



Cashless payment methods for informal traders

by

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Abstract

Over the past decade there was an increase in the availability and usage of cashless payment methods in Africa. Cashless payments allow users to make payments without using cash, and offer multiple benefits to both customers and merchants. These benefits include reduced costs, improved sales, improved security, convenience, etc.

However, despite the increased variety, availability and popularity of cashless payment solutions in Africa, the usage of cashless payments methods in Africa is still mostly limited to money remittance and retail payments. While formal traders such as retailers are slowly adopting and reaping the benefits of cashless payments, the large majority of informal traders across the continent are yet to adopt cashless payments and still limited to use cash as their main (and often only) payment method.

How cash and cashless payment methods differ from the informal trader's point of view is not known yet; this study seeks to understand why cashless payment methods are yet to gain popularity amongst informal traders and meanwhile cash is widely adopted and used. This research analyses the characteristics, needs and limitations of informal traders and evaluates the ability of both cash and cashless payment methods to satisfy their payment needs.

This is a cross-country case study that was conducted from an interpretivist stand point, employing a qualitative approach to data collection and data analysis, and using inductive theory-building. The cases investigated the use of payment methods by informal traders in Cape Town (South Africa) and Luanda (Angola), one case study was conducted in each city and it involved different group of participants namely street vendors, market vendors and bank consultants.

The findings show that both cash and cashless payments have many characteristics that make them suitable for informal traders in Africa. Cashless payment methods proved to be superior to cash in some aspects such as security, but overall the disadvantages of cashless payment methods for informal traders out-weights its benefits.

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You were the one who set me in this journey by teaching me how to read and write. It breaks my heart to know that I will not be able to share this or any other moment with you.

May your soul rest in peace, your memory will never be forgotten.

*No proprietary software was used in the production of this thesis.
All the tools used in putting this thesis together are free and open
source, with the main software being LaTeX*

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Clarification of terms

Automated Teller Machine (ATM) - Also known as cash dispenser, is an electromechanical device that allows authorised users, typically using machine-readable plastic cards, to withdraw cash from their accounts and/or access other services (allowing them, for example, to make balance enquiries, transfer funds or deposit money) (ECB, 2009).

Card scheme - A technical and commercial arrangement set up to serve one or more brands of card which provides the organisational, legal and operational framework necessary for the functioning of the services marketed by those brands. See also three-party card scheme, four-party card scheme (ECB, 2009). It is also a technical and commercial arrangement set up to serve one or more card brands and which provides the organisational, legal and operational framework rules necessary for the services marketed by the brand to function (GSMA, 2010).

Cash - Refers to money in hand, in the physical form of the currency, namely, bank notes and coins. For the purpose of this study it does not include money stored into bank accounts.

Cheque or Check - Is a written order from one party (the drawer) to another (the drawee; normally a credit institution) requiring the drawee to pay a specified sum on demand to the drawer or a third party specified by the drawer (ECB, 2009).

Credit Card - Credit card (card with a credit function): a card that enables cardholders to make purchases and/or withdraw cash up to a prearranged credit limit ([ECB, 2009](#)).

Debit Card - A card with a debit function, a card enabling its holders to make purchases and/or withdraw cash and have these transactions directly and immediately charged to their accounts, whether these are held with the card issuer or not; the payment transaction is usually initiated by the payee on the basis of authorisation given by the payer ([ECB, 2009](#)).

Developed Country & A country with highly advanced technological infrastructure and also an advanced industrial and economic base (e.g. Germany, Japan, and USA).

Face-to-face payment - Face-to-face payment: a payment where the payer and the payee are in the same physical location. Antonym: remote payment ([ECB, 2009](#)).

Financial services - Any service of banking, credit, insurance, personal pension, investment or payment nature ([European Payment Council, 2014](#)).

Financially Excluded - People with no access or limited access to formal financial Services.

Interchange Fee - A transaction fee payable between the payment service providers involved in a transaction ([ECB, 2009](#)).

Means of payment - See payment instrument.

Merchant - The beneficiary within a mobile payment scheme for payment of goods or services purchased by the consumer/payer. The merchant is a customer of its payment service provider. ([European Payment Council, 2014](#)).

Mobile Banking - Mobile banking can be understood as a set of mobile banking services, involving the use of portable devices connected to telecommunications networks that provide users with access to mobile payments, transactions and other banking and financial services linked to customer accounts, with or without the direct participation of traditional banking institutions. This concept can also be regarded as the banking channel through which the digital mobile services are provided by the institutions to their clients, i.e. by integrating the concepts of service and channel ([Diniz et al., 2011](#)).

Mobile money - Is a loose term for an e-payment system that is based on e-money issued by a non-bank player (typically a mobile operator), and which is combined with a dense network of cash merchants numbering typically in the thousands ([Mas and Radcliffe, 2011](#)).

Mobile Network Operator (MNO) - A mobile phone operator that provides a range of mobile services, potentially including facilitation of NFC services. The MNO ensures connectivity Over the Air (OTA) between the consumer and its PSP using its own or leased network (the latter are sometimes referenced as MVNOs - Mobile Virtual Network Operators)([European Payment Council, 2014](#)).

Mobile payment (m-payment) - A payment where a mobile device (e.g. a phone or personal digital assistant (PDA)) is used at least for the initiation of the payment order and potentially also for the transfer of funds ([ECB, 2009](#)). Mobile payments include payments made or enabled through digital mobility technologies, via handheld devices, with or without the use of mobile telecommunications networks. These payments are digital financial transactions, although not necessarily linked to financial institutions or banks. There are several models of mobile payments that are currently employed worldwide ([Diniz et al., 2011](#)).

Mobile Point of Sale (mPOS) - The usage of a (consumer) mobile device to facilitate payments and enable acceptance of payment instruments ([European Payment Council, 2014](#)).

Mobile wallet - A digital repository of electronic money developed and implemented on mobile devices, allowing peer-to-peer transactions (P2P) between mobile devices (M2M) from users of the same service. It is similar to a normal physical wallet and is able to store money and credit and debit cards ([Diniz et al., 2011](#)). This service may reside on a mobile device owned by the consumer (i.e. the holder of the wallet) or may be remotely hosted on a secured server (or a combination thereof) or on a merchant website. Typically, the so-called mobile wallet issuer provides the wallet functionalities but the usage of the mobile wallet is under the control of the consumer [European Payment Council \(2014\)](#).

Online payment (OP) A payment (other than payment of a bill) made for an online transaction or transfer of funds. The purchase or transfer initiated either via the website of a seller of goods and services or other institution, or via a payment intermediary, such as PayPal. Consumers make an OP at their discretion and as needed. Included in this definition are payments made via check or money order (sent by mail) as well as payments made via debit or credit card or via electronic bank account deduction (EBAD), so long as the payment is made in connection with transaction initiated online ([Foster et al., 2011](#)).

Payment - A transfer of funds which discharges an obligation on the part of a payer vis--vis a payee ([ECB, 2009](#)).

Payment Account - Means an account held in the name of one or more payment service users which is used for the execution of payment transactions ([European Payment Council, 2014](#))

Payment Instrument - Also known as or payment method or means of payment is a generic way in which a payment is carried out (e.g. cash, debit card, EFT etc). It can also be defined as - a tool or a set of procedures enabling the transfer of funds from a payer to a payee ([ECB, 2009](#)).

Payment Method - See payment instrument.

Person-to-person payment - A transfers or transaction that is made directly between two consumers and does not involve a bank, private company, or government ([Foster et al., 2011](#)).

Point of Sale (POS) As an electronic transaction-acceptance product, a POS consists of hardware and software and is hosted in acceptance equipment to enable a consumer to perform a payment transaction ([European Payment Council, 2014](#)).

Payment Service Provider (PSP) - An entity offering online services for electronic payments by a variety of payment methods such as cards, bank-based payments and online banking, either a bank or a payment institution as defined by and licensed according to the Payment Services Directive ([GSMA, 2010](#)).

Prepaid card (Smart Cards) Prepaid card: a card on which a monetary value can be loaded in advance and stored either on the card itself or on a dedicated account on a computer. Those funds can then be used by the holder to make purchases ([ECB, 2009](#)).

Proximity/Local Transactions - In this category fall transactions where the mobile device locally communicates (e.g., via Bluetooth, IrDA, RF, Near Field Communication) with a POS/ATM, e.g. payments at unattended machines, mParking, payments at traditional POS, or money withdrawals from a banks ATM ([Karnouskos, 2004](#))

Remote payment - A payment made from a distance, without the payer and payee being present at the same physical location. Antonym: face-to-face payment ([ECB, 2009](#)).

Retail payment Retail payment: a non-time-critical payment of relatively low value. These payments are typically made outside of the financial markets and are both initiated by and made to individuals and non-financial institutions ([ECB, 2009](#)).

Settlement - The completion of a transaction or of processing with the aim of discharging participant's obligations through the transfer of funds and/or securities. A settlement may be final or provisional ([ECB, 2009](#)).

Unbanked - People that do not have an account at a bank or any other financial institution in the formal economy

Underbanked - People with limited or poor access to formal financial services

Chapter 1

Introduction

Introduction

Over the past decade, numerous research studies have been conducted with focus on payment methods, however most of these studies are focused on topics such as : customers' adoption of payment methods, the technologies used by the payment solutions, for example Wireless Application Protocol (WAP), Short Message Service (SMS), and Near-field communication (NFC) etc, and others focused on specific payment solutions such as mFreio and m-Pesa.

Unlike the previous studies, this research study tried to determine the characteristics or factors which make a payment method suitable or unsuitable for African informal traders. This study had a particular focus on the informal traders' perceptions about the ability of cash and cashless payment methods to satisfy their payment needs.

This chapter is subdivided into several sections, [Section 1.1](#) provides the background of the problem being researched; [Section 1.2](#) introduces the problem statement; [Section 1.3](#) discusses the objectives of the study; [Section 1.4](#) presents the research questions; [Section 1.6](#) contains the delineation of the study, and [Section 1.5](#) has the significance of the study.

1.1 Background to the research problem

Several studies, some of which conducted by central banks, reveal that cash is not the most efficient payment method ([Van Hove, 2007](#)), merchants accepting cashless payment methods such as credit and debit cards usually gain benefits such as improved sales and reduced risks ([Górka, 2012](#)).

[Mas \(2012\)](#) suggests that there is a need to find new mechanisms to increase the number of cashless payments, particularly in the informal economy. Currently, there are already a variety of cashless payment methods, in the form of card based payments, Internet based payments, mobile based payments, etc. However, while retail stores and other formal merchants are quickly adopting and using new cashless payment methods, in the informal sector cash is still the most predominant payment method and the use of cashless payment methods in the informal sector is almost unheard of.

[European Payment Council \(2014\)](#) suggests that there are already payment solutions capable of substituting cash, but it also states none of them have become valid alternative because users are not willing to accept these new payment solutions because of new burdens they bring.

While it is not understood what makes cash suitable for informal traders and what are those new burdens that come with cashless payment methods, just introducing new cashless payment methods will not guarantee that they will be accepted as valid alternatives to cash.

1.2 Problem statement

Cashless payment methods are growing in terms of availability and variety but they still failed to become valid alternatives to cash due to lack of acceptance and the new burdens that they bring ([European Payment Council, 2014](#)). However, it is not yet known what these burdens are and the extent at which cashless payment methods differ from cash. As long as the gap between cash and new cashless payment methods is not understood and closed, new payment systems will be developed but will still fail to attract users who are heavily reliant on cash such as informal traders.

By trading only in cash, informal traders miss out on the benefits that cashless payments bring such as reduced cash handling costs, reduced risks and expanding sales ([Górka, 2012](#)). Furthermore, ([Humphrey, 2010](#)) points out that some merchants adopt cashless payment methods as a preventive measure to retain their customer base. Therefore, informal traders might not only be missing a chance of increasing sales but also might be losing business by not offering cashless payment options to their customers.

1.3 Aim of the study

The aim of this study is to determine the characteristics and factors which make a payment method suitable or unsuitable for traders operating in the African informal sector.

To gather relevant knowledge on the topic, the following research objectives were defined :

1. To identify the characteristics, limitations and payment needs the informal traders in Africa.
2. To identify the current alternative cashless payment methods available in Africa, their characteristics, if, where, and how are they being used.
3. To understand the factors influencing informal traders' choices of payment method.

4. To identify and understand possible existing gaps between cash and cashless payment, regarding their ability to satisfy the operational needs of informal traders in Africa

1.4 Research questions

In order to address the research problem and the research objectives set for this research study, a set of research questions were developed and are presented in [Table 1.1](#) below.

TABLE 1.1: Research questions table.

Research Problem	The extent to which cash and cashless payment differ is still not understood, currently, cashless payment methods are increasing in variety and availability but failing to become valid alternatives to cash due to the new burdens that they bring.	
Research Question		
How do the existing cashless payment methods compare to cash from the informal traders' point of view?		
Research sub-question	Research Method	Objective
1.1 What are the characteristics of informal traders?	Literature review, interviews, observations	Identify the characteristics, needs and limitations of the informal traders in Africa
1.2 Which are the cashless payment solutions currently available in Africa?	Literature review, interviews	Identify what are the alternative payment options currently available for informal traders in Africa
1.3 What are the major characteristics of payment methods?	Literature review	Determine how payment methods can be studied or/and understood.

1.5 Significance of the study

Most of the recent studies on payment methods are conducted from a consumer's adoption perspective or are focused on retail payments and remittance services. This study helps to narrow an existing gap in the payment methods literature by shedding some light onto the use of cash and cashless payment methods in the informal sector.

Insights into the cash handling of habits of informal traders and the purchasing habits of their customers can be valuable for financial service providers looking to provide alternative payment solutions to the informal sector.

This study will also help to understand how the existing cashless payment methods rank in comparison to cash from the stand point of those who are reliant on cash. This knowledge, together with the insights of the informal traders' cash handling habits, can be used to guide the development of cashless payment methods that are better alternatives or stronger competitors to cash, thus narrowing the gap between cash and cashless payment methods.

Despite the increasing number of cashless payment systems, the failure rate of these systems is still fairly high ([Dahlberg et al., 2008](#); [Diniz et al., 2011](#)). Having cashless payment methods that are more suitable and attractive to heavy cash users can lead to a higher adoption of cashless payment methods, therefore contributing to a higher success rate of cashless payment systems.

1.6 Delineation of the study

This study is not an adoption study, and does not look at the willingness of informal traders to adopt payment methods.

This study does not look at the integration of the informal traders with the formal economy and its practical and legal implications.

This study does not look at perspectives of other cash and cashless payment users such as customers and retailers. This study looks at payment methods in the African context but its only focused in two cities in Southern Africa, namely: Cape Town (South Africa), and Luanda (Angola)

1.7 Limitations of the study

Many of the informal traders that took part in the study lacked knowledge and familiarity with the alternative alternative payment methods; as a consequence most of them could expressed their own views on the possible alternatives to cash but most of their views did not originate from first-hand experience with cashless payments.

The case study in Cape Town was limited terms of participant groups and depth of the interview questions. The study in Cape Town also had a limited participation of local traders due to language barriers.

1.8 Thesis overview

This chapter served to present the background to the research problem and the problem being investigated. It also discussed the objectives and the research questions that this study aimed to answer; last but not least, it discussed the and significance, delineation and limitations of the study.

[Chapter 2 - Literature Review](#) : presents the insights in the existing literature on informal trade, and the importance of the informal sector in Africa. The chapter also provides insights into the evaluation of payment methods and the current developments

in the payment space in Africa; the chapter also covers the characteristics of payment methods and how they can be evaluated.

Chapter 3 - Research Methodology : contains the research design of the study. It includes the philosophical assumptions, research strategy, sampling, unit of analysis, data collection, data analysis, and ethical considerations. The chapter also includes the conceptual conceptual framework that will be used in this study.

Chapter 4 - Case Studies : introduces the cases to be studied the researcher, the geographical locations where the study will be conducted and the demographics of the participants.

Chapter 5 - Research Results : presents the results from the interviews conducted by the researcher. **Chapter 6 - Analysis of and Discussion of Findings :** presents the analysis of the results and discussion of findings.

Chapter 7 - Conclusion : contains the conclusion of the study, its practical consideration and suggestion for future research.

Chapter 2

Literature Review

Introduction

In this chapter, the relevant literature surrounding informal trading and cashless payment methods is presented and discussed. This chapter is divided into three major sections which are structured as follows: [Section 2.1](#) is concerned with the informal sector in Africa, its characteristics, importance, and the financial access amongst informal traders in Africa. [Section 2.2](#) discusses the different characteristics of payment methods and how payment methods can be evaluated. [Section 2.3](#) is concerned with the existing different types of payment methods, and it covers the definitions, categorisations, and the different cashless payment solutions available in Africa.

