Saharan Africa, 2002	An ILO report on the informal economy in Sub-Saharan Africa.
	Caroline Skinner	Various works (2000, 2003, 2004, 2005, 2007, 2008, 2011, 2012)	Various works on constraints to growth and development in the African informal economy; and challenges in informal/ street trade.
	Francie Lund et. al	Street Trading, 2000	An overview of street trading in South Africa.
	Sally Peberdy	Mobile entrepreneurship: Informal sector cross-border trade and street trade in South Africa, 2000	A study on the participation of non-South Africans in South Africa's street/informal trade sector.
	Shirin Motala	Organizing in the Informal Economy : A Case Study of Street Trading in South Africa, 2002	An ILO case study of the informal economy in South Africa.
	Alison Brown wt. al	Street Traders and the Emerging Spaces for Urban Voice and Citizenship in African Cities, 2002	A critical study on the identity and representation dynamics of the informal trade sector in African cities.
	Jeffrey Popke & Richard Ballard	Dislocating modernity: Identity, space and representations of street trade in Durban, South Africa, 2004	A study of representation and identity politics of the informal economy in Durban, South Africa.
	Marcel Fafchamps & Bart Minten	Social Capital and Agricultural Trade, 2001	A study of social capital amongst small scale agricultural traders in Africa.
Technology for development	Patience Idaraesit Akpan-Obong	Discourse as practice in Nigeria's IT industry-A research in progress, 2008	Critical discourse analysis of the role of technology in socioeconomic development.

	Felix Bollou and Ojelanki Ngwenyama Arlene Bailey and Ojelanki Ngwenyama	Are ICT investments paying off in Africa? An analysis of total factor productivity in six West African countries from 1995 to 2002, 2008 Toward Entrepreneurial Behavior in Underserved Communities: An Ethnographic Decision Tree Model of Telecenter Usage, 2013	A discussion of the effectiveness of ICT investment in the African context. Ethnographic research on the applicability and effectiveness of ICTs in developing contexts.
	Anke Schwittay	'A Living Lab': Corporate Delivery of ICTs in Rural India, 2008; The financial inclusion assemblage: Subjects, technics, rationalities, 2011	Studies of the ICT for development intervention in India and the financial inclusion discourse, respectively.
	Mihasonirina Andrianaivo & Kangni Kpodar	ICT, Financial Inclusion, and Growth Evidence from African Countries, 2011; Mobile Phones, Financial Inclusion, and Growth, 2012	Studies of the mobile technology and financial inclusion landscape.
	Richard Heeks	Various studies: 2002, 2008, 2010	Various studies exploring the role of mobile technology in the ICT for development discourse.
	Sein & Harindranath	Conceptualizing the ICT Artifact: Toward Understanding the Role of ICT in National Development, 2004; Revisiting the Role of ICT in Development, 2007	Studies clarifying the technology for development concept.
	Chrisanthi Avgerou	Discourses on ICT and Development, 2010	An overview of discourses in the ICT for development subject area.
	Hopestone Chavula	Telecommunications development and economic growth in Africa, 2012	A review of the link between telecommunications penetration and development in Africa.
	Christine Qiang	Mobile Telephony : A Transformational Tool for Growth and Development, 2009	An argument for the positive role of mobile technology plays in development.
	Samuel et.al	Mobile Communications in South Africa, Tanzania, and Egypt: Results from Community and Business Surveys, 2005	A practice based report on mobile telephony usage in South And East Africa.
	Jenny Aker & Isaac Mbiti	Mobile Phones and Economic Development in Africa, 2010	Research on the role of mobile phones in Africa's economic development.
	Andrew Hardy	The role of the telephone in economic development, 1980	An early study exploring the role of landline telephone on country economic development.
	Waverman et. al	The impact of telecoms on economic growth in developing countries, 2005	A study of telecommunication sector impact on economic development.
	Sridhar & Sridhar	Telecommunications Infrastructure and Economic Growth: Evidence from Developing Countries, 2004	A study of telecommunication sector impact on economic development.
	Shiu & Lam	Causal relationship between telecommunications and economic growth in China and its regions, 2008	A study of telecommunication sector impact on economic development in China.
	Garrido	A Comparative Analysis of ICT for Development Evaluation Frameworks, 2004	An analysis of the lack of measurement rigour in ICT for development studies.
	Chowdhury & Wolf	Use of ICTs and economic performance of small and medium enterprises in East Africa, 2002	A study of ICT use in micro-businesses and its relation to economic performance.
	Esteva	Regenerating people's space, 1987; Development, 1992	Critique of the notion of development.
	DuBois	The Governance of the Third World: A Foucauldian Perspective on Power Relations in Development,, 1991	Critique of the notion of development.
	Munck & O'Hearn	Critical Development Theory. Contributions to a New Paradigm, 1999	Critical review of development theory.
	Hardy, Andrew P.	The role of the telephone in economic development, 1980	A study of how the telephone impacted economic growth.