2.1 Informal sector

2.1.1 What is informal trading?

Since the early 70s' when Keith Hart coined the term informal sector, many attempts have been made to define informal economy. Hart's definition as well as many of the early definitions of the term *informal sector*, received criticism for being simplistic and ambiguous ([Pratap and Quintin, 2006](#)). The definition of informal sector evolved over the years but to date, there is no universally accepted definition. In 1993 during the 15th International Conference of Labour Statisticians, informal sector was defined as :

“A group of household enterprises or unincorporated enterprises owned by households that includes: informal own-account enterprises, which may employ contributing family workers and employees on an occasional basis; enterprises of informal employers, which employ one or more employees on a continuous basis. The enterprise of informal employers must fulfil one or both of the following criteria: size of unit below a specified level of employment, and non-registration of the enterprise or its employees” (IOL, 2002, p.11).

Even though this is one of the most widely accepted definitions of informal sector it still receives some criticism. [Hussmanns \(2004\)](#) and [Heintz and Valodia \(2008\)](#) argue that this definition is ambiguous and believe that there is some inaccuracy in the informal sector statistics due to that fact.

In the City of Cape Town Informal Trading Policy of 2013, two components were identified as part of the informal sector :

“(i) Employees: means persons working in establishments that employ less than five employees, who do not deduct income tax from their salaries/wages; and (ii) Employers: refers to own-account workers who are not registered for either income tax or value-added tax; and persons helping unpaid in their family business who are not registered for income tax” (City of Cape Town, 2013, p.13).

In a previous policy, The Informal Trading Management Framework of 2004 the City of Cape Town defined informal trade as :

“The economic activity undertaken by entrepreneurs who sell legal goods and services within a space deemed to be public property, within the informal sector” (City of Cape Town, 2004, p.4).

According to the [City of Cape Town \(2004\)](#), this definition covers traders operating on the streets kerbs, pedestrian malls, intersections, flea and craft markets, public open spaces, transport interchanges (train stations, taxi ranks), special events, as well as traders operating at the beach and mobile traders from pick-up trucks and caravans.

Another definition was given by [Ligthelm \(2003, p.56\)](#) which defined *spaza* or tuck shops as :

“Shop/business operating in a section of an occupied residential home or in any other structure on a stand in a formal or informal township which is zoned (or used) for residential purposes and where people permanently live.”

The two definitions above are focused on the physical location where informal traders operate from. The first one has a focus on informal traders that operate in a public space, and intentionally excludes informal traders that trade from home and informal shops such as tuck shops, while the second one focuses on informal traders operating from residential areas. A third and non-location focused definition was given by [Cross \(1999, p.580\)](#) which defined street vending as

“The production and exchange of legal goods and services that involved the lack of appropriate business permits, violation of zoning codes, failure to report tax liability, non-compliance with labour regulations governing contracts and work conditions, and/or legal guarantees in relations with suppliers and clients”

This later definition is focused on the regulations surrounding informal trading activities and its legal characteristic. For the purpose of this study, a combination of the three previous definitions was used to create an adapted definition of informal trade. The definition of informal trade used in this study was the following:

“The economic activity undertaken by entrepreneurs operate from within a space deemed to be public property or informal shops operating in a residential areas who produce and exchange legal goods and services involving lack of appropriate business permits, violation of zoning codes, failure to report tax liability, non-compliance with labour regulations governing contracts and work conditions, and/or legal guarantees in relations with suppliers and clients”

This definition covers vendors trading from home, informal shops, at the beach, tourist destinations, trains stations, taxi ranks, pedestrian malls, street kerbs, flea and craft markets, special events, as well as mobile traders operating from trailers, pick-up trucks and caravans. Likewise, for the purpose of this study, an informal trader is considered as any employer or employee who is involved in informal trade.

2.1.2 Importance of informal sector in developing economies

The informal sector is also known as an informal economy, shadow economy, or hidden economy, but even though the money trail in the informal sector is hidden from financial regulators, the activity of informal traders is not. Informal shops, hawkers, and street vendors trying to earn their living are a common sight in small and major cities across the world, especially in developing countries where the unemployment rates are high.

Global employment estimates show that in 2012, about 74 million people within the ages of 15 and 24 were unemployed; in 2013, the figures went up to 75 million, thus elevating the global youth unemployment rate to 13.1%, which is almost 3 times higher than the adult unemployment ([International Labour Office, 2014](#)). A vast and rising proportion of the workforce in developing countries operates in the informal sector and relies on the informal economy for survival ([Dibben and Nadin, 2011](#); [Petersen, 2012](#)). According to [Vaneck et al. \(2014\)](#), informal employment represents 10% of non-agricultural employment in Eastern Europe and Central Asia, 45% in Middle East and North Africa, 51% in Latin America, 65% in East and Southeast Asia, and 66% in Sub-Saharan Africa. In other words, informal employment represents over 45% of the non-agricultural employment in most geographical regions.

If we have a look at the statistics at a national level in some of the countries in those regions, the importance of the informal sector becomes even more clear.

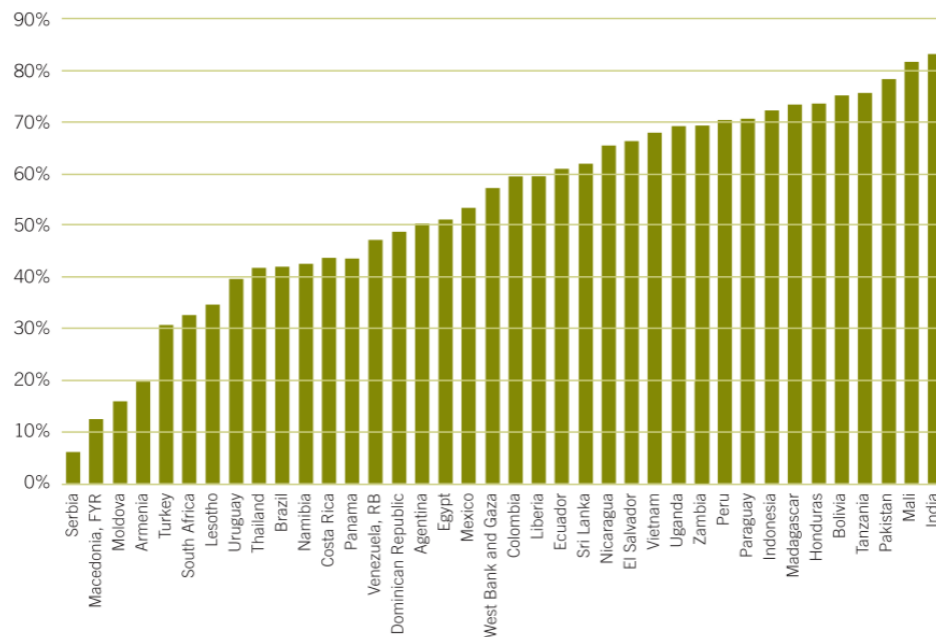


FIGURE 2.1: Non-agricultural informal employment from 2004 to 2010

Source: [Vanek et al. \(2014\)](#)

Focusing on the African countries included in the graph above, it is possible to see that in South Africa and in Lesotho informal employment represents over 33% of the total non-agricultural employment. These numbers are much higher in Uganda and Zambia sitting just below 70%, and in countries such as Tanzania and Mali, these figures sit at 76% and 82%, respectively.

Putting these figures into perspective as seen above, in South Africa, the informal sector represents only 33% of the non-agricultural employment, but it was estimated that roughly 2.2 million people were employed in the South African informal sector in 2010 and that another 46,000 entered the informal sector in the first quarter of 2011 ([Willemse, 2011](#)).

The scenario is not much different in other African countries as a survey conducted by [Herrera et al. \(2012\)](#) shows that major cities such as Ouagadougou (Burkina Faso), Dakar and Abidjan (Senegal), Lomé (Togo), and Cotonou (Benin) have a high prevalence on informal employment ranging from 79% to 83%.

The figures presented so far exclude the agricultural sector, which is just one of the main sub-sectors in the informal sector, the other predominant ones being construction, manufacturing, transport, private household and trade.

Informal trade is the second largest group informal economy; it provides the low-income classes with accessible products and has become a vital part of developing countries' economies (Brown et al., 2010; IOL, 2002; Willemse, 2011). In Southern Africa, informal trade alone is estimated to generate \$17.6 billion per year (Maimbo et al., 2010). However, unlike the formal sector, which is often protected by legal frameworks, the economic role of the informal sector is still largely unappreciated and undermined by policy makers, as a result, many of the regulations aimed at the informal sector are designed to restrict informal trade and not to facilitate it (Willemse, 2011).

Due to the fact that informal activities are unmonitored and informal traders often lack permits, documentation, and rights to trading sites, the informal sector is often associated with illegal activities; however, in fact, many previously unemployed people that probably could end up resorting to crime found, in the informal sector, an opportunity to become financially independent and support their families (Willemse, 2011). The informal sector, especially in developing countries, plays a key role in employment creation, income generation and poverty reduction (Hussmanns, 2004).

2.1.3 Informal traders and financial access

It is estimated that just over 50% of the adult population in the world do not have access to formal financial services (Chaia et al., 2013). There are more than 2.5 billion adults that are unbanked and live on less than \$5 dollar a day (Chaia et al., 2013; Flores-Roux and Mariscal, 2010, 2011); and in developing countries alone, the percentage of adults without financial access rises to 70% (Mas and Sullivan, 2011).

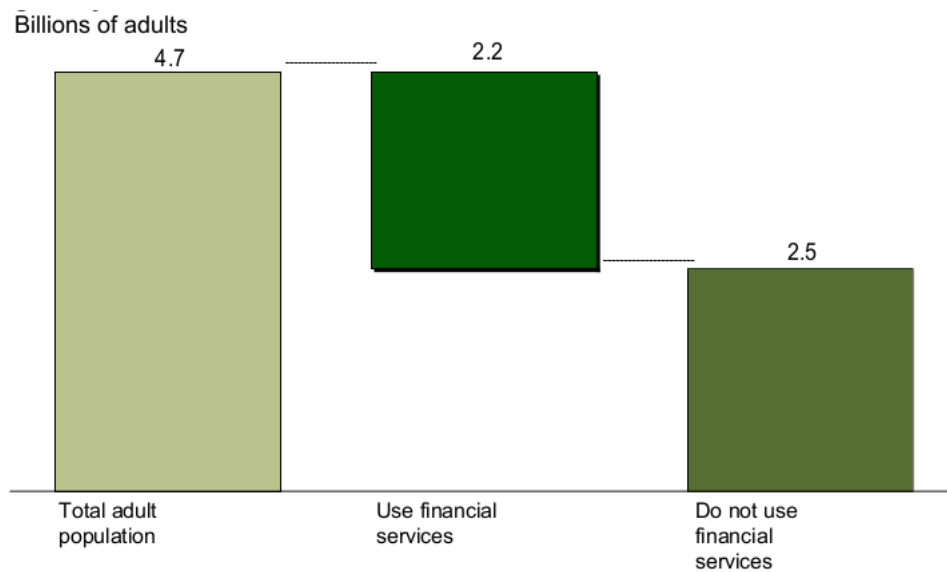


FIGURE 2.2: Adult population with and without access to financial service (in billions)

Source: [Chaia et al. \(2013\)](#)

In Sub-Saharan Africa, 80% of the adult population (around 325 million people) are unbanked ([Chaia et al., 2013](#)). According to [Comminos et al. \(2009\)](#), Africans, particularly those in the informal sector, still struggle to get access to formal financial services.

The issues blocking informal traders from accessing formal financial services come from both the demand side and the supply side. From the supply side, geographical availability of banking services is a major issue for the poor especially those in rural areas ([Demirgüç-Kunt and Klapper, 2012](#); [Flores-Roux and Mariscal, 2011](#)). The bank penetration in the poorest countries is 2 branches per 100,000 habitants compared to 33/100,000 habitants in the richer countries ([Mas and Radcliffe, 2011](#)). This low penetration coupled with the high fees, high minimum balances and other costs to open and maintain a bank account makes banks too expensive and too far for poor people ([Demirgüç-Kunt and Klapper, 2012](#); [Flores-Roux and Mariscal, 2010](#); [ITU-T, 2013b](#); [Ndiwalana et al., 2010](#)).

In order to address the availability of barriers, banks would have to invest heavily in technology and infrastructure to be able to take traditional banking (branches and bank staff) to poor and/or rural areas, but banks have little motivation to do so because the poor are not seen as beneficial and lucrative ([Kendall et al., 2011a](#)). The low balances

held by the poor and their high transaction volumes do not create enough revenue to cover the costs of all new formal accounts and to support the high costs of traditional banking; therefore, it does not justify the investment (Kendall et al., 2011a; Mas and Sullivan, 2011)

Furthermore, from the supply side, tight regulations also represent access barriers to financial services, and many people do not qualify for bank accounts because they lack documentation (id books, proof of address) and formal employment (Flores-Roux and Mariscal, 2011; ITU-T, 2013b). Some people join the informal trade because what they earn at their formal jobs is not sufficient, but for a large majority, informal trade is their only occupation and source of income and they depend on it for survival (Dibben and Nadin, 2011; Petersen, 2012; Willemse, 2011).

Access to financial products and services such as debit cards and checking accounts enable people to accumulate meaningful savings over time, and not having financial access makes informal traders extremely vulnerable in cases of job loss, income loss, health issues or any other crises (Flores-Roux and Mariscal, 2010, 2011). Furthermore informal traders already have a very vulnerable income which is not stable or regular (it depends on a number of daily customers and amounts spent by customers), and lack of financial access also causes cash-flow issues and affects their ability to manage their business (Mas, 2012; Ndiwalana et al., 2010; Willemse, 2011).

Lack of access to capital is a hurdle to development of the informal sector in Africa (Comninou et al., 2009), and a large portion of informal trader is not eligible to formal means of financing for their business due to lack of documentation, formal employment, and regular income. Furthermore, even those who qualify for financial services often cannot obtain a loan because they do not have a credit history or a collateral (Flores-Roux and Mariscal, 2011; Willemse, 2011); as result, informal traders are limited to borrowing from individuals in their social circles (Willemse, 2011), or from informal financial services that are unreliable, unregulated and often more expensive than formal financial services (Comninou et al., 2009; de Koker and Jentsch, 2011; Mas, 2012)

Still on the issue of supply, there is lack of suitable products and services customised for the needs of the poor (Flores-Roux and Mariscal, 2011; Mas, 2012). For example, ATMs are relatively scarce in certain areas, but one of the more accessible access

points to financial services, and they are more suitable for people paid on a regular basis via electronic means and much less suitable for informal traders who are paid irregularly, in small cash amounts with a high frequency and have the need to make small deposits whenever the money is available (Flores-Roux and Mariscal, 2011; Kendall et al., 2011a; Mas, 2012). On the demand side, there is the lack of documentation, lack of stable jobs and regular income and lack of trust in financial institutions; in addition, banks are often long distances away, and the poor do not feel welcome at the banks whenever they show up in large groups to make small deposits (ITU-T, 2013b; Mas, 2012; Ndiwalana et al., 2010).

The Informal sector, particularly in emerging economies, is still predominantly cash-based, where people save, remit money and access credit via non-regulated and non-supervised channels outside the formal financial system (de Koker and Jentzsch, 2011). Improved infrastructure and accessibility, more suitable products and better understanding of the needs and conditions of the poor might lead not only to a higher access to banking services but also to empower informal traders to better manage their business financially

2.2 Characteristic and aspects of payment methods

To be able to understand payment methods, we need to understand their different characteristics, and multiple studies have been conducted with the aim of providing a better understanding of the different payment methods. One of the first attempts to classify payment methods was done by Abrazhevich (2001), which placed the characteristics of payment methods into two categories according to their impact on users' perceptions. The first category contained aspects with a direct impact on users' perceptions, namely: anonymity, applicability, convertibility, ease of use (usability), efficiency, reliability, security, trust and traceability. On the second category there were the aspects of indirect impact on users' perception, namely: scalability, divisibility, interoperability and authorisation type.

Another early study was conducted by Schwiderski-Grosche and Knospe (2002) which classified electronic payment methods according to where the monetary value was being stored. This classification is one-dimensional but helped to put electronic payment

systems into 3 categories: software-based systems, in which the monetary value was stored on a mobile device; hardware-based systems where the monetary value was stored on a smart card; and account based systems where the monetary value was kept in a background account.

A more detailed study was conducted by [Yu et al. \(2002\)](#) who classified electronic payment systems into 4 broad categories namely: online credit card payments, electronic cash, electronic checks and small payments. Furthermore, the author identified the characteristics of payment systems and divided them into 4 categories, namely technological, economic, social and institutional:

(i) - the technological aspects (which include : authority/validity, privacy , integrity, and non-repudiation);

(ii) - the economic aspects (which include : transaction costs, atomic exchange, user range, financial risks, and value mobility);

(iii) - the social aspects (which include : privacy and traceability, acceptability and ease of use, mobility); and

(iv) - the institutional or law aspects (which is concerned with : governmental regulations, financial policies and legality of payments).

Note that privacy was a variable used by the authors on both technological and social aspects; therefore, it is important to make a distinction between the two. On the technological dimension, privacy refers to the protection against unauthorised access to confidential information. Meanwhile on the social dimension, privacy is concerned with the protection against the tracking of consumer data by financial institutions.

A subsequent study was conducted by [Kreyer et al. \(2003\)](#) who identified the characteristics of mobile payments and used a morphological box to present those characteristics alongside with its possible options. The authors identified a total of 10 characteristics and grouped them into 3 broad categories, namely: strategic, participants, and operational, with each category also having multiple sub-categories as seen below:

(i) strategic - (which include payment scenario and payment levels);

(ii) participants - (which include payment solution provider, receiver of the customer data, pre-registration requirements and technology required); and

(iii) operational - (which include basis of payment, payment frequency, deduction time, and method of settlement).

In a different study, [Ondrus and Pigneur \(2006\)](#) suggested a holistic view of mobile payment systems. The authors identified the characteristics of mobile payment methods and separated them according to the stakeholder concerns. The authors discovered that the consumers were concerned with the cost, ease of use, expressiveness, trust, universality and usefulness of payment solutions, while the merchants were concerned with the cost, customer base, ease of use, reliability, security, and value proposition improvement. A similar classification was done by [Heikkinen \(2009\)](#) which identified that from the customer's point of view, the influencing factors were: easy to get, easy to use, easy to understand, safe and reliable, widely accepted and cheap. From the merchant's perspective, the factors found were: minimum investment, optimised liquidity, safe payment guarantee, and widely accepted.

Last but not least, [Carr \(2007\)](#) also identified some factors or characteristics that can be used to classify payment methods, namely: simplicity and usability, universality, interoperability, cost, speed, cross-border payments, security, privacy and trust.

Even though these studies present different focus and categorisation, they still present a more detailed picture of the payment methods by identifying an extensive number of characteristics. Furthermore, some of those characteristics such as traceability, acceptability and ease of use have been identified by multiple authors, showing an overlap across the studies. These overlaps are much more visible once one takes into account the concepts used by the authors of these studies to define each characteristic. The definition of different characteristics and aspects of payment methods are discussed below.

2.2.1 Defining payment methods characteristics

Anonymity, privacy, and traceability

Anonymity, privacy and traceability are 3 characteristics of payment systems that are closely related. **Traceability** refers to the degree to which customers' financial activities can be used to trace money flows (Abrazhevich, 2001). **Privacy** refers to the extent to which financial institutions are limited to tracing users' information (Carr, 2007; Yu et al., 2002), while **anonymity** refers to the desire to protect one's privacy, identity and personal information (Abrazhevich, 2001). Kreyer et al. (2003) did not mention any of these characteristics, but in their categorisation, they included the receiver of the customer data, which could be the payment service provider, mobile network operator, bank, financial service provider, merchant or nobody. The receiver of the customer data on a payment method affects the anonymity, privacy and traceability of customers directly.

Atomic exchange

Atomic exchange refers to the ability of the system to guarantee that during the transaction, the customer will pay money or something of the equivalent value (Yu et al., 2002). Systems that do not offer atomic exchange present a higher risk to the seller; for example, a buyer might receive goods from a seller and hand over a cheque of the equivalent value, but the seller might never get the actual money because the buyer might not have enough funds at the bank to cover the cheque he used to make the payment. Heikkinen (2009) does not make mention of atomic exchange but mentions that a payment method should offer guarantee of safe payment.

Authorisation type

The **authorisation types** in payment systems can be online or offline and reflect the extent to which payment transactions can be processed without being connected to a central authority (Abrazhevich, 2001). For example, cash payments can be processed offline without third part involvement while credit card payments require authorisation of a financial institution.

Convertibility and value mobility

Convertibility was defined by [Abrazhevich \(2001\)](#) as the ability to convert funds represented by one system into funds represented by another system; for example, after one makes a bank deposit, cash is converted into electronic funds and can be converted back to cash with a bank or ATM withdrawal. This concept is similar to [Yu et al. \(2002\)](#) concept of **value mobility** which states that the value of a payment method should not be limited to those who created it, and should have value to others too. Therefore, users should be able to give it away, use in different places or exchange for currency of equal value or use.

Cost

The **cost** of a payment system refers to the costs paid by both sellers and buyers of the systems ([Yu et al., 2002](#)). These costs should not be higher than the costs of already existent payment systems and should include both fixed costs (costs of the infrastructure) and variable costs (transaction costs) ([Carr, 2007](#); [Ondrus and Pigneur, 2006](#)). [Heikkinen \(2009\)](#) does not explicitly mention costs but states that customers like cheap payment methods while merchants like payment methods that require minimum investment.

Customer base and acceptance/applicability

Customer base and acceptance are similar concepts because both refer to the user base of a payment systems but from different perspectives. From a merchant standpoint, **customer base** refers to the number of existing and potential customers using a payment method ([Ondrus and Pigneur, 2006](#)). From a customer's perspective, the **acceptance** of a payment method refers to the extent to which it is accepted for payments by merchants ([Abrazhevich, 2001](#)). For example, cheques might have a significant customer base but have more acceptance at the banks than at the point of sales. Widespread acceptance was mentioned by [Heikkinen \(2009\)](#) as an influencing factor for both customers and merchants.

Ease of use

Ease of use, also referred to as **simplicity** and **usability** was a characteristics mentioned by [Abrazhevich \(2001\)](#); [Carr \(2007\)](#); [Ondrus and Pigneur \(2006\)](#); [Yu et al. \(2002\)](#) and ([Heikkinen, 2009](#)), and it refers to the user friendliness of a system and the extent it can be used with little or no learning curve. Payment systems should be used effectively without requiring much physical or mental efforts from its users.

Efficiency and scalability

[Abrazhevich \(2001\)](#) defined **efficiency** as the ability of payment systems to process small payments at reasonable transaction costs and without suffering performance degradation. [Abrazhevich \(2001\)](#) also defined **scalability** as the ability of the payment infrastructure to support the addition of significant amount of users, both customers and merchants without performance degradation.

Interoperability

Interoperability was examined from very distinct perspectives by different authors. [Carr \(2007\)](#) looked at **Interoperability** from a technological standpoint and defined it as the extent to which standards and open technologies were used in the development of payment systems in order to facilitate the interactions and integration between them. [Abrazhevich \(2001\)](#) looked at **interoperability** in terms of dependency and openness, and defined it as the extent to which the system is dependent on one organisation and other interested parties are allowed to join. For example, a mobile-money system which is dependent on a single MNO where only the subscribers of that MNO are allowed to use would not be considered as interoperable.

Legality

Legality refers to the institutional and legal aspects of a payment systems, and it is concerned with the legal framework and legislation surrounding it, and the extent to which the system abides by the governmental regulations ([Yu et al., 2002](#)). [Kreyer](#)

[et al. \(2003\)](#) mention the need of pre-registration or the lack thereof as characteristic of payment methods, and this also talks to the legality of payment methods as in some countries, payment service providers are required to abide by Know Your Customer (KYC) regulations which require them to verify the identity of their customers before they can be allowed to make financial transactions.

Mobility

[Yu et al. \(2002\)](#) defined **mobility** as the extent to which the use of a systems is limited to a certain physical location or device; for example, if one can only access a payment system using a specific computer, or can only access it at a particular bank branch.

Reliability and speed

Reliability refers to the extent to which users can depend on the system to be available and process transactions successfully ([Abrazhevich, 2001](#); [Ondrus and Pigneur, 2006](#)).

Speed refers to the time a payment method takes to process a payment transaction, and it should be acceptable for both customer and clients [Carr \(2007\)](#), but it should not include factors unrelated to the payment method such as the waiting time spent in a queue before a user can pay ([Foster et al., 2011](#)).

Security

Security refers to the ability of the system to prevent fraud, counterfeiting and protect users from financial losses ([Abrazhevich, 2001](#); [Carr, 2007](#); [Ondrus and Pigneur, 2006](#); [Yu et al., 2002](#)). Besides the users' concerns with the financial risks of payment systems, [Yu et al. \(2002\)](#) also identified the need for payment systems to have: (i) **authority/validity** (authentication and authorisations), (ii) **privacy**, (iii) **integrity** and (iv) **non-repudiation**; the 4 characteristics previously mentioned (i, ii, iii, and iv) represent different concepts but ultimately are all related to the security of the system. Furthermore, it is important to note that privacy was a variable identified by the author in two dimensions, one technological and other social. The distinction between the two is that on the technological dimension, privacy refers to the protection against unauthorised

access to confidential information, meanwhile on the social dimension, privacy is concerned with the protection against the tracking of consumer data by financial institutions (Yu et al., 2002).

Trust

Trust refers to the degree to which users believe that money and personal information in the system will be safe, and that the parties involved in the system will not act against the users' interest (Abrazhevich, 2001). Trust is closely related to privacy and security and one's trust in a payment system is affected by both; users will only trust a system if they are sure that: there will be no misuse of their account information, that their personal and financial information will not be easily available (privacy), and that the system is resistant to attack from malicious users (security) (Carr, 2007).

Universality and user range

Carr (2007) refers to **universality** as the ability of a payment system to support different payment scenarios, facilitate transactions of different payment amounts, and have a domestic, regional or global coverage (cross-border payments). The author believes payment systems should facilitate payments between customers (C2C), between business (B2B) and also between business and customers (B2C), and also that they should be able to process low-value transaction (micro-payments) or high-value transactions (macro-payments). This is a similar view to Yu et al. (2002) who defined **user range** as the extent to which a payment system was available; this could include countries in which the system is available to the ages of the people who could have access to the system.

Once again, Kreyer et al. (2003) does not explicitly mention universality or user range, but in his categorisation, he mentions payment scenarios which included e-commerce, mobile commerce, stationary merchant (person/automat), and customer-to-customer scenario. This is similar to what Carr (2007) refers to as universality. Kreyer et al. (2003) also classified payment methods according to the payment levels which included picopayments (≤ 10 cents (USD)), micropayments (> 10 cents to 5\$ USD), macropayments (> 5 \$ (USD) to 50\$ USD)) and macropayments (> 50 \$ (USD)), this also concurs

with Carr (2007) idea that payment methods should be able to process low and high value transactions (micropayments and macropayments)

Value proposition improvement

Value proposition improvement was identified by Ondrus and Pigneur (2006) as one of the aspects used by merchants in the evaluation of payment systems, and it refers to differentiation factors a payment systems offers to its users; it is concerned with what sets it apart from the other alternatives, and how it improves one purchase experience.

2.3 Types of payment methods

This section looks at some of the payment options available on the continent not only specific payment solutions but payment methods as a whole. For the purpose of this study, only payment methods that can be used in one of the 3 scenarios person-to-person payments, face-to-face payments, point of sales payments are discussed.

2.3.1 Paper-based payments

2.3.1.1 Fiat money (Cash)

Fiat money or cash (bank notes and coins) is the most used payment method ever since the bartering periods (Rambure and Nacamuli, 2008), it is also the most used payment method in the informal sector. Fiat money is paper money with little or no intrinsic value in itself (Madise, 2015); cash is just tokens used as medium of exchange in transactions and is not backed or representative of any commodity such as gold or silver. Fiat money can be used to buy commodities like gold or silver, but it does not mean that fiat money is redeemable like commodity-backed paper money (European Central Bank, 2012). Commodity-backed paper money can be exchanged by a fixed amount of the commodity it represents, while the value of fiat money fluctuates according to demand and supply, which is controlled by the issuer (Selgin, 2014)

Fiat money has non-monetary value, and its value derives from people's trust in it and its legal tender status; therefore, it loses value if the people stop trusting the institution/government issuing it ([Grinberg, 2012](#); [Selgin, 2014](#)). Each country usually issues its own fiat money or currency, and it is only a legal tender within the borders of the country of issuance ([Madise, 2015](#)).

A curious example of how trust affects the acceptance of fiat currency is the usage of foreign currencies during the recent economic crisis in Zimbabwe. The crisis led Zimbabwean citizens to abandon their own national currency (which was a legal tender in Zimbabwe) due to continuous devaluation and hyper-inflation and instead, adopted multiple currencies such as the Rand (South Africa), Pula (Botswana), American Dollar (USA), and the Pound (UK) even though none of these currencies were a legal tender in Zimbabwe ([BBC News, 2009](#); [The Guardian, 2015](#)); 6 years later the central bank discarded the national currency in favour of the US Dollar ([Russian Today, 2015](#); [The Guardian, 2015](#)). Other examples of fiat currencies in Africa are Rands (South Africa), Naira (Nigeria), Kwanza (Angola), Metical (Mozambique), Shilling (Kenya), Cedi (Ghana), and the US Dollar, which does not belong to any African country but is accepted, to some extent, in most of African countries.

2.3.2 Card-based payments

There are a variety of card-based solutions available for consumers, and these solutions might differ in terms of technology, business rules and utility; the next section discusses 3 of them, namely: credit cards, debit cards and prepaid cards.

2.3.2.1 Credit card

As the name suggests credit cards work on credit. It enables the cardholders to buy goods and services or withdraw money up to to a prearranged credit limit. ([Chakravorti and Lubasi, 2006](#); [ECB, 2009](#); [Reserve Bank of Fiji, 2011](#)). The credit-line or "funds" is provided by a third-party, the credit issuer, which is responsible for paying the merchant, while the cardholder is responsible for paying back the credit issuer ([Chakravorti and Lubasi, 2006](#)).

A Credit card gives consumers the convenience of buying now and only paying later, as consumers only really make a payment when they settle their balance with the credit issuer (Chakravorti and Emmons, 2003; Reserve Bank of Fiji, 2011; Stavins, 2002); for many consumers, this is appealing because it allows them to spend funds that they might not have available at the moment (Chakravorti and Emmons, 2003). This is not only good for consumers but for merchants too, as they can make sales even to customers that do not have enough money available to make the purchase (Chakravorti and Lubasi, 2006). The credit issuers are responsible for paying the merchants, and card issuers offer guarantee of payment to merchants up to an pre-approved limit; furthermore, the issuers' payment to the merchant does not depend on the cardholder settling his balance with the credit issuer or not (Chakravorti and Emmons, 2003; Reserve Bank of Fiji, 2011).

Consumers do not face the transaction costs of credit card usage and are inclined to increase their credit cards usage and spending due to its rewards programs, some of which offer 5% cash back in some purchases (4% more than the regular cards) (Levitin, 2008; Van Hove, 2007). Merchants, on the other hand, prefer not being paid via credit card because unlike consumers, merchants directly pay the high costs of credit card usage (Gresvik and Haare, 2008; Jyrkonen and Paunonen, 2003; Stavins, 2002). Merchants have to pay interchanges fees to the consumer banks (credit issuer), and those fees can range from 1% to 3% of the transaction amount (Alleman and Rappoport, 2010; Bourreau and Verdier, 2009; Chakravorti and Emmons, 2003), thus cutting merchants' revenues by the same margin (Chakravorti and Emmons, 2003).

Merchants could avoid losses by passing these costs to the consumers, but when merchants agree to accept credit cards, they also agree to not charging consumers paying with credit cards anything more than what is charged to consumers paying with cash or other payment method. Therefore, if merchants want to pass the costs to the consumers, then merchants have to pass the cost to all consumers irrespective of the payment method they are using (Van Hove, 2007). Furthermore part of the interchange fees paid by the merchants to the credit card issuer are used to fund the credit card rewards programs; thus, one can conclude that merchants could benefit from lower interchange fees, and consumers paying with cash could benefit from lower prices if the credit issuer does not charge excessive interchange fees with the intent to fund credit card reward programs (Ching and Hayashi, 2010; Hoofnagle et al., 2012; Levitin,

2008). Therefore, in simple words, the costs of credit card usage is partially being paid by the merchants and cash users, while consumers paying with credit cards do not see the costs attached its usage and are being rewarded for using an expensive payment method.

Credit cards are hardly used at the point of sales but are often used for card-not-present transactions such as mail-orders, telephone orders, and online shopping (Jonker, 2013; Reserve Bank of Fiji, 2011). Consumers should be cautious as card information can be compromised and/or stolen when used in a not secure site, and thieves can use it to illegally make payments on behalf the cardholder. However, credit card issuers offer mechanisms for dispute resolutions, and customers have limited liability when cards are used fraudulently(Chakravorti and Emmons, 2003).

Despite its wide acceptance, merchants only welcome credit card purchases for high value transactions, and curiously, that is what credit cards are commonly used for as consumers perceive credit card as safe and advantageous for providing good record keeping (Arango, Hogg and Lee, 2012; Jyrkonen and Paunonen, 2003). However Ching and Hayashi (2010) suggests that there would be an increase of cash and check payments if the rewards on credit and debit cards were removed

2.3.2.2 Debit card

A debit card allows cardholders to withdraw cash, or purchase goods and services, and the value of the transactions is deducted from the cardholder's account (ECB, 2009; Reserve Bank of Fiji, 2011). There are two types of debit cards: online debit cards (pin-based) and offline debit cards (signature-based). With signature-based debit cards, the funds are withdrawn from the cardholders' account after transaction takes place; it is not favoured by merchants because it is associated with higher fees and it has higher risks (Borzekowski et al., 2008; Stavins, 2002).