	Gilward, A.	Good intentions, poor outcomes: Telecommunications reform in South Africa, 2005	The role of telecommunications development in Africa.
	Waverman, Leonard, Meloria Meschi, and Melvyn Fuss	The impact of telecoms on economic growth in developing countries, 2005	The role of telecommunications development in Africa.
	Nkama, Arsène Honoré Gidéon	Analyzing the impact of ICT investments on productivity growth in developing countries: Evidence from Cameroon, 2007	The role of telecommunications development in Africa.
	Shiu, Alice, and Pun-Lee Lam	relationship between telecommunications and economic growth in China and its regions, 2008	The role of telecommunications development in Asia.
Mobile payment adoption	Mariama Deen-Swarray, Ali Ndiwalana and Christopher Stork	Bridging the financial gap and unlocking the potential of informal businesses through mobile money in four East African countries, 2013	An argument for the utility of mobile technology in financial inclusion strategies for informal businesses.
	Jonathan Donner & Camilo Andres Tellez	Mobile banking and economic development: linking adoption, impact, and use, 2008	A study of the role of mobile banking in the developing world, specifically on small informal businesses in India.
	Richard Duncombe & Richard Boateng	Mobile phones and financial services in developing countries: a review of concepts, methods, issue, evidence and future research directions	This paper seeks to improve understanding of the current state of knowledge, by reviewing 43 articles in the mobile finance space.
	Thomas Molony	'I Don't Trust the Phone; It Always Lies?': Trust and Information and Communication Technologies in Tanzanian Micro- and Small Enterprises, 2007	A case study of the integral role of trust in ICT usage amongst Tanzanian micro-and small enterprise businesses.
	Larue Tone Hosmer	Trust: the Connecting Link Between Organizational Theory and Philosophical Ethics, 1995	A study of the role of trust in organizations, based on assumptions of moral duty.
	Olga Morawczynski	Examining trust in mobile banking transactions: The case of M-PESA in Kenya, 2008 Exploring the usage and impact of "transformational" mobile financial services: the case of M-PESA in Kenya, 2009 Designing Mobile Money Services Lessons from M-PESA, 2009 Social Dimensions of Information and Communication Technology Policy BOOK CHAPTER	A presentation of various arguments that present M-Pesa's adoption success as a result of context sensitivity and a strategy that ensured technological fit into social fit.
	Tomi Dahlberg et. al	Past, present and future of mobile payments research: A literature review, 2008	A literature review of mobile payments research which identifies gaps for further research, namely; exploring culturally and socially engaged research on mobile payment adoption.
	Ignacio Mas & Dan Radcliffe	M Mobile Payments Go Viral: M-PESA in Kenya, 2011	An argument that M-Pesa's success in Kenya was a result of macroeconomic factors, service design and business strategy.
	Jake Kendall et. al	Sub-Saharan Africa: A major potential revenue opportunity for digital payments, 2014	A study of the revenue creating potential that mobile payments hold in Africa.
	Bill Maurer	Mobile Money: Communication, Consumption and Change in the Payments Space, 2012; 2008	A study of the mobile money product in the digital payment space.
	Marion Mbogo	The Impact of Mobile Payments on the Success and Growth of Micro-	A study of success factors attributed to the use of mobile payments amongst micro-businesses in Kenya.