Pin-based debit cards are more secure because they have an online security mechanism that involves checking for customer identification, list of cancelled cards and transaction authorisations before transactions are processed (Jyrkonen and Paunonen, 2003). With pin-based debit cards, the amount is debited immediately from the payer's account upon approval given by the cardholder, and due to its security mechanisms,

the payment is only successful if the payer has sufficient funds in their accounts, thus preventing merchants from selling goods and services to customers that cannot afford them (Borzekowski et al., 2008; Reserve Bank of Fiji, 2011; Stavins, 2002)

For merchants, accepting debit cards has some costs and risks associated with it. Cost-wise, debit cards are less expensive than credit cards, cheques, and also less expensive than cash for almost any transaction value except for small value transactions (Jonker, 2013). Risk-wise, for merchants, debit cards payments are riskier than cash payments because debit card payments are provisional and can be reversed under certain circumstances (Hancock and Humphrey, 1997; Reserve Bank of Fiji, 2011). Not only are these risks consider higher than the risks of cash counterfeiting, but also the time it takes for the payment amount to be settled affects the liquidity of the merchants (Hancock and Humphrey, 1997).

Despite the wide acceptance of credit and debit cards in Africa, they are not widely adopted; for example, only 3% of adults in Sub-Saharan Africa have credit cards (Economist, 2013), and that is mostly due to the fact that many banked and unbanked adults in Africa do not meet the requirements to qualify for one (Flores-Roux and Mariscal, 2011; ITU-T, 2013b). Debit cards are much more popular than credit cards, but just like credit cards, their adoption depends on the adoption of banking services; services which 80% of the adult population in Sub-Saharan Africa does not have access to (Chaia et al., 2013); therefore, its adoption is still quite limited. Nonetheless, both credit and debit cards are offered by most commercial banks on the continent, with the cards usually issued under the Visa or Mastercard umbrella and accepted by most of the ATMs and card machines across the continent.

2.3.2.3 Prepaid cards (Smart Cards)

Prepaid cards are cards that enable consumers to make payments using pre-loaded monetary values; the value can either be store on the the card itself (chip of the card) or at an account on the issuer's server (CPSS, 2012; ECB, 2009). The cards can either be single-purpose prepaid cards or multi-purpose prepaid cards (e-purses) and can be further classified as disposable (non-rechargeable) or reloadable (rechargeable) (CPSS, 2012; Jyrkonen and Paunonen, 2003).

Single purpose prepaid cards mostly come in the form of merchant-specific gift and loyalty cards; the payment is made to the card issuer, and the card usage is normally restricted to a merchant, stores owned by the card issuer or stores pre-selected by the card issuer (Chakravorti and Lubasi, 2006; Jyrkonen and Paunonen, 2003). Loyalty cards are used to get discounts on purchases or bonus-related purchases. These bonuses can be paid in the form of gift vouchers or into an account, and customers can use/spend them at some pre-selected stores (Jyrkonen and Paunonen, 2003). For gift cards, usually the value has to be used within a time frame and in most cases, the final users of the cards are not the original buyers; merchants can benefit from unclaimed values and from the fact that the final users normally spend 40% more than the value on the card (Chakravorti and Lubasi, 2006).

Multi-purpose prepaid cards (e-purses) are often reloadable and more useful than single-purpose prepaid cards because they are widely accepted and can be used in much larger variety of outlets and payment segments (Chakravorti and Lubasi, 2006). The acceptance of e-purses is positively associated to the adoption of debit and credit cards because they are usually accepted wherever debit and credit cards are accepted (Arango, Huynh, Fung and Stuber, 2012; Jyrkonen and Paunonen, 2003). However, unlike debit cards, e-purses are hardly used at points of sale mostly due to high fees charged to cardholders (Arango, Huynh, Fung and Stuber, 2012; Jonker, 2013). For merchants, e-purses are similar to debit cards in the sense that merchant banks still have to pay fees to the [prepaid] card issuer, but e-purses represent extra costs to merchants because they require new loading/unloading terminals (Chakravorti and Lubasi, 2006; Jyrkonen and Paunonen, 2003).

Currently, prepaid cards are substituting cheques (Chakravorti and Lubasi, 2006), and are hardly used at the Point of Sale (POS), and therefore not likely to substitute cash, credit or debit cards (Chakravorti and Lubasi, 2006; Jonker, 2013). However, prepaid cards systems usually do not require the card holder to have an account or relationship with a financial institution as these types of solutions tend to be more successful than those systems that depend on credit cards or existing banks (Arango, Huynh, Fung and Stuber, 2012; Maurer, 2008). In addition, prepaid card systems are more likely to be successful in small niches such as public transportation or closed systems such as universities campuses (Chakravorti and Lubasi, 2006)

Prepaid cards are often issuer-centric and come in forms of merchant cards, gift cards, loyalty cards etc; they are not reliant on cardholders having a relationship with a financial institutions, but because they are issuer-centric, they have very limited usability ([Chakravorti and Lubasi, 2006](#); [Jyrkonen and Paunonen, 2003](#)). Furthermore, many prepaid cards have to be used within a time frame, so they do not represent a good option for long term value storage.

Nonetheless, prepaid cards have been used in a number attempts in the public transport sector across the continent. In 2010, South Africa introduced the MyCiTi bus services, and with it, the MyCiTi prepaid cards, which are NFC enabled, and the only way to pay for the bus services. The buses and the bus stations are equipped with NFC readers, and commuters can just tap-in to access or exit the stations ([MyCiti, 2010a](#)). The cards can be loaded at the loading stations at the bus stop or at Spar stores nationwide. The MyCiTi card can also be purchased at any POS with debit card facilities to make purchases up to the value of R200 ([MyCiti, 2010b](#)). Moreover, in South Africa in 2011, ABSA Bank partnered with 40 taxi operators in Cape Town and piloted a NFC enabled fare collection system ([MoneyWeb, 2012](#)). The mini-buses were equipped with NFC readers to process the payments, and commuters were given prepaid cards that are NFC enabled and could be reloaded at ATMs, vending machines, at specified kiosks, or directly from bank accounts ([MoneyWeb, 2012](#); [SouthAfricalInfo, 2011](#)).

The card had a R3000 monthly limit (R1500 at time) and a daily limit fixed at R200; commuters could also use the cards to make purchases at any debit card enabled POS without needing to use a PIN code ([SouthAfricalInfo, 2011](#)). In Nairobi, Kenya, Google in partnership with the Equity bank, introduced Bebapay as a payment solution to the local bus transportation system ([Business Daily, 2013](#)). The project was piloted in 2012 and unveiled in April 2013, but it was short-lived as it was officially discontinued on March 2015 despite having 100,000 active Bebapay users ([Business Daily, 2015](#)). The system consisted on an NFC enabled prepaid card to be used by the commuters and an NFC enabled phone to be used by the fare collector to process the payments.

2.3.3 Mobile-based payments

2.3.3.1 Mobile point of sale (mPOS)

A point of sale terminal (POS) is a combination of software and hardware devices used to capture sales data, facilitate payment transactions and enable the [physical] acceptance of electronic payment methods (ECB, 2009; European Payment Council, 2014); typically, a POS consists of a check-out terminal (computer, software, bar code scanner), a cash register, a card reader machine and a receipt printer (BusinessNewsDaily, 2014a; RetailCare, n.d.).

Mobile point of sales (mPOS) consists of usage of a mobile device (phone or tablet) enabled with wireless technologies to facilitate payments and enable acceptance of payment instruments; they can function as a stand-alone or as an extension to an existing POS solution (European Payment Council, 2014; TechTarget, 2014). mPos enable merchants to have the power and functionality of a traditional POS on a handheld device, thus giving them the flexibility and convenience of accepting card payments anywhere where there is Internet connection - all this at a lower cost and without the need of acquiring heavy equipment and extensive staff training (BusinessNewsDaily, 2014b; New West, n.d.).

mPOS typically require the merchant to have a relationship with a financial institution and makes use of the merchant's mobile device to process card-based payments. Normally, mPOS consist of a mobile device (tablet, smart phone), a card-reading device to enable the acceptance of card-based payments and an application to facilitate transaction processing (Financial Brand, 2014; ZipZap, n.d.). The communication between the card reader device and the phone can happen via the audio jack, or through the use of wireless technologies such as bluetooth, RFID or NFC, depending on the implementation the application can include features such as customer feedback, void transactions, inventory management, daily, weekly and monthly reporting (FinExtra, 2013; ZipZap, n.d.).

By allowing customers to go cashless at the point of sale, mPOS reduce the cash handling costs of the merchants and the risks associated with cash handling; furthermore, they offer the ability to integrate customer relationship management systems (CRM) and other retail applications, thereby helping to solve some retail key points such as

collection and storage of CRM data, price look-up, product look-up, loyalty programs look-up etc ([MegaStart, n.d.](#)).

Currently, there is little or no academic focus on mPOS, but the industry developments are happening at quite a fast pace with different solutions emerging all over the globe, and in Africa, it is not any different. In South Africa alone, there are over 5 mPOS solutions available. iKhokha is a South African mPOS solution launched in 2014 by a company with the same name. iKhokha consists of 2 elements, a mobile app also named iKhokha and a chip-and-pin card reader called “Edge”, and combined, they are used to facilitate card-based payments and cash payments too ([iKhokha, n.d.b](#); [VentureBurn, 2014a](#)). iKhokha requires merchants to open an iKhokha account and is available for all merchants regardless of who they bank with ([iKhokha, n.d.a](#)). The costs of acquiring mPOS systems are the following, a R250 activation fee, and a once-off R1139 fee for The “Edge” card reader device, which can also be paid for at the cost of R80 per month over 2 years; iKhokha does not involve any monthly or subscription fees but has a flat fee of 2.75% attached to each processed transaction ([iKhokha, n.d.a](#); [Zapreneur, 2014](#)). That value is still lower than the usual 4-5%, which makes iKhokha a cheaper solution compared to acquisition costs of a traditional POS system or even just a standard card reader machine.

The “Edge” card reader comes with its own keypad, and it is compatible with the iPhone 4 and a variety of Android devices; the card reader also comes with a built-in battery so it does not make use of the phone’s charger ([iKhokha, n.d.a](#)). The mobile app can be used to process cash payments, to sell other products such as airtime for the different mobile network operators, and offer other features such as emailing invoices to the client and business intelligence with daily, weekly, and monthly reports which can be exported ([VentureBurn, 2014a](#); [Zapreneur, 2014](#)).



FIGURE 2.3: iKhokha's Edge card reader

Source: [MyBroadband \(2014b\)](#)

ABSA bank and Thumbzup (South Africa) developed an mPOS solution named Pebble. An mPOS solution similar to iKhokha, it uses a card reader attached to a smart phone via the audio jack and a mobile app used to facilitate the payment transaction ([ABSA, n.d.](#)), but unlike iKhokha, Pebble does not come with its own keypad or built-in battery ([Techcentral, 2012](#)).



FIGURE 2.4: Absa's Pebble card reader

Source: [MyBroadband \(2014a\)](#)

EzeTap, an Indian company with solutions available in African countries such as Kenya, has 2 different card readers that are attached to mobile devices via the audio jack, one

with a dedicated keypad and another without it ([Ezetap, n.d.](#)). Zipzap by Paycorp (South Africa) is solution that comes with a card reader which contains a keypad. The reader connects to the mobile device both via the audio jack and bluetooth ([ZipZap, n.d.](#)).

PocketPOS by Nedbank, mPress by iVeri, both also from South Africa, and UBA mPOS from Nigeria, have card readers with a keypad, but instead of being attached to the smart phone, PocketPOS, mPress and UBA mPOS communicate with the mobile device using wireless technologies such as bluetooth and wi-fi ([iVeri, n.d.](#); [Nedbank, n.d.](#); [SimplyBiz, n.d.](#); [TechSmart, n.d.](#)). The same approach was used by Estel mPOS ([Estel Telecom, n.d.](#)) and Mosabee ([Mosambee, n.d.](#)), both from India but available in African countries such as Lybia, Egypt and Morroco. Google's Bebapay is used in the Kenyan transport industry, as explained in one of the previous sections. Though its use is limited to a certain prepaid card, it could also be considered as an mPOS, where the mobile phone serves not only as the host of the mobile app but also functions as an NFC enabled card reader to facilitate card payments..

2.3.3.2 Mobile wallets (M-wallet)

As the name suggests, mobile wallets (m-wallets) are the mobile applications that look to replicate the functionalities of a physical wallet. Mobile wallets enable the wallet holders to securely access, manage and use a variety of applications and services such as electronic payment services, identification services and non- payment services via a mobile device ([EPC, 2012](#); [European Payment Council, 2014](#)). These payment identification and non-payment services and the information used by them are under the control of the wallet holder but can be stored on the consumer's mobile device, remotely on a secure server, a combination of both, or on the merchant's website ([European Payment Council, 2014](#)).

The information stored or linked to the mobile wallets can be retail coupons, loyalty cards, gift cards, boarding passes, debit and credit card information, and other information that allows users to link the application to other payment instruments and financial services; then these payment instruments can be used via the mobile wallet to facilitate payments, including peer-to-peer (mobile-to-mobile) payments, in-store retail payments and in some cases, online payments ([Diniz et al., 2011](#)).

Mobile wallets can be designed to store and manage information about a single payment instrument or for multiple payment instruments. In the case of multiple payment instruments, the holder should be able to choose which one to use to make payments (EPC, 2012). Mobile wallets are considered to be preloaded or pass-through. Wallets are preloaded when they need to be pre-funded before the holder can make payments; the funds reside on the wallet and can be loaded into the wallet using card or alternative payment methods (About Payments, n.d.). Pass-through wallets do not store values in themselves, but the holder selects one of the payment methods linked to the wallet such as bank account, credit or debit card, and the wallet authenticates the user, but the transaction is settled on the selected linked payment system; some wallets combine both approaches (About Payments, n.d.)

According to Smith et al. (2012), one of the biggest advantages of mobile wallets is convenience because mobile wallets enable users to use a single all-purpose device instead of multiple forms paper and plastic cards. Mobile wallets can be seen as a competitor to cash but in reality, most of them are designed to facilitate card payments; therefore, they are more likely to replace card-based payment methods such debit, credit, prepaid cards and even other items such as loyalty cards, gift cards, membership cards, and also replace paper receipt with e-receipts (Hoofnagle et al., 2012; Shaw, 2014; Shin, 2009)

Security and trust are two main factors affecting intention of use and acceptance of mobile wallets and they can be enhanced by social influence (Shin, 2009). Mobile wallets are considered to provide faster processing, reduced transaction fees, increased convenience, increased security, and increased the chances of impulse buying (Hoofnagle et al., 2012; Shin, 2009). Mobile wallets can also increase the chances of merchants identifying customers, capture customer information, share customer information with other businesses; on one hand, this represents an advantages for merchants trying to profile consumers to obtain a better understanding of their needs; on the other, it raises some concerns regarding consumers' privacy (Hoofnagle et al., 2012).

In recent years, there has been a sharp rise on the number of mobile wallet solutions available in the African market, especially in South Africa. Some solutions such as CheqOut, Ching, GustPay, and FNB's GeoPay quickly faded after failing to gain traction; while others such FlickPay, VCPay, SnapScan, wiWallet, Zapper, and Zipzap managed

to survive and establish themselves in a very competitive market ([Fin24Tech, 2014](#)). Most of these applications have versions available for the major mobile phone operating systems (Android, Blackberry, iOS, and Windows Phone) and allow the customers to link their debit or/and credit card details to the mobile application before they can process payments.

FlickPay is a mobile wallet solution that allows customers to make payments by scanning a QR code at the merchants point of sales ([FlickPay, n.d.](#)). Another QR code based solution is Zapper, a mobile wallet specially crafted for the food industry and enables customers to make payments by scanning a QR code on the bill. The wallet allows integration with POS solutions and provides customer with some special features such as splitting the bill and tipping for the services ([Fin24Tech, 2014](#); [Zapper, n.d.](#)). VC-Pay is a mobile wallet solution by Zazoo with focus on e-commerce and retail payments; VCPay uses mobile virtual card technology and allows customers to generate mobile virtual cards offline and pay for items through their app([VCPay, n.d.](#)). VCPay virtual cards can also be used for e-commerce or in other card-not-present payment scenarios, thus limiting the risks of financial loss in case of fraud because only the details of the mobile virtual card are shared during the payment process. ([Fin24Tech, 2014](#); [VCPay, n.d.](#)). VCPay has recently partnered with Urber, and now even South Africans without credit cards can simply use VCPay to generate a mobile virtual card and pay for their Urber ride ([ITWeb, 2015](#)).

SnapScan is another QR code based mobile solution but with a very different approach, even though SnapScan enables customers to do a POS integration, it does not require the merchant to have a POS device in order to process SnapScan payments([SnapScan, n.d.](#)). SnapScan payments can be done just by scanning the merchant's QR code which contains the merchants' payment information, the customer will enter the transaction details, and the merchant will get a confirmation of payment via SMS ([SnapScan, n.d.](#)). SnapScan has been quickly growing in popularity and besides the 14,000 merchants registered in South Africa, SnapScan also partnered with the Big Issue magazine and with Street parking solutions in Cape Town and is currently being used by parking attendants in the Cape Town CBD and Big Issue's street vendors ([BBC News, 2014](#); [VentureBurn, 2014b](#)).



FIGURE 2.5: SnapScan users can pay parking marshal by using their mobile phones to scan the parking marshal's QR Code badge

Source: [BBC News \(2014\)](#)

2.3.3.3 Mobile money

[Mas and Radcliffe \(2011\)](#) loosely defined mobile money as an “*e-payment system that is based on e-money issued by a non-bank player (typically a mobile operator), and which is combined with a dense network of cash merchants numbering, typically, in the thousands*”. Mobile money schemes are composed by mobile based store value accounts, an interface to facilitate account management and money transfers, and a network of cash merchant ([Heyer and Mas, 2009](#); [Mas, 2012](#); [Mas and Radcliffe, 2011](#))

Mobile money consists of using mobile phones, and mobile based technologies to offer financial services to mobile phone subscribers ([Madise, 2015](#); [Mas and Radcliffe, 2011](#)). Mobile money is often aimed at the unbanked and is offered by mobile network operators who capitalize on the opportunity to easily sell “new” services through their already existing infrastructure and networks to their already existing client base without the need to create new customer relationships ([Flores-Roux and Mariscal, 2011](#); [Porteous, 2006](#)). For Mobile Network Operators (MNO), mobile money offer the opportunity to add value to existing services, create new revenue channels, reduce airtime distribution costs, increase customer loyalty and increase average revenue per user ([ITU-T, 2013b](#)). MNO often tend to limit the provision of mobile money services to those on their networks as a way to lock in their existing customers and attract new customers, thus limiting the involvement of other players in the sector and somehow reducing the applicability of the mobile money solution ([Ndiwalana et al., 2010](#)).

Another distinct characteristic of mobile money schemes is that they are also available

for customer without access banking services. Person-to-person transfers, airtime top-up and bill payments are the most used transactions types (Davidson and Pénicaud, 2012). Besides these functionalities, mobile money systems also offer airtime transfer, money deposits (cash-in), money withdrawal (cash-out), check-balancing, pin-changes, mini statements, utility bill payments, bulk payments and government-to-people payments (G2P) (Davidson and Pénicaud, 2012; Gutierrez and Choi, 2014; ITU-T, 2013b). Depending on the MNO, and the regulatory requirements of the person-to-person payments (send and receive money) can be domestic or international and between registered or unregistered users. Davidson and McCarty (2011) point out that while some customers never get to try mobile money systems due to complicated registration processes or regulatory requirements, some others become regular users without even registering.

Furthermore, because some users can receive money or make payments over the counter without being registered users and others are automatically registered to mobile money services by their MNO even without their knowledge, it makes very difficult to estimate the real number of users of mobile money services (Davidson and McCarty, 2011; Davidson and Pénicaud, 2012). The fact that mobile money systems accommodate both registered and unregistered users also affects the costs of mobile money with different transaction fees being used for registered and unregistered users, usually with higher fees being charged to unregistered users or for registered users sending money to unregistered users (Gutierrez and Choi, 2014).

Trust is an important pre-requisite for the adoption of mobile money schemes, and if consumers do not trust the platform or the service providers, they will be hesitant to use the platform for financial transactions, especially because for many consumers, their first interaction with the service will require them to hand money to the agent and pay a fee. Therefore, a high degree of trust between the consumers and the service providers must exist before consumers adopt the services (Davidson and McCarty, 2011; ITU-T, 2013b). Consumers often lack trust in new systems until they are widely adopted; moreover, consumers still have to get comfortable using their mobile phone and non-bank retail outlets to conduct financial transactions (Mas and Radcliffe, 2011).

Mobile money schemes can obtain/build trust through advertising, positive word of mouth, trustworthy agents, or through the trust that existing clients already have in

the brand (Davidson and McCarty, 2011). For example, in the case of MNOs, consumers already load their airtime on their phones and trust the MNO to keep track of it. Furthermore, since mobile money schemes provide real-time transactions and transaction confirmation via SMS, this transaction feedback can be a contributing factor to the trust consumers have in the system (Davidson and McCarty, 2011; Kendall et al., 2011a). On the other hand, illiquidity or inability of cash merchants to meet customers' cash-out needs can lead to trust issues. Mas (2011) points out that the ability of cash merchants to handle cash is crucial to the success of mobile money systems because the unbanked still rely heavily on cash, and that the cash merchants are the unbanked's access points to cash. Besides being access points, cash-in/cash-out outlets also act as bridges between cash and electronic economies, thus allowing reliable convertibility between cash and the electronic value (Mas, 2012; Ndiwalana et al., 2010).

Most of the mobile money systems are text-driven, Donner and Tellez (2008); Ndiwalana et al. (2010) argue that this approach needs to be reviewed as these systems often target rural areas which also happen to have low literacy rates; therefore, something must be done to address literacy limitations of the populations.

When it comes to payments in Africa, mobile money is, by far, one of the most researched topics. The focus varies from the factors affecting the adoption and usage of mobile money (Davidson and McCarty, 2011; Ndiwalana et al., 2010), to the different business models and success factors (Camner et al., 2009), and the potential of mobile money to reduce the financial gap in developing countries and provide access to financial to the unbanked Kimenyi and Ndungu (2009); Mas and Sullivan (2011). In terms of industry development, there are over 150 mobile money solutions available on the continent, with Nigeria alone having over 15 different mobile money schemes in the country (GSMA, 2015). Companies wise, MTN, Orange, Airtel, Tigo, and Vodaphone are the dominant forces, with each company having mobile money solutions available in 3 or more African countries (Davidson and Pénicaud, 2012).

Most of mobile money solutions allow users to deposit money into their mobile-based accounts and then make person-to-person payments airtime top-ups, bill payments etc. Despite the large number of mobile money solutions available, and although mobile money schemes have many commonalities, M-Pesa, a product of Safaricom (Kenya) launched in 2007, is one of the most successful mobile payment service world wide

(Kendall et al., 2011b). Currently, M-Pesa has a network of over 80.000 agents outlets and user base totalling 19 million registered users, of which 12 million are active and carry over 6 million transactions daily (Mail & Guardian, 2014). It is also important to note that M-pesa which is provided by the mobile network operator Safaricom in Kenya is also available to users that use different mobile network operators, an approach that differs from some of the other solutions in the continent such as Airtel Money in Zambia which is only available to user that have Airtel as their mobile network operator.

However, M-Pesa is also available in countries such as South Africa, Tanzania, Mozambique, Lesotho and Egypt but in none of these countries has M-Pesa managed to reach the same level success (GSMA, 2015).

Lipa Na M-Pesa is a spin-off product of M-Pesa which aims to encourage M-Pesa users to make retail payments and enables business persons to receive M-Pesa payments for the goods and products they are offering. Lipa Na M-Pesa users are registered business entities with a valid trading licence, and each of them is attributed a till number (or merchant number) which will used by customers to make payments to the said merchant (Safaricom, n.d.).

2.3.4 Digital currencies

2.3.4.1 Virtual currencies

European Central Bank (2012, p.1) defined virtual currency as:

“A type of unregulated, digital money, which is issued and usually controlled by its developers, and used and accepted among the members of a specific virtual community.”

Virtual currencies are often confused with e-money and are said to lack properties of “real” money. These factors, together with the fact that virtual currencies are no longer totally unregulated, led the European Central Bank (ECB) to review and updated the definitions of virtual currencies, passing to defining it as:

“A digital representation of value, not issued by a central bank, credit institution or e-money institution, which, in some circumstances, can be used as an alternative to money” (ECB, 2015, p.25)

Virtual currencies are used mostly to acquire goods and services available within a virtual community and usually have their own denomination system (CPSS, 2012; Gup, 2014). Based on the relationships between real currencies and virtual currencies, CPSS (2012) divided virtual currencies systems in 3 categories, closed, unidirectional (in) and bi-directional (in-out).

In closed virtual currency systems, the virtual currency has almost no link to the real economy (CPSS, 2012; European Central Bank, 2012). There are different ways to acquire virtual currency in closed systems, one of them is paying a subscription fee and being attributed some currency (credits) and using it within the virtual community (CPSS, 2012). The other way is by winning or earning it by performing certain activities inside the system, for example, moving into a new level into a video game. A good example of a closed virtual currency is **WoW gold** currency from the video game World of Warcraft (WoW) which can only be used inside the gaming platform (Gup, 2014). It is important to know that that paying a subscription and being attributed some credits or currency is not the same as directly buying the virtual currency.

In unidirectional virtual currencies systems, real money can be converted to virtual currencies, and the users can then use the virtual currency within the community to buy digital goods or services but cannot convert the virtual currency back to real money (CPSS, 2012; European Central Bank, 2012). Examples are **Facebook Credits** which can be bought with real currency and used to buy virtual goods but cannot be converted back to a real currency.

In bi-directional or convertible virtual currency schemes, users can convert real currency into virtual currency to be used in the virtual community, and virtual currency can be converted into real currency (CPSS, 2012; Rotman, 2014). An example of a convertible virtual currency is the Linden Dollars, currency used in the video game Second Life and acts like a real currency; it can be bought and sold according to exchange rates.

Bi-directional virtual currencies can be used to buy digital or real goods and services ([European Central Bank, 2012](#); [Rotman, 2014](#)).

Convertible virtual currencies can also be classified as centralised and decentralised; it is centralised when they have a central repository and an administrator who controls and executes the conversions from real to virtual currencies and vice-versa, or decentralised when they do not have a central repository or single administrator ([Gup, 2014](#)).

Moola was a virtual currency created by the South African based mobile social network, Mxit. Users could buy moola using their airtime and could use it to buy digital goods such as wallpapers, music skins etc. Users from countries such as Kenya, Namibia, Lesotho and even in the United Kingdom were enabled to buy Moola, which was valued at 1 cent of South African currency (i.e R1 was equal to 100 Moola) ([Mxit, 2014](#)). Currently, there is some uncertainty surrounding the future of the currency after the social network announced it commercial closed and donated its intellectual property to a trust ([Fin24Tech, 2015](#)).

2.3.4.2 Cryptocurrencies

Cryptocurrencies are a subtype of virtual currencies and were defined by [Gup \(2014\)](#) as:

“[Virtual] currencies that rely on complex cryptographic software protocols to generate the currency and validate transactions.”

Some examples of virtual currencies are Amazon Coins, Bitcoin, Linden Dollars, Litecoin, MintChip, Peercoin, and Ripple ([Gup, 2014](#)), it is estimated that currently there are about 500 different cryptocurrencies around ([ECB, 2015](#)).

Bitcoin is probably the most famous cryptocurrency, and half of its fame is due to its success and the other half to the controversy surrounding it.

Bitcoin is a decentralised virtual payment scheme (both, virtual cryptocurrency and payment system) designed and implemented by Satoshi Nakamoto in 2008 and is based on a mathematical formula protected by cryptography ([ITU-T, 2013a](#); [Nakamoto, 2008](#)).

Users can obtain Bitcoins in different ways. One option is to join one of the virtual currency payment schemes that trade with Bitcoin and buy some Bitcoins using real currency, the other is to mine (produce) Bitcoins. Bitcoins are generated (**mined**) using computer power, **miners** use computational resources to solve complex mathematical calculations (Rotman, 2014) and whenever a miner finds a valid solution to this calculation he is rewarded with 25 Bitcoins (CoinDesk, 2013). The value of this reward is halved every 4 years to ensure that the number of Bitcoins that ever existing is limited to 21 million Bitcoins (CoinDesk, 2013; Madise, 2015; Rotman, 2014).

Bitcoin uses peer-to-peer network to facilitate direct anonymous payments between payer and payee without the participation of 3rd parties such as banks or other financial institutions to make the payments or keep transaction records (Gup, 2014; ITU-T, 2013a; Nakamoto, 2008). The transactions records are stored and shared in a public ledger called a block chain that is shared by everyone participating in the peer to peer network (Gup, 2014).

The fact that the **block chain** is shared publicly makes Bitcoin transactions transparent. Nonetheless, despite leaving a digital footprint, Bitcoin users can trade with a high level of anonymity; this thanks to cryptocurrency algorithm, the decentralised nature of the system, and the non-involvement of third-party financial services (Madise, 2015; Nakamoto, 2008). The cryptographic algorithms are used to provide anonymity and to secure the currency by protecting it against third-parties' interference and double spending (Madise, 2015; Nakamoto, 2008).

This high level of anonymity and almost untraceability of Bitcoins transactions makes Bitcoin a financial channel very attractive to individuals involved in illegal activities. The Silk Road was an online market place which closed in 2013 after operating for over 2 years, facilitating the buying and selling of illegal drugs, fake passports, and murder hires via Bitcoins (Gup, 2014). It is estimated that in those 2 years The Silk Road facilitated transactions to the value of 9.5 million Bitcoins which is equivalent to around 1.2 billion US Dollars (Gup, 2014; Rotman, 2014).

Grinberg (2012) states that the lack of central authority makes Bitcoin hard to regulate, this coupled with its built-in anonymity and compatibility with real-life currencies increases the potential Bitcoin has to facilitate illegal activities such as tax evasion or

money laundering; users can buy Bitcoins with funds obtained illegally and then trade their Bitcoin back in exchange of a real currency.

Bitcoin can and has been used to facilitate illegal activities, but Bitcoin-based payment schemes can also be victims of such activities. In November 2013, around 800,000 Bitcoins were stolen from digital wallets (Rotman, 2014), and less than 6 months later in March 2014, Mt. Gox, then the largest Bitcoin exchange, collapsed due to 460 million US Dollars worth of Bitcoin being stolen (McMillan, 2014).

Despite all the negativity around Bitcoin, for merchants accepting Bitcoins means no, administrative overheads, no third-parties involved, no-charge backs from service providers, and because the transactions are irreversible and authenticated by cryptographic algorithms, there is also no risk in accepting payments from strangers without a recognised credit record (ITU-T, 2013a). Advocates of Bitcoin argue that compared to the currently existing payment systems, Bitcoin provides a cheaper and quicker alternative (European Central Bank, 2012), and that its peer-to-peer architecture and low barriers to adoption have the potential to revolutionise the financial services (European Central Bank, 2012; Gup, 2014).

In Africa, cryptocurrencies are slowly gaining space among online retailer and startup companies. A South African payment gateway initially supporting credit card and instant electronic financial transfers opened up its systems to allow all their accounts to receive payments using Bitcoin (PayFast, 2014). This was made possible by a partnership with BitX, with the implementation making Bitcoin activity possible on over 30 000 Payfast accounts, which include major South African online shopping store Takealot (IT-NewsAfrica, 2014). A Bitcoin exchange allows for RSA Rands to be traded for Bitcoins and vice versa and also remote wallets for people to store their coins. First starting out as a South African Bitcoin exchange, it has expanded internationally and now serves over 12 countries (CoinDesk, 2014). Their main goal is to bring virtual currency trust to new markets by maintaining a high security infrastructure. With the existence of a local Bitcoin exchange, opportunities for Bitcoin acceptance and adoption have opened in supporting countries Hans (2014).

Other cryptocurrencies focused solutions on the continent include BitPesa, a money transfer service that uses Bitcoins and allows users in Kenya to convert bitcoins to the

local currency; and Kipochi a mobile-wallet also from Kenya which also allows users to convert Bitcoins to the local currency (CPAfrica, 2013).

2.3.4.3 Airtime as a currency

Pre-paid airtime is a commodity purchased by mobile phone subscribers to enable them to make calls and communicate with other telephone users; it was not long before user-led innovation introduced new and unforeseen utility to paid airtime. MNO discovered that some users wanted the ability to fund or top up the accounts of other users, especially family and friends (Merritt, 2011). Goetz (2009) reports that in rural Africa, some people who have emigrated were buying pre-paid airtime cards and texting the recharge code to family or friends, the recipient then could use the code to load his/her account or go to an airtime reseller and exchange it for cash at a discount price, thus making airtime an alternative currency as it is being used a means of exchange. A study by Heyer and Mas (2009) shows that in Tanzania, even though the exchange of airtime for cash is not legal and is expensive (15%-25% of commission), the service is still so convenient that it presents itself as a real competition to mobile money systems in the country.

Can airtime be used as money? Comninos et al. (2009) point out that MNO systems to track airtime usage already act as bank accounts where credits (airtime) are deposited and stored, and then the accounts are deducted when the user sends an SMS or makes a call. Porteous (2006) goes further and states that airtime emulates some characteristics of money for the following reasons: a) airtime commonly accepted as unit of account and usually is not dominated in time units but rather currency units (i.e. R10 MTN); b) if MNO continues operating and does not impose validity constraints (expire dates) on airtime, then it can be used as store of value; and c) as long it is accepted, it can be used as medium of exchange in societies where remote transfers are not easily available.

However, although airtime is denominated in flat currency, it cannot be exchanged at a one-to-one ratio. Comninos et al. (2009); Porteous (2006) and Goetz (2009) point out that due to taxes and commissions, more than 20% of value of airtime can be lost during the production and distribution, so for every R10 of airtime sold, the reseller only gets R8 in cash; therefore, resellers buying back that R10 airtime (converting back

to cash) cannot do it at a one-to-one ratio to cash because they would be at a loss. [Porteous \(2006\)](#) mentions that the other shortcomings of using airtime as money is the fact that airtime utility is limited to the users (subscribers) of the same mobile network, thus reducing the value it has to other users.