		Business: The Case of M-Pesa in Kenya, 2010	
	Kevin Donovan	Mobile money for financial inclusion, 2012	A study of the benefits and impacts of mobile money in promoting financial inclusion.
	Fred Davis	Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology, 1989	The introduction of Technology Acceptance Model (TAM) and presentation of an argument for a better explanation of IS adoption.
	Viswanath Venkatesh	Theoretical Acceptance Extension Model : Field Four Studies of the Technology, 2000 User acceptance of information technology: Toward a unified view, 2003 Dead Or Alive? The Development, Trajectory And Future Of Technology Adoption Research, 2007 Consumer acceptance and user of information technology: Extending the unified theory of acceptance and use of technology, 2012	The introduction of a UTAUT, a unified theory of acceptance and use of technology adoption. The extension of UTAUT. Description of technology acceptance literature. The extension of UTAUT.
	Izak Benbasat	Development of an Instrument to Measure the Perceptions of Adopting an Information Technology, 1991; Quo vadis TAM?, 1997	A study of the utility of TAM model's two determinant factors.
	Younghwa Lee et. al	The technology acceptance model: Past, present, and future, 2003	A review of the TAM model.
	Richard Bagozzi	The Legacy of the Technology Acceptance Model and a Proposal for a Paradigm Shift, 2007	A review of the usefulness and appropriateness of TAM.
	Felix Bankole et. al	Mobile Baking Adoption in Nigeria, 2011	A study of mobile banking adoption in Nigeria.
	Margaret Crabbe et. al	An adoption model for mobile banking in Ghana, 2009	A study of mobile banking adoption in Ghana.
	Raleting & Nel	Determinants of low-income non-users ' attitude towards WIG mobile phone banking : Evidence from South Africa, 2011	A study of mobile banking adoption in South Africa.
	Isaiah Lule et. al	Application of Technology Acceptance Model (TAM) in M-Banking Adoption in Kenya, 2012	A study of mobile banking adoption on Kenya.
	Irwin Brown et. al	Cell phone banking: Predictors of adoption in South Africa - An exploratory study, 2003	A study of cell phone banking adoption in South Africa.
	Rudy Hirschheim et. al	Exploring the intellectual structures of information systems development: a social action theoretic analysis, 1996	Definition of information systems (IS)
	Michael Williams et. al	Contemporary trends and issues in IT adoption and diffusion research, 2009	A study of trends in IT adoption and diffusion, specifically the use of TAM.
	Chrisanthi Avgerou	The significance of context in information systems and organizational change, 2001 Information systems in developing countries: A critical research review, 2008	Various studies defining the role of context sensitivity in successful technology adoption and use.
	Ayyagari, Ramakrishna, Varun Grover, and Russell Purvis.	Technostress: technological antecedents and implications, 2011	Critique of TAM's usefulness.
	Cousins, Karlene C., and Upkar Varshney.	Designing ubiquitous computing environments to support, 2009	Critique of TAM's usefulness.
	Scheepers, Rens, Helana Scheepers, and Ojelanki K. Ngwenyama	Contextual influences on user satisfaction with mobile computing: findings from two healthcare organizations, 2006	Study of the use of mobile devices in the workplace and the home.
	Hofstede, Geert.	Motivation, leadership, and organization: do American theories apply abroad? 1980	The role of culture in influencing adoption of any behaviour.