[Comminos et al. \(2009\)](#) argues that airtime can be accepted as currency if it can be used to buy goods and services, and if it can be converted to cash. We already have seen that in some situations, airtime can be converted to cash though not at a one-to-one ratio, but it is also important to note that even though it is not a legal tender, pre-paid airtime is already used to buy goods and services such as sms-bundles, data-bundles, ringtones, wallpapers, and other digital goods. Airtime is also being used as an alternative currency in donation campaigns and TV competitions when the spectators send a SMS to a certain number to vote or donate, and a certain amount of money will be deducted from his pre-paid balance in favour of a beneficiary. These examples show that even when it is not being converted to cash, airtime still can be used to purchase goods and services, digital and non-digital. Thus the transfer of airtime from one user to the other can also be seen as transfer of purchasing power.

On that note, [Porteous \(2006\)](#) highlights that using airtime balance to pay for goods does not represent an issue if the account is post-paid (.i.e contract) but questions that in the case of pre-paid balances, the MNO would not be acting as e-money issuers, and therefore, should obtain a license and be regulated as such. Similar questions were raised by [Madise \(2015\)](#) when referring to the fact that some MNOs such as Airtel Malawi offer airtime in advance to its customers, who will pay back the value with interest at a later stage. In this scenario, the MNO is acting as credit providers although the services are not regulated as a financial product.

The regulations on the use of airtime as a currency vary from country to country, and there still many grey areas that need to be addressed, thus creating uncertainty regarding the legal implications of the use of airtime as a currency. Nonetheless, a cross-country study that involved 17 African countries conducted by [Comminos et al. \(2009\)](#) shows that 7.4% to 58% of the respondents had already transferred money to someone else's phone, and another 4.2% to 14% respondents stated that it was for the payment for goods and services. Therefore, airtime transfers are already playing a big role in developing countries; this together with the high penetration of mobile phones, weak

banking structures and high costs associated with formal banking services in developing countries puts airtime in a strong position to be used as an alternative currency.

Chapter summary

As the reviewed studies clearly show, the informal sector contributes towards employment creation and poverty reduction, especially in developing countries where the formal employment rates are low, and many rely on the informal sector for survival. Despite its size and importance of the informal sector, its economic role is still somehow overlooked and undermined; as a result, informal traders still lack some legal protection and many of the approved regulations look to limit the activities of those operating in the informal sector. The informal traders also have a limitation in terms of access to formal financial services due to lack of documentation, lack of suitable banking products, distance from the available financial service providers etc. As a consequence, many informal traders are limited to use informal financial services or borrow money from relatives in order to suppress their business needs

In terms of payment solutions, we have seen that there is a variety of cashless payment methods available on the continent, that is, card based payments and mobile-based payments. Digital currencies are used on the continent, with South Africa marking a strong presence and offering different solutions in each category. Also regarding payment methods, we have seen their most relevant characteristics.

In the next chapter, we will look at the research methodology and conceptual framework used in this study.

Chapter 3

Research Methodology

Introduction

This chapter is divided into three major sections. [Section 3.1](#) discusses the major concepts of this and the conceptual framework used by the researcher; [Section 3.2](#) introduces the research design used in this study, and it includes the [philosophical position](#) adopted by the researcher, the [research strategy](#) employed in this study, the [unit of analysis](#), [sampling procedures](#), and the [data collection](#) and [data analysis](#) procedures and techniques. [Section 3.3](#) outlines the ethical considerations of the study.

3.1 Conceptual framework

A research theory seeks to explain or understand complex phenomena and it contains concepts that needs to be measured. A conceptual framework provides a solid base for a researcher to conduct an investigation on the given phenomena ([Cavana et al., 2001](#)). A conceptual framework contains the key aspects of the field of study and can be used to guide the processes of data collection, as well as facilitating the analysis and interpretation of the findings ([Smyth et al., 2004](#)).

In this particular study, the researcher investigated the the characteristics and factors which make a payment method suitable or unsuitable for traders operating in the African informal sector. The suitability or unsuitability of payment methods for informal traders

can also be referred to as the ability and adequacy of a payment method to satisfy the payment needs of the informal traders; or in more simple words, it is degree of compatibility between informal traders and payment methods (cash and cashless payments methods).

In order to evaluate the degree of compatibility between informal traders and payment methods, it is necessary to have an understanding of of cash and cashless payment methods and how these payment methods can be evaluated. Furthermore, its also necessary to understand the characteristics needs and limitations of the informal traders.

Some of the characteristics, needs, and limitations of informal traders represented by the central circle on [Figure 3.1](#) have already been identified in the [sections 2.1.1, 2.1.2 and 2.1.3](#) of [Chapter 2](#). The characteristics of payment methods (cash and cashless) and the possible criteria used to evaluate them have already been discussed in [section 2.2](#) of [Chapter 2](#) and are represented by the left and right circles on [Figure 3.1](#).

The different payment methods that will be reviewed in this study, namely: [cash payments](#), [card payments](#), [mobile payments](#), and [digital currencies](#) also have already been discussed in [sections 2.3.1, 2.3.2, 2.3.3, 2.3.4](#) of [Chapter 2](#) and are represented [Figure 3.1](#) by the external input blocks on the left and right of the the evaluation model.

Furthermore, outside the evaluation model [Figure 3.1](#) contains two output blocks with the expected outcomes, namely, the advantages and disadvantages of cash for informal traders, the advantages and disadvantages of cashless payment methods for informal traders, and these two outcomes combined allowed the researcher to understand the gap (if any) between cash and cashless payment methods.

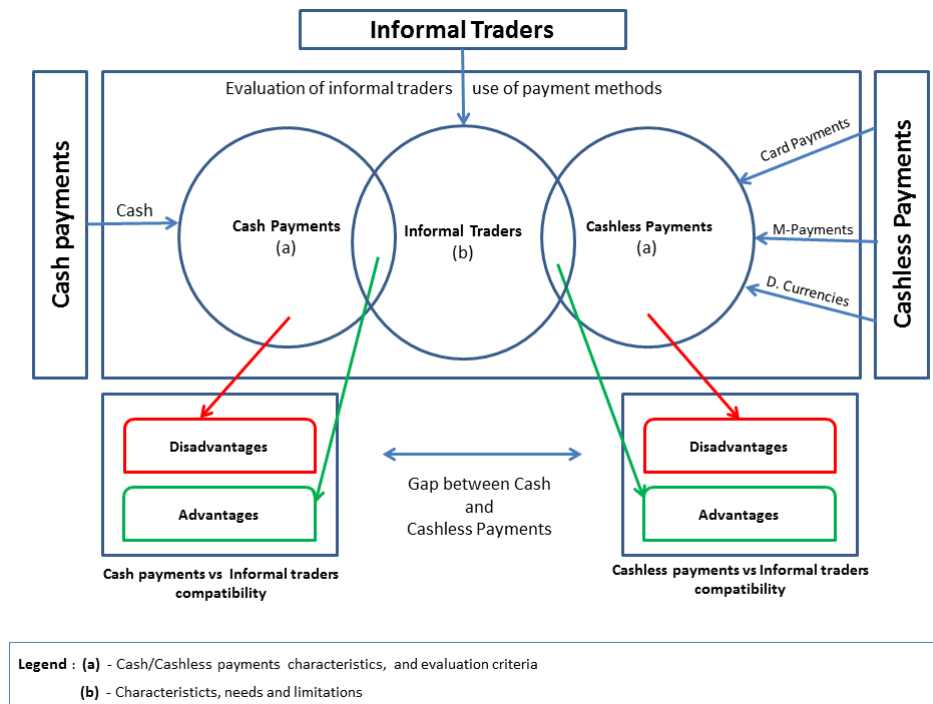


FIGURE 3.1: Conceptual framework

3.2 Research design

Research design is the blueprint of a research study. It illustrates how the different parts of the research process are linked together, and should be structured in a way that will lead to the answers of the questions of the research study. A research design should include research methods, conceptualization, as well as appropriate procedures and strategies to sampling, data collection and data analysis (Bhattacharjee, 2012; Warden, 2011).

The choice of research design can be influenced by the research problem, the researchers's personal experiences, the philosophical assumptions of the researcher and by the audience of study (Saunders et al., 2009)

3.2.1 Research approach and research paradigm

Bhattacharjee (2012) states that research should be shaped by mental models or frames of reference called paradigms. Paradigms consist of shared assumptions or

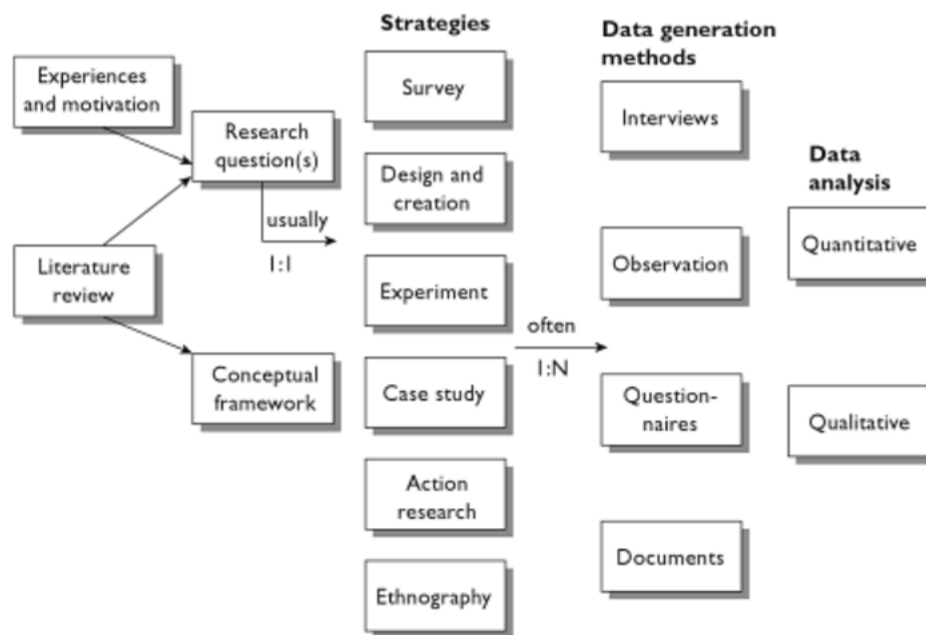


FIGURE 3.2: Model of the research process
Source: Oates (2005)

views about certain aspects of the world, and different paradigms present different views regarding: ontology, epistemology, and methodology (Krauss, 2005; Mingers, 2001; Oates, 2005).

To obtain a rich and meaningful understanding about the use of payments methods in the informal sector from the informal traders' perspective, this study was conducted from an interpretivist stand point, employing a qualitative approach to data collection and data analysis, and using inductive theory-building.

The interpretive paradigm has its foundations in ontological nominalism and epistemological nominalism (Neuman, 2006; Saunders et al., 2009). In research, ontology deals with the researcher's position in terms of what constitutes reality, how society should be viewed, and how can we understand it (Mingers, 2001; Raddon, 2011). Epistemology is the philosophy of nature knowledge, and it is concerned with what counts as valid knowledge in a field of study, how we acquire such knowledge, and what the relationships are between the knower (the researcher) and what is known (the phenomena under investigation) (Krauss, 2005; Raddon, 2011; Saunders et al., 2009).

Ontological nominalism maintains that reality is a construct of human consciousness created through perceptions, actions, meaning and values that people attribute to things. Since people do not experience things the same way and do not attribute the same meaning or value to things, reality cannot be studied independently of its social actors and their interpretation of it (Babbie and Mouton, 2001; Niehaves, 2005; Saunders et al., 2009). Similarly, epistemological nominalism defends that it is not possible to separate reality from people's interpretation of reality and that knowledge should be acquired from non-observable data such as people self-understanding and interpretation of things - the meaning people ascribe to things, beliefs, intentions and values (Babbie and Mouton, 2001; Neuman, 2006)

In order to better study the complexity of social processes, it is characteristic of interpretive research that the researcher not just empathises and engages with the objects of the study (social actors), but also that the researcher submerges himself in the world of the social actors to better understand their views and their interpretation of the world they live and work in (Babbie and Mouton, 2001; Creswell, 2009; Neuman, 2006). As a result, this opens room for the the researcher's own views, interpretation and subjectivity to be brought into the study. Critics point to this as one of the main flaws of the interpretivist approach, because they claim that subjectivity implies lack of objectivity, therefore, the research is non-scientific. Secondly, it is because the inclusion of researcher's own views and interpretation into the study (non-verifiable data) which are shaped by the researcher's experiences, cultural and historical background reduce the chances of the same results being achieved if the study replicated by different researchers (Neuman, 2006; Saunders et al., 2009)

A positivist approach allows the researcher to remove the subjectivity and acquire value-free knowledge, objectively and independent of the social actors, but it would not be suitable for this study because it would not allow the researcher to:

- capture the informal traders' perceptions about payment methods and the value they attribute to it;
- identify if there are any hidden factors that make cash suitable for informal traders; and

- to obtain an insight into the complexity of the informal trading process, and how these processes are affected by the informal traders's culture and context.

A critical research approach would enable the researcher to produce the same kind of knowledge as the interpretivist approach, but was not chosen because the researcher does not look at informal traders as a marginalised group. Even though informal traders seem to be left out of the electronic payment revolution, these alternative payment options are available to anyone who wants to use them, and although there are some barriers to the adoption of these payment solutions, they are not restricted to informal traders.

3.2.2 Research strategy

Research strategy is concerned with the approach used by the researcher to answer the research questions. There are a number of different research strategies such as action research, archival research, case studies, ethnography, experiments, and grounded theory (Oates, 2005; Saunders et al., 2009). The strategy selected by researcher for this particular research project was case study; Case studies can be used for theory building or theory testing and are ideal for enquiries seeking to answer how or why questions, which focus on contemporary events and do not require control of behavioural events (Bhattacharjee, 2012; Feigenbaum, 1995; Yin, 2013).

Robson (1993, p.146) defined case study as “a strategy for doing research which involves an empirical investigation of a particular contemporary phenomenon within its real life context using multiple sources of evidence”. Yin (2013) emphasises that in case study research, the boundary between the phenomenon under investigation and the context is not clearly defined. This makes case studies different from other research strategies such as experiments where the the context in which research takes place can be controlled by the researcher (Saunders et al., 2009).

Case studies also differ from other other research strategies such ethnography and grounded research because both theories are developed from the data collected and analysed by the researcher, while case studies allow the use of theories and/or conceptual categories to guide data analysis (Meyer, 2001). History is also different from case

studies because case studies are focused on a contemporary phenomenon or events whilst history focuses on events from the past.

METHOD	(1) Form of Research Question	(2) Requires Control of Behavioral Events?	(3) Focuses on Contemporary Events?
Experiment	how, why?	yes	yes
Survey	who, what, where, how many, how much?	no	yes
Archival Analysis	who, what, where, how many, how much?	no	yes/no
History	how, why?	no	no
Case Study	how, why?	no	yes

FIGURE 3.3: Research strategies (methods) and relevant situations
(Feigenbaum, 1995)

In order to understand how cash and cashless payment methods differ from the perceptions of informal traders, multiple case study were done. The first case study was conducted with informal traders in Cape Town - South Africa, and the second case study was conducted with informal traders in Luanda - Angola.

3.2.3 Units of analysis

According [Bhattacharjee \(2012, p.18\)](#) a unit of analysis is the person, collective, or object that is the target of the investigation; the unit of analysis is the entity on which the study is focused and about which generalisations will be made. In this study, the units of analysis were the the payment methods.

3.2.4 Units of Observations

[Mugenda and Mugenda \(2003\)](#) defined the units of observation as the entity from which the researcher measures the characteristics or obtains data the required for the study; the units of observation can be a person, collective or an object from which data is observed, systematically collected. In this study, the units of observations were the informal traders in Cape Town and the informal traders in Luanda.

3.2.5 Sampling

The research population of a study are the large group of people or items with the characteristic the researcher wishes to study, it is the group from which the sample is drawn and to which the results from the sample are generalised to (Bhattacharjee, 2012; Neuman, 2006). Sampling is the process of selecting a small subset of a population of interest (research population) with the objective of making observations and statistical inferences about them (Bhattacharjee, 2012)

The research population of this study are the informal traders in Luanda, Angola and Cape Town, South Africa; both national and foreign traders were considered as part of the research population.

Non-proportional quota sampling was used to ensure that informal traders in different categories such as hawkers, mobile street vendors, community market vendors (flea markets, local markets, and speciality markets) were included.

Due to the fact that most of the traders only used one payment method, namely: cash; the researcher used purposive sampling which is a non-probability sampling method, to ensure that in each city at least two traders that accepted another payment method besides cash were interviewed. As most of the participants in this study represented the *typical case* (traders that only use cash), the use of purposive sampling allowed the researcher to capture insights on the *deviant case* (traders that use more than one payment method), thus making the results more representative of the target research population. Purposive sampling relies on researchers' judgement therefore is prone to subjectivity, however, in this study the choice of the *deviant cases* depended mostly on the participants acceptance of an alternative payment method and was not so reliant on the judgement of the researcher.

However, since the majority of the traders only used one payment method there was no easy way that the researcher could use to identify the deviant cases; for this reason the researcher also used snowball sampling also called referral sampling in order to be able to identify those traders who used multiple payment methods. According to (Bhattacharjee, 2012; Saunders et al., 2009) snowball sampling consists in identifying some of the cases and then ask those cases to identify further cases; and it should be used when the cases are hard to identify. In this study only the deviant cases where

hard to identify, but both traders which represented the typical case and traders who represented the deviant case could help to identify further deviant cases.

3.2.6 Data collection

Case studies are often associated with multiple sources of data such as documents, archival records, interviews, surveys, direct observations, participants observations and physical artefacts (Bhattacharjee, 2012; Saunders et al., 2009; Yin, 2013).

According to Mouton (1996), triangulation (the use of multiple sources of data) increases reliability of the observations; the previous statement is based on the assumption that because various methods complement each other and can balance each other's short comings. For this reason, multiple sources of data were used in this study. The researcher used primary and secondary data sources; the primary data sources were interviews and observations, and the secondary data sources were research papers published in fields related to this study

In-depth face-to-face interviews were conducted with the participants; the interviews were semi-structured to allow participants to express their experiences and views regarding the different payment methods. In-depth interviews allowed the researcher to get detailed perspective of how informal traders perceived payment methods and the context and factors which influenced their perceptions. The interviews were conducted in a common language spoken by the participants in each country, in Angola the interviews were conducted in Portuguese, while in South Africa the interviews were conducted in English, and in both cases the interviews were recorded using an audio recording device to allow the researcher better focus on the answers being given by the participants.

Direct observations were also used as a data collection method on this study. Observations were used to allow the researcher to collect information about events such as social interactions and also to collect information about things that participants might be unable to express. Notes collected from field research through direct observations were useful to help the researcher to determine if there is a difference between how they operate.

The participants were observed for a period of 90 minutes; the researcher did not take part in the informal traders activities and acted as a mere spectator. Since the interviews were conducted at the informal traders' natural setting while they were working, the observation period included the period while the interview was being conducted.

Secondary data was collected from documents by means of analysis of the relevant literature. Due to informal traders' limited exposure and familiarity with some payment methods, the researcher had to refer to previously published papers in order to obtain insight on populations previously studied and with exposure to different payment methods.

3.2.7 Data analysis

The aim of data analysis is to create an understanding of the different elements that comprise the collected data; the process involves splitting data into manageable patterns, themes, trends, and relationships ([Mouton, 2001](#)).

To be able to create an understanding of the data collected from the interviews, all the recorded data from the interviews was transcribed before being analysed; the data from the interview conducted in Angola was analysed before it was translated to English to ensure that some details of the participants answers were not lost in translation. In the first stage of the analysis process, all the notes and transcripts were read, and the data that was not considered relevant to the study was discarded.

In the second stage, the remaining data was read again, and the key terms that formed the broad categories or themes were identified; similar phrases were grouped together and placed under those categories; some sentences were placed under multiple categories to facilitate multiple interpretation.

The third stage consisted of identifying possible sub-categories in which the contents could be grouped; after the categorisation was refined, the data was interpreted within the context of the informal traders. The themes, categories and sub-categories identified originated from terms or phrases used by the participants and also from key terms and aspects from the conceptual framework and the literature.

The other stages of analysis included: identifying possible relationships between the categories, comparing the emerging findings against findings from the literature and conflicting theories, and comparing the emerging findings against the findings across the other cases.

3.3 Ethical considerations

Research studies must be methodologically and morally sound, and research ethics refer to the rights of those subjected to or affected by the study, and the appropriateness of behaviour of the researcher towards them (Saunders et al., 2009). In this study, the research ethics were addressed by obtaining approval from the university before conducting data collection. A research proposal which contained the research methods and procedures to be used by the researcher was presented to the faculty's research committee and found to be in line with the code of conduct of the university.

Permission to conduct data collection was also obtained from the participants, participation was voluntary, and only participants able to give informed consent were involved. All of the participants signed the consent form annexed in Appendix A and were informed of their rights to refuse to participate on any stage of the study, including their right to abandon the study if they wished to, without suffering any negative consequences. Before interviews, participants were also asked for permission for the interviews to be recorded, no sensitive information about the participants were asked, and participants were assured that their answers would be kept confidential and that their anonymity would be preserved.

The research did not involve any unethical behaviour, and the research methods and procedures did not have any negative impact on the participants.

3.4 Chapter summary

This chapter presented the different theoretical and practical guidelines that were used by the researcher to enable him to successfully complete this study. The guidelines include the conceptual framework used by the researcher as well as the research design

used by the researcher, which included the research approach, and research strategy, unit of analysis, sampling, data collection, data analysis and ethical considerations of the study.

Chapter 4

Case Studies

Introduction

The chapter is divided into two main sections and will cover the cases that were under study in this research project. [Section 4.1](#) presents the area of Cape Town, the field work conducted there and the participants that took part in the study. [Section 4.2](#) presents the city of Luanda, the field work conducted there and also the participants that took part in the research.

4.1 Informal traders in Cape Town

4.1.1 The case context

Cape Town is one of South Africa's major cities. The informal sector has a strong presence on the city but for the purpose of this study, the focus was on the traders operating in the city's central business district (CBD).

The informal sector in Cape Town is quite well regulated, particularly in the CBD, and there are very few street vendors operating at the traffic lights, or roaming through the city selling goods. This practise is more common inside the train stations where traders move through the carriages of the trains about to depart selling to their goods. Most of the mobile street vendors in the city are ice cream sellers or food sellers operating from

their caravans, and even those have to adhere to some food safety standards stipulated by the City of Cape Town (CoCT). The activities of hawkers are also well regulated as traders are required to have a trading permit and can only operate within the trading bays allocated to them by the CoCT. The city has a limited number of trading bays available which are very well distributed through the city centre.

Besides street vendors and hawkers, the CBD also has a variety of speciality markets and flea markets, the most popular being the Green Market Square, a speciality market for arts and crafts. The Adderley Street Flower Market is a speciality market for flower sellers; the Cape Town Station Mimi Market, which is located on top of the Cape Town train station; and the Grand Parade flea market which is only operational on Wednesdays and Saturdays.

4.1.2 Field work

The interviews in Cape Town were conducted between the 8th and 12th of December 2014 and included street vendors at the Cape Town train station, hawkers at St Georges Mall, as well as market vendors at the Green Market Square and the Cape Town Station Mini Market. A total of 16 interviews were conducted, and of the participants, 10 were males, of which 8 were foreigners; 2 were South African citizens and the other 6 participants were females, of which 1 was a South African and the other 5 were foreigners. The researcher tried to interview more local traders, but the majority refused to participate, and those who accepted wanted to communicate using local languages such as Afrikaans or IsiXhosa, which are languages that the researcher is not familiar with and for these reason, some of the local traders could not be interviewed.

4.1.3 Street vendors

The interviews conducted with street vendors included street vendors operating inside Cape Town train station and hawkers operational along St. Georges Mall. It is important to mention that despite the name, St. George Mall is not an actual mall but a popular street with a significant presence of informal traders, all of which operate in trading bays allocated to them by the CoCT. At the Cape Town train station, 4 interviewees were mobile vendors operating along the train platforms and all of participants were

females, 2 from Angola, one aged over 45 and one aged between 26-35; the other 2 participants were also aged between 26-35 and one was from Congo and other from Congo DRC. The participants combined had an accumulated total of more than 6 years of informal trading experience, the most experienced having 3 years of informal trade and the the least experienced having 4 months.

At St. Georges Mall, 4 more interviews were conducted with hawkers, and of the participants, 3 were males and one was female. The female was a South African citizen aged between 26-35 and of the other 3 participants, one was a male from Malawi also aged between 26-35 whilst the other two were from Senegal and Somalia and both were aged between 36-45 years. The participants had an accumulated total of over 24 years of informal trading experience, with the least experienced being in trade for only 8 months and the most experienced being in trade for 9 years.



FIGURE 4.1: Street vendor at Cape Town train station



FIGURE 4.2: Stall at St Georges Mall, Cape Town

The street vendors in Cape Town signed the consent form in [Appendix A.1](#) and were asked to respond to questions in [Appendix B.1](#), the answers from the street vendors in Cape Town can be found in [Appendix C.1](#)

4.1.4 Market vendors

The interviews with market vendors involved market vendors at the Cape Town Station Mini Market located at the deck of the Cape Town train station and traders at the popular Green Market Square. At the Cape Town station deck, 4 interviews were conducted, and of the participants, 2 were males aged between 26-35, one a South African, and other from Uganda. The other two were also male, one from Zimbabwe aged between 36-45 and the other from Ghana aged over 45. Combined, the traders had over 28 years of informal trading experience, with the least experienced of them being in the trade for 2 years, and the most experienced being a trader for over 16 years.

The last set of interviews in Cape Town were conducted at the Green market square, and 4 interviews were conducted; of the participants, 3 were males, and one was a female. The female participant was from Nigeria and was over 45; of the males, one was a South African aged between 26-35, the second one was from Zimbabwe aged between 18-25 and third one was from Eritrea aged over 45. Combined, they had over

25 years of informal trade experience with the more experienced being in trade for over 14 years and the least experienced being in trade for only 11 months.



FIGURE 4.3: Stalls at the Green Market Square, Cape Town

The market vendors in Cape Town signed the consent form in [Appendix A.1](#) and were asked to respond to questions in [Appendix B.1](#), the answers from the market vendors in Cape Town can be found in [Appendix C.2](#)

4.1.5 Interview outcomes

The interviews in Cape Town were conducted successfully. However, the majority of the participants in Cape Town did not give the researcher permission to record the interviews, and it turned out to be a challenge for the researcher to keep the flow of the interview while paying attention to the participants and writing down the responses. The researcher tried to keep a balance between capturing detailed answers and keeping reasonable interview times. Furthermore, during the stage of analysis of the data, the researcher realised that the interviews questions did not cover all the topics under investigations and therefore were not sufficient to help the researcher to answer some of the the main questions in the study. After further analysis of the situation, the researcher realised that the questions asked were not broad enough and that the interview questions were not developed in alignment with the main research questions under investigation.

The researcher used the short-comings of the first interviews to develop and new set of interview questions, and this time, the questions were more exhaustive and in alignment

with the main research questions and sub-questions. Unfortunately, the researcher was not able to conduct a second round of interviews in Cape Town because by this time, he was already in Luanda, Angola for the second stage of the field work. The interviews in Cape Town did not shed light on all topics under investigation but still played a crucial role in the completion of this study.

4.2 Informal traders in Luanda

4.2.1 The case context

Luanda is the capital of Angola, and unlike Cape Town, the presence of informal traders throughout the city are much more visible and far less regulated. The government has been trying to clamp down on the activities of informal traders in the city but so far, have not managed to do so. Traders operating at the traffic lights or on the side of the road selling food, drinks, electronics, airtime, clothing items, etc, are a common sight for drivers and pedestrians.

Luanda has many informal markets, amongst the most famous are: Market of : Escongolences, São Paulo, Trinta, Benfica, Tunga Ngo, and the market of Roque Santeiro. The Roque Santeiro market which once was considered the biggest informal market in Africa, but now the traders have been relocated to an area in Panguila and the vacated space will be used for real estate developments.

The participants that took part in this study were market vendors operating at the Market of Escongolences (Mercado dos Escongolenses), the Benfica Crafts Market (Mercado do Artesanato do Benfica), and at the Independence Square (Praça da Independência). The street vendors that operated in different points of the city and in Luanda they are mostly known as Zungueiros (males) or Zunguieras (females).

4.2.2 Field work

The interviews with informal traders in Luanda took place between the 7th and the 18th of May 2015. A total of 14 traders were interviewed, of which 8 were females and the other 6 participants were males - all Angolan citizens. The interviews with the

bank consultants were conducted between the 16th and the 24th of February 2016 and involved 3 participants of which 2 were males and 1 was a female.

Unlike Cape Town, in Angola, the local traders were more willing to participate in the study in relation to the foreign traders, and for this reason, no foreign traders were interviewed for this study.

4.2.3 Street vendors

The street vendors that took part in this study were street vendors operating in different areas of the city of Luanda. In this study, 6 street vendors were interviewed, of which three were hawkers and the other three mobile street vendors. Of the participants, two were females and four were males; two of the participants were aged between 18 and 25 (1 male and 1 female), and the others were aged between 26 and 35 (1 female, 4 males). Combined, the participants have more than 30 years of experiences as informal traders, with the participant with less experience having only 8 months experience as an informal trader while the participant with the most experience have been trading for 9 years.

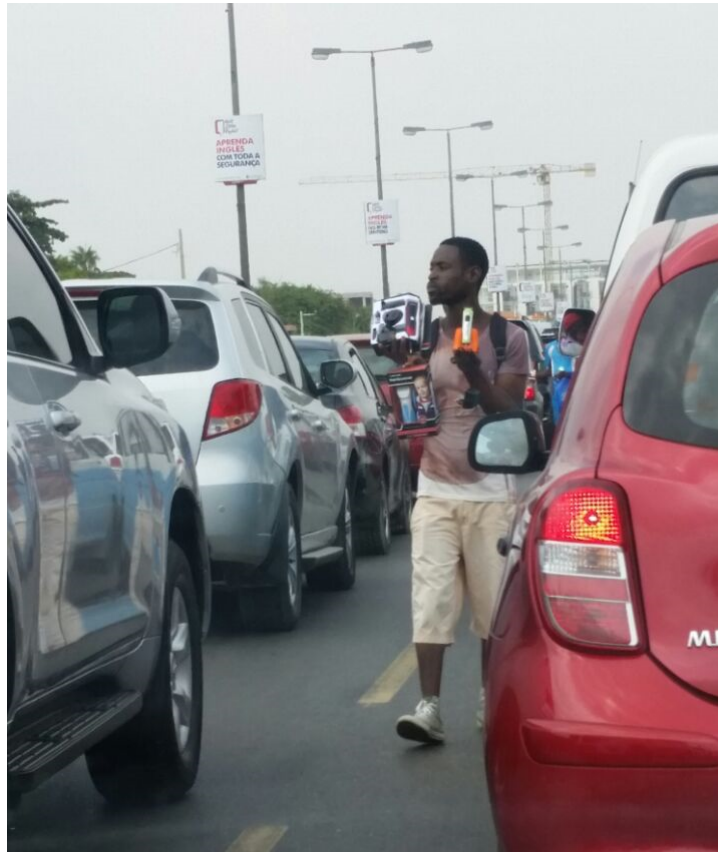


FIGURE 4.4: Street vendor operating in the middle of the road, Luanda

The street vendors in Luanda signed the consent form in [Appendix A](#) and were asked to respond to questions in [Appendix B.2](#), the answers from the street vendors in Luanda can be found in [Appendix C.3](#).

4.2.4 Market vendors

The market vendors that took part in this study are divided into three groups namely: the vendors operating inside the Escongolenses Market (Mercado dos Escongoloenses), the arts-crafts vendors which were the traders operating inside the Benfica Crafts Market (Mercado do Artesanato do Benfica), and the traders at the Independence Square (Praça da Independência). The Escongolenses Market is one of the most popular markets in Luanda and was selected because of the high density of traders operating inside and outside the market. The Independence Square was selected due to its rising popularity but the traders felt intimidated by the management of the market and only one traders agreed to participate in the study. The Benfica Crafts market was selected

because it is the only crafts market in the province and because the researcher believed this group of traders had some distinct characteristics.

Three market vendors were interviewed at the Escongolenses Market, one of the participants was a male aged between 18-25 and the other two participants were females aged between 26-35 and 36-45; combined, the three participants had over 35 years of informal trading experience - the more experienced trader having over 16 years of experience and the less experienced having only four. At the Benfica Crafts Market, four trader were traders interviewed and all four were males were males - one was aged between 26-35, two between 36-45 and one over 45. The four combined to a total of 51 years of informal trading experience; the least experienced has 7 years of informal trading and the most experienced has 20 years. At the Independence Square the only trader interviewed was a female over 45 years old, and with more than 30 years of experience in informal trade; this participant turned out to be a trader that operates in the market of São Paulo during the week and only operates at the Independence Square on Saturdays.



FIGURE 4.5: Escongolenses Market, Luanda



FIGURE 4.6: Stalls at Independence Square, Luanda



FIGURE 4.7: Stall at Independence Square with a board indicating acceptance of card payments, Luanda



FIGURE 4.8: Benfica Arts Craft Market, Luanda

The market vendors in Luanda signed the consent form in [Appendix A](#) and were asked to respond to questions in [Appendix B.2](#), the answers from the market vendors in Luanda can be found in [Appendix C.4](#)

4.2.5 Bank consultants

After the interviews with street vendors and market vendors were analysed, the researcher identified the need to interview bank consultants in order to obtain a different angle on the informal traders' use of payment methods, and cross reference with the answers given by the traders.