	Straub, Detmar, Mark Keil, and Walter Brenner	Testing the technology acceptance model across cultures: A three country study, 1997	An investigation into the role culture plays in technology acceptance.
	Suh, Eunkook, et al.	The shifting basis of life satisfaction judgments across cultures: Emotions versus norms, 1998	Study of the role emotions play across cultures.
	Keil, Mark, et al.	A cross-cultural study on escalation of commitment behavior in software projects, 2000	Study of the role culture plays in decision-making.
	Srite, Mark, and Elena Karahanna.	The role of espoused national cultural values in technology acceptance, 2006	Study of the way national culture influences technology acceptance.
	Pew Research Centre	Cell Phones in Africa : Communication Lifeline, 2015	Study on the role of cellular phones in Africa.
Financial Inclusion	Ambreena Manji	Eliminating poverty? ' Financial Inclusion', Access to Land and Gender Equality in International Development, 2010	A study of the interface between financial inclusion and gendered access issues, such as land ownership and property rights.
	Igancio Mas & Nitin Kumar Nitin Kumar Ignacio Mas	Banking on Mobiles: Why, How, for Whom?, 2008 Financial inclusion and its determinants: evidence from India, 2013 Savings for the poor, 2010	Development practice sector note on the use of mobile payments in developing country contexts. A study on the role of financial institutions and technology firms in financial inclusion in India. A study of the role of mobile banking in financial inclusion.
	Esman Morekwa et. al	Remittances, financial development and economic growth in Africa, 2012	A study on economic growth and remittances.
	Sanjeev Gupta et. al	Effect of Remittances on Poverty and Financial Development in Sub-Saharan Africa, 2009	A study on economic growth and remittances.
	Josiah Aduda et. al	Financial Inclusion and Financial Sector Stability With Reference To Kenya : A Review of Literature, 2012	Study of financial inclusion in Kenya.
	Jesim Sarma et. al	Financial Inclusion and Development, 2011	A study exploring the interface between financial inclusion and development outcomes.
	Abdullah Norman & Gazi Uddin	Role of remittances and banking sector development in Nepal, 2012	A study on economic growth and remittances.
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	Isaac Oluwatayo	Mobile Phones as Mobile Banks and Credit Outlets: The Experience of Farming Households in Rural Southwest Nigeria, 2012	A study of mobile finance in rural farming Nigeria.
	Dan Radcliffe & Roger Voorhies	A Digital Pathway to Financial Inclusion, 2012	A study of the interface between mobile technology and financial inclusion.
	Kangni Kpodar et. al	The African Financial Development and Financial Inclusion Gaps, 2014 Mobile Phones, Financial Inclusion, and Growth, 2012	A study of the correlation between financial inclusion and development outcomes in Africa. A study of the interface between financial inclusion and mobile technology.
	Hsain Ilahiane et. al	The Problematics of the “Bottom of the Pyramid” Approach to International Development: The Case of Micro-Entrepreneurs’ Use of Mobile Phones in Morocco, 2012	A study of mobile telephony usage amongst micro-businesses in Morocco.
	Tavneet Suri et. al	Documenting the birth of a financial economy, 2012	A study of the growth of the mobile finance project.
	Henri-Claude de Bettignies & Francois Lepineux	Finance for a better world: The shift toward sustainability, 2009	A study of the financial inclusion project in global development discourse.
	Asli Demirguc-Kunt & Leora Klapper	Measuring financial inclusion. The Global findex database, 2012 The Foundations of Financial Inclusion: Understanding Ownership and Use of Formal Accounts, 2012	A World Bank attempt at providing a financial inclusion measurement index. A World Bank study of formal banking penetration and access.
	Jenny Aker & Isaac Mbiti	Mobile Phones and Economic Development in Africa, 2010	A study looking at the ways mobile phones have contributed to economic development in Africa.

	Anke Schwittay	The financial inclusion assemblage: Subjects, technics, rationalities, 2011	A critique of financial inclusion interventions.

Appendix 2: Interview questions

INFORMAL TRADER INTERVIEWS

August/September 2015

OBSERVABLES
Business location:
Products traded:
Male/ female:
Race:

PERSONAL QUESTIONS
Name (What is your birth name?)

Age (How old were you on your last birthday?)

Nationality (Where were you born?)

South African	Non South African

Residential address (Where do you live?)

Dependants (How many children/ family do you have who depend on your income?)

What are your contact details?

EDUCATION & EMPLOYMENT
Highest qualification (How many years of school do you have?)

Primary school	High school	Tertiary

Security of tenure (Are you the permit holder or are you employed here?)

Yes	No

Length of trading (How long have you been trading in Cape Town?)

1-5 years	6-10 years	11+ years

Location choice (Why did you choose to trade here?)

Previous job (Before, what work were you doing?)

TECHNOLOGY & FINANCES
Mobile technology use (Do you have a cellphone or smartphone?)

Cellphone	Smartphone

Do you know about mobile payments?

Yes	No

Mobile payments (Would you use mobile payments in your shop, like SnapScan?)

Yes	No

Barriers/ Opportunities/ Why? (Reasons for answer)

Cash transactions (Do you operate only in cash?)

Yes	No

Barriers/ Opportunities/ Why? (reasons for answer)

Social innovation (What do you do when people don't have cash?)

Card transactions (Do many people request to pay by card?)

Yes	No

Point of Sales (If you could access a PoS, would you use one?)

Yes	No

Barriers/ Opportunities (Reasons for answer)

Banked or unbanked (Do you have a bank account?)

Yes	No

Average transaction cost (How much does the average product in your shop cost?)

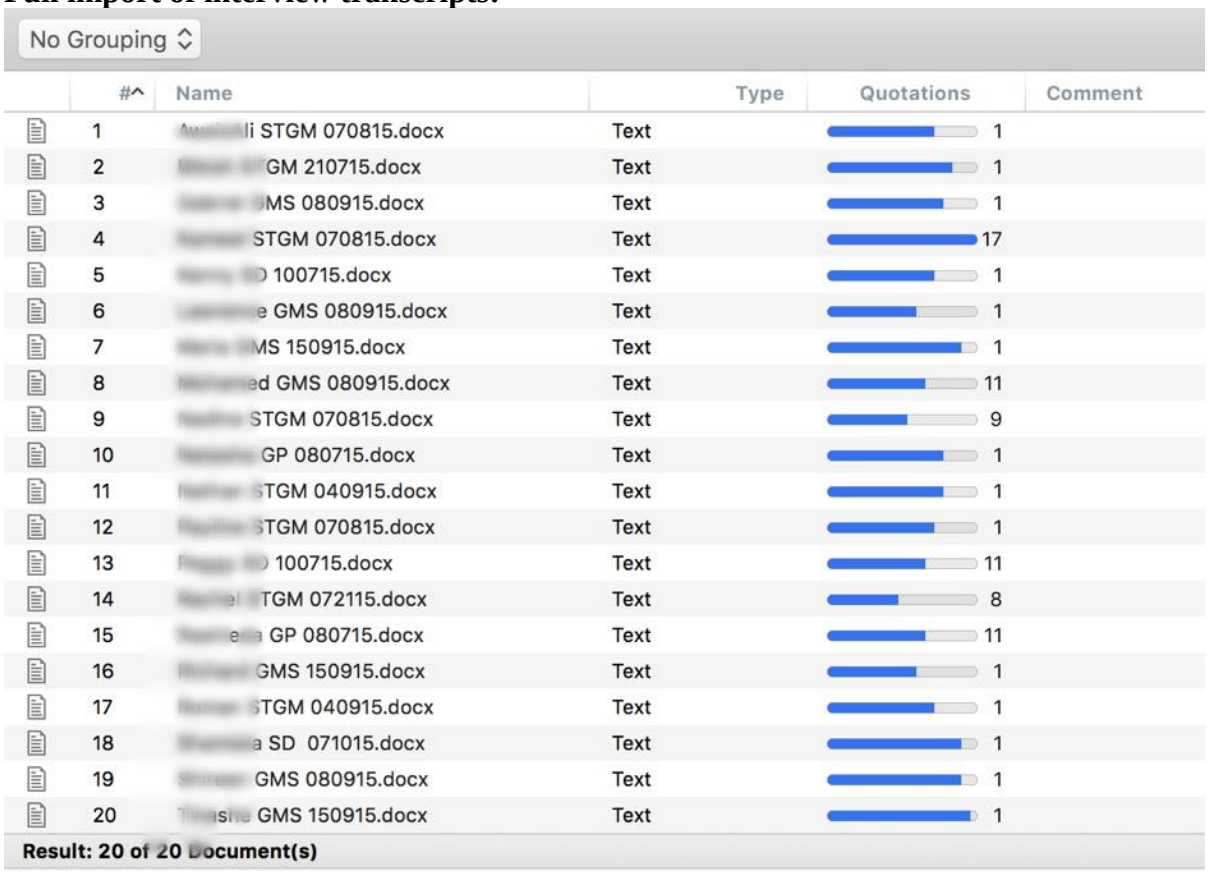
>R100	R101 – R200	R201- R300	R301 +

*Average monthly income in December (How much do you make in a week in December?)

In June (How much do you make in a week in June?)

Appendix 3: Data analysis appendix

Full import of interview transcripts:



No Grouping

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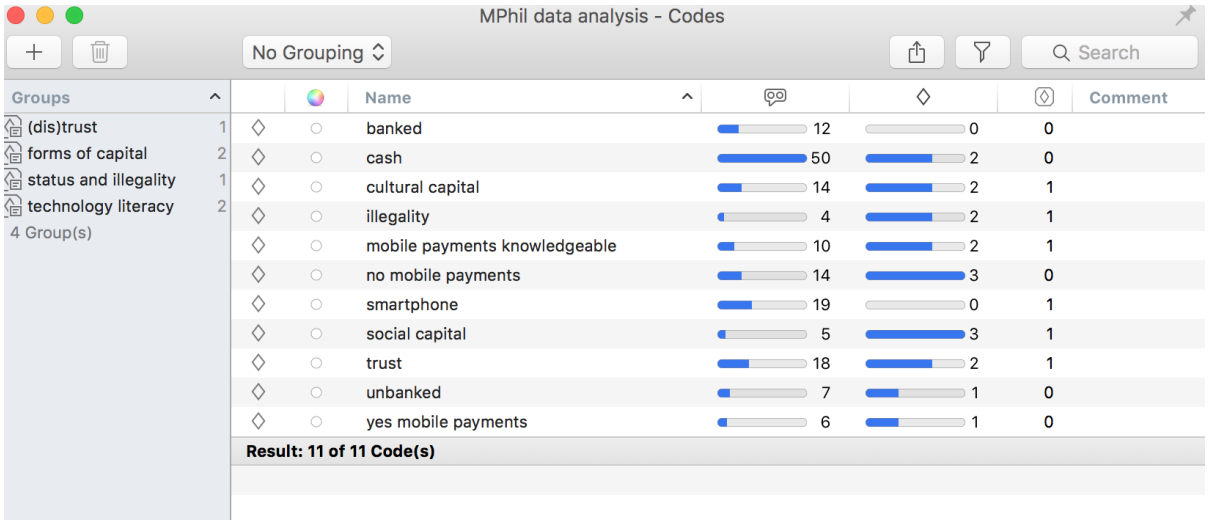
	2	[redacted]GM 210715.docx	Text	1	
	3	[redacted]MS 080915.docx	Text	1	
	4	[redacted] STGM 070815.docx	Text	17	
	5	[redacted] 100715.docx	Text	1	
	6	[redacted]e GMS 080915.docx	Text	1	
	7	[redacted]MS 150915.docx	Text	1	
	8	[redacted]ed GMS 080915.docx	Text	11	
	9	[redacted] STGM 070815.docx	Text	9	
	10	[redacted] GP 080715.docx	Text	1	
	11	[redacted] STGM 040915.docx	Text	1	
	12	[redacted] STGM 070815.docx	Text	1	
	13	[redacted] 100715.docx	Text	11	
	14	[redacted] STGM 072115.docx	Text	8	
	15	[redacted] GP 080715.docx	Text	11	
	16	[redacted] GMS 150915.docx	Text	1	
	17	[redacted] STGM 040915.docx	Text	1	
	18	[redacted] SD 071015.docx	Text	1	
	19	[redacted] GMS 080915.docx	Text	1	
	20	[redacted] GMS 150915.docx	Text	1	

Result: 20 of 20 Document(s)

Full list of final codes:



MPhil data analysis - Codes

No Grouping | Search

Groups

- (dis)trust 1
- forms of capital 2
- status and illegality 1
- technology literacy 2

4 Group(s)

	Name			Comment
	banked	12	0	0
	cash	50	2	0
	cultural capital	14	2	1
	illegality	4	2	1
	mobile payments knowledgeable	10	2	1
	no mobile payments	14	3	0
	smartphone	19	0	1
	social capital	5	3	1
	trust	18	2	1
	unbanked	7	1	0
	yes mobile payments	6	1	0

Result: 11 of 11 Code(s)

Code document table: User and Non-user group

	NON-USERS	USERS
banked	5	7
cash	40	10
cultural capital	10	4
illegality	2	2
mobile paymen...	5	5
smartphone	12	7
social capital	3	2
trust	16	2
unbanked	7	

Code document table for 'banked' and 'cash' codes in Users and Non-user's groups:

	NON-USERS	USERS
banked	5	7
cash	40	10

Co- occurrence table for Non-users:

	banked	cash	cultural capital	illegality	mobile payme...	no mobile pay...	smartphone	social capital
banked								
cash			12 – 0.23			2 – 0.03		5 – 0.10
cultural capital		12 – 0.23						1 – 0.06
illegality						1 – 0.06		
mobile paymen...						3 – 0.14		
no mobile pay...		2 – 0.03		1 – 0.06	3 – 0.14			
smartphone								
social capital		5 – 0.10	1 – 0.06					
trust					1 – 0.04	7 – 0.28		
unbanked				1 – 0.10		1 – 0.05		

	ultural capital	illegality	mobile payme...	no mobile pay...	smartphone	social capital	trust	unbanked
banked								
cash	– 0.23			2 – 0.03		5 – 0.10		
cultural capital						1 – 0.06		
illegality				1 – 0.06				1 – 0.10
mobile paymen...				3 – 0.14			1 – 0.04	
no mobile pay...		1 – 0.06	3 – 0.14				7 – 0.28	1 – 0.05
smartphone								
social capital	– 0.06							
trust			1 – 0.04	7 – 0.28				
unbanked		1 – 0.10		1 – 0.05				

Appendix 4: List of figure and tables

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List of abbreviations

GDP: Gross domestic product
ICT: Information and communication technologies
ILO: International Labour Office
IS: Information systems
PoS: Point of sale
StatsSA: Statistics South Africa
VAT: Value added tax