Interviews were conducted with consultants from 3 different banks namely: Banco de Fomento Angola (BFA), Banco de Investimento e Credito (BIC) and Banco Economico, which are 3 of the top 5 private banks in Angola. One consultant from each bank was interviewed, thus making a total of 3 participants with a combined experience of

over 27 years in the banking sector. The researcher attempted to interview more bank consultants but could not reach further participants.

The bank consultants in Luanda signed the consent form in [Appendix A](#) and were asked to respond to questions in [Appendix B.3](#), the answers from the bank consultants in Luanda can be found in [Appendix C.5](#)

4.2.6 Interview outcomes

The interviews in Luanda were conducted successfully, and the researcher used a improved version of the interviews questions used in Cape Town. As expected, the different set of questions yielded a different set of answers; this was positive because it allowed the researcher to obtain more exhaustive answers which were also related to the topic under investigation.

However, the differences in the set of questions and the different set of answers made it difficult for the researcher to use the answers for a cross-country comparison.

4.3 Chapter summary

This chapter introduced the cases under investigation, the field work that was conducted in each geographical location and the contribution they had to the study. In the next chapter, the results of the interviews conducted by the researcher are discussed.

Chapter 5

Research Results

Introduction

In this chapter the results, from the interviews are presented. The chapter is divided into two major sections, each covering the results for the different geographical locations: [Section 5.1](#) contains the results of the interviews in Cape Town and [Section 5.2](#) contains the results of the interviews conducted in Luanda. The interviews in Cape Town were conducted with street vendors and market vendors operating in the city centre, while the interviews in Luanda included street traders, market vendors and also bank consultants from different private banks in the country.

5.1 Case 1: Informal traders in Cape Town

5.1.1 The case of street vendors

The large majority of street vendors in Cape Town reported to own a cell phone and reported to be using the cell phones mostly to talk to family, friends, and social media platforms. However, a few street traders also reported using their cell phones for businesses purposes (i.e. talk to clients and suppliers); most of the participants also reported to loading airtime multiple times a week, with the most common airtime recharge values being R5 and R12.

Many of the participants reported to street trading as their only job. Furthermore, none of the respondents had another source of income besides informal trading. Many participants also reported having academic qualifications equivalent or superior to grade 12 from their countries of origin but stated that they cannot get formal jobs because they lack proper documentation; the participants stated that they have turned to informal trade for survival.

The participants reported not having any issues with trading as it is a business that requires minimum investment, and most of the participants started the business using their own capital without financial assistance. However, one the participants reported that she did not have even a cent when she arrived in Cape Town and used to beg at the station and then used the money she received to buy items to sell and has not stopped ever since.

The traders at Cape Town station mostly sold sweets, chips cookies and cool drinks, and the prices varied from 20c to R15. Most of the participants reported to having around 50 clients daily or more, and the traders at St. Georges Mall sold a large variety of items, from sweets, chips and cool drinks to clothing items and speciality items such as paintings. Amongst the traders, the prices varied from 25c to R15 or from R60 to R400 and have, on average, 3-20 customers daily. However, participants from both groups considered themselves to be running very small businesses with very low profit margins.

The street vendors demonstrated an awareness of other payment methods with almost all participants knowing one alternative payment method besides cash. Debit card was a payment method known by almost all of the participants having heard of it. Internet payments and money transfer schemes were the other methods mentioned by participants; however, none of them use or have seen any other payment method besides cash being used in the informal sector.

None of the participants accepted any other payment besides cash, and the reason for traders to prefer to use cash is that cash is simple to use and is also used by everybody. The participants also indicated that they do not need another payment method as they run a very small business with low profits; however, some of the traders indicated that they would use alternative payment methods such as card payments if they were free.

Some of the traders in St. George Mall reported that it is not unusual for them to deal with tourists who want to pay with cards. When asked how they deal with such customers, traders explained that in most of cases, they lose the sale because they do not have card machines, and in a few cases, if the client is willing, then they go to the ATM with the customer, the customer withdraws the money and makes payment. Some of the traders at St Georges Mall demonstrated some interest in obtaining a card machine, and a few stated that the only reason they do not have it yet is because they lack access to it. This lack of access was mostly due to lack of proper documentation; traders lack of documentation was an issue not only blocking traders access to card payments but is also the reason why most of the participants do not have access to banking services at all.

Despite the interest in card payments, the traders also demonstrated some concerns related to the costs involved in the use of such payment methods; however, none of the participants had any idea of how much those costs were. On the other hand, the street vendors at the train station reported never having a client who wanted to pay using a card and did not believe customers would be likely to use their cards to make such small payments.

Even though some traders have an interest in alternative payment methods, most of the traders reported that even if they accepted other payment method besides cash, cash would still be their favourite payment method. The reasons for traders choosing cash varied; some of the participants considered cash to be very suitable because they live on a day-to-day basis and prefer to have cash in their hand because at the end of the day, they need to use some of the money from the sales to take home and buy food supplies. Another reason given by traders in preferring money on hand is avoiding bank charges, however, all participants stated that money in the bank would be safer than money on hand.

Traders did not prefer cash only when they are within the role of merchants but also reported to prefer using cash even when they are customers. Only one of the traders reported that he would prefer to use cards when buying to better control his spending while a large majority stated that they would prefer cash because their suppliers only accept cash and also because when they pay using cash, they can negotiate the prices with the suppliers and are more likely to get discounts.

5.1.2 The case of market vendors

Traders interviewed at the Green market Square and the Cape Town Train Station Mini Market all reported to owning a cell phone; just like the street traders, most of the street vendors also use their cell phones to talk to family and friends and for social media websites. However, more than half of the market traders also reported to coordinate business-related activities with suppliers, partners or helpers (i.e. asking a helper to bring a specific product which is in the warehouse or at another stall); these traders also reported to loading airtime multiple times during the week, mostly due to the fact that the phone is used in activities that support the business.

Most of the market traders explained that they turned to the informal sector due to their inability to acquire formal jobs. None of the traders reported to having difficulties starting their business or needing funds in order to do so. Most of the participants did not open up about the origin of the funds but stated that they established their businesses with their own capital. All participants had informal trade as the only source of income; however, not all were owners of the business. Some of the traders were employed as traders and were selling products for third parties, while others had the informal trade as their only source of income but had multiple stalls which were being run by paid employees.

The traders at the Cape Town Train Station Mini Market sold a variety of products including beauty products, electronics and clothing items. The traders at the Green Market Square also had a variety of items, but there were some art pieces, traditional local items and locally branded souvenirs.

Market vendors demonstrated a good awareness of other payment methods besides cash, with the debit card emerging as the most popular amongst the participants, with the credit card being mentioned by half of the participants. One of the traders also demonstrated familiarity with cheques but stated that it is a payment method that is not used in the informal sector. This was a contrast with the card payments which the traders admitted to already having seen in use in the informal sector.

Despite all of the traders having heard of other payment methods besides cash, only two of them accepted other payment besides cash, and both of the traders are located at the Green Market Square; the first one uses his own machine to process card

payments and stated that because of the bank fees, he only accepts card payments from the values of R150 or more, and anything less that that should be paid in cash. The other trader does not have a card machine but uses a card machine belonging to a third-party in order to process payments. The trader uses a card machine at a nearby shop at the cost of 10% of the transaction value, and after the transaction is processed, the trader receives the 90% of the amount he is entitled to in cash. Here, it is important to note that receiving money in cash immediately was the major factor behind traders acceptance of such high fees.

Regarding the traders who only accept cash, some did not show interest in using alternative payment methods. The traders stated that they prefer cash because that is what the majority of the customers use, and therefore, card machines would not be useful to them as customers only use it at the big stores. Other traders had a different view and showed interest in using card payments while some of them pointed out that they have lost customers because they only accepted cash. Amongst those interested, some stated that they have been unable to use alternative payment methods due to lack of access, mostly due to lack of documentation, while other traders had documentation and even had bank accounts but still did not meet the requirements to secure banking products such as a card machine. Furthermore, amongst those interested in card machines, there were also a group of traders that believed they could not afford the costs of a card machine, which they considered to be expensive.

When traders were asked how they would like to get paid if they accepted multiple payment methods, cash was still the number one choice. Most of the traders justified their choice due to the fact that cash has no costs involved; besides that, traders also pointed out that cash payments are important to them because they need to reinvest in their business and with cash in hand, they can buy more items to sell, make payments to parties and also take some of the money home.

Of all of the participants, only one did not see the value of having cash in hand, and the trader stated that he would prefer to be paid through a card because it is safe and would save him a trip to the bank because when he gets paid with a card, he no longer needs to go to the bank to deposit the money. Transportation of cash, especially in large volumes, was a concern raised by many traders. In fact, most of the traders interested in card payments confessed that one of the reasons they were interested in

it was because it offers better security. Some traders pointed out that even if somebody steals a card machine, they still would have no access to the funds. However, besides the security needs of traders, they said that they would rather have money on hand for mainly two reasons: one being that traders want to avoid the costs related to payment processing and the other being that cash on hand is very valuable for traders and their business-related activities.

Cash was also the payment method of choice for traders when they are the ones making the payments. Most of the traders pointed out that they prefer payment in cash because everybody accepts it, and that they can get discounts when paying with cash. Some of the traders also pointed out that most of the time, it is the only method they can use to pay because no other payment method is accepted by fellow traders or suppliers.

5.2 Case 2: Informal traders in Luanda

5.2.1 The case of street vendors

The participants revealed that they became street vendors because it was the only jobs that they could get. Only one of the vendors already had a formal employment but for some reason, lost his job while all the others stated that they have tried but were unable to find formal jobs and saw the informal sector as their last resource to address their financial needs.

“I did not have any other option, I need to work but could not find a job that is when i decided to start selling” - LDMST003. “My mom also sells; but the money is not enough for all of us, I wanted to help her so I also started selling” - LDMST002. “After I lost my job I could not just sit at home waiting for another job, I had to find a way of making money” - LDMST005.

The majority of the participants started their business using their own funds; however, some of the participants confessed to some difficulties in raising the funds required. One of the vendors managed to do so with financial support from family members, and the other revealed that he had to sell some personal items in order to raise the money to start his business.

“I did not know where to start, I did not have any money or anyone who could borrow me the money, so I had to sell some of my things and buy business with that money; that is how I started” - LDMST001. “I didn’t have money to start, the money to buy my first business came from my mom’s business” - LDMST002. “I have friends that were already selling, they are the ones that helped me to start selling” - LDMST004.

Even though some of the traders did not have the funds to start their business, none of the participants considered or showed interest in obtaining a loan from a financial institution in order to start their businesses;

“I don’t like to owe anything to anyone, banks are even worst you always pay more. I would rather ask my friends to borrow me money than to ask the

bank” - LDMST005. “I cannot go to the bank and ask for money, the bank is not for me, if I need money i ask my husband or my family” - LDMST006.

Many of the participants consider street trading to be a business with very low profit margins; the participants explained that many of the customers seeking products in the informal sector are usually customers with limited buying power and often try to negotiate for better prices. Furthermore, the participants also revealed that because it is common for two or four vendors selling similar products operating next to each other, they often they have to compete for the customers who end up having the upper hand when negotiating the prices.

“It is not easy my man, the clients have too many options, there are too many of us selling the same thing, if my prices are not flexible they will just go to the next one” - LDMST005. “You can see, we are too many, and everybody wants to make a sales so we have to fight for the customers” - LDMST003. “Just because I’m selling doesn’t mean I’m making profit. Sometimes we just sell [the products] at same price we buy it” - LDMST001. “My profit here is almost nothing, i must make 7 to 10 sales to start seeing money” - LDMST003.

The working conditions of street vendors emerged as another concern of the participants. Having to work under the sun for the whole day, walking long distances, risking their safety by standing in the middle of traffic and working too hard for very small compensation are some of the examples given by street vendors of their unfavourable working conditions. The other examples were related to the nature of street trading itself and included not being able to take a day off without losing income and also not being entitled to retirement. For these reasons, some of the participants do not consider street vending to be an actual job.

“It is not a job, because you cannot retire; as long as you live and you need to eat, then you must sell, everyday you must sell” - LDMST005. “For me the hard thing is having walk around with the bucket, especially now that i must also carry the baby” - LDMST004.

When asked why they do not sell inside the markets, the participants stated that the allocated areas are not sufficient for the number of traders in the province; traders also pointed out that often, they are relocated to areas not easily accessible to their clients.

The participants recognised that the government made some attempts to provide traders with better trading environments, but the traders are still not satisfied mainly for two reasons. Firstly, whenever the government closes a trading site either to relocate people or to rebuild it, the new site always has a smaller capacity in relation to the previous one, as a result, some traders are forced to operate outside of the markets, move to a different market, or resort to trading on the streets. Secondly, usually, when the traders are relocated, the new site not only has smaller capacity but they are also located at a further distance from the previous one - which not only becomes an inconvenience for traders but also becomes a problem for the customers who now have to travel further to buy goods.

Most of the traders believe that relocation to other trading sites causes more harm than good and affects their business in a negative way. Some of the participants also pointed out that the supply is way bigger than the demand, and that traders depend on the day-to-day sales in order to eat. Therefore, the traders have to go out there and meet the clients where they are and allow them to purchase items from the comfort of their cars instead of forcing them to travel far and walk through crowded markets.

“No one wants to go there because its far, we want to stay here [the local market], but there is no more space” - LDMST001. “Before the contraction work this market used to have much more people” - LDMST005. “The new market is very beautiful but clients will not follow us there, we must stay where the our clients are” - LDMST004.

The participants feel that there is a lack of regard for street vendors from the government and legal authorities. Traders believe that instead of promoting micro-business which contributes positively to poverty reduction, the government is trying to fight those businesses and push more people into unemployment by passing laws that cripple the development of the sector. The participants do believe that the government is more concerned about projecting Luanda as a modern city to the rest of the world than it is concerned with the socio-economic conditions of the street vendors trying to earn an

honest living. The participants reported that many street traders are victims of police brutality on a daily basis, and it is common for the economic police (most know as fis-cais) to chase them, confiscate their products and even assault and arrest them. For these reasons, some traders accused the government and the regulators of putting the aesthetics of the city above human dignity.

“Just count how many people are here, there are too many families that depend on those business; when they make this laws they do not think about us because if we cannot do this how are we going to feed our children?” - LDMST005. “We cannot sell in peace, here you must always be alert, because if they [the fiscal police] come and catch you, they will beat you up and take you and your business” - LDMST003. “What they [the fiscal police] are really doing is taking the bread out of our mouth, they take our business and treat us like criminals but we are not criminals, we are just working.” - LDMST002.

“We also do not want the city to look like a market place, but the beauty of the city will not feed us” - LDMST003. “The do not care about us, they see us as a problem and want to sweep us under the rug” - LDMST006.

Luandas street vendors were aware of existing payment methods, but this was limited to three payment methods, namely: cash, cheques and debit cards which locally are known as multi-caixa. However, none of the participants have ever used a cheque, and none of them have ever used or own a bank card. Furthermore, none of participants ever saw or heard of fellow informal traders who accepted cheques or card payments.

None of the street vendors interviewed accepted other payment methods besides cash; some of the participants showed willingness to use cashless payment methods but stated that they do not use cashless payments because they do not have access to these. Other participants demonstrated a lack of interest in cashless payment methods and revealed that they never had customers who wanted to use any payment method besides cash, so they do not see any benefit in it.

“I only accept cash because I do not have a card machine, if I had one i would use it” - LDMST002. “Its not easy to have a card machine, I do not

think you will find anyone with one in the streets” - LDMST003. “Its not just that we do not use the card machine, the customers also do not use card, they only come with cash” - LDMST006. “The customers use cash, at least i never had a client that came and asked if he can play with card” - LDMST005.

Even the participants that were aware of the benefits of cashless payments believe that customers only want to use cash, the vendors also stated that if cashless payments were only be used once in a while, then it is not really valuable for them. Furthermore, some of the street traders do not see the need of adopting cashless payments because they consider their businesses to be too small; the traders also believe that cashless payment methods would be too costly for business like theirs which have very low profits margins.

Despite some traders showing willingness to adopt cashless payment methods, most of the participants indicated that they would prefer to be paid in cash, with only one of the street vendors stating that it does not really matter and it should be the customer deciding how he/she wants to pay. For the rest of the participants, cash was the chosen option, and the main reasons behind the choice are usefulness, habits, and cost.

Cost is a deciding factor when street vendors decide how they would like to be paid. Cash is the preferred method amongst street vendors because cash is free to use and does not involve payment to third parties such as banks; the participants also pointed out that cash is advantageous for them because cash is very simple and easy to use.

The other deciding factor was the value of having cash in hand. The participants revealed that being paid in cash is preferable because they can use that money to re-invest in their business and buy more items to sell. Street vendors prefer to have cash in hand because they are used to it and feel that by having cash in hand, they have better control of their money. Furthermore, the traders pointed out that when paid in cash, they are able to use their money right away without having to go to a bank or ATM to withdraw the money.

“If you pay me with cash I can go anywhere I want and buy whatever I need; now if you pay with card, before I buy anything I must first find an ATM where

I can withdraw the money” - LDMST004. “Because with cash I can use the money, I can buy something to eat or get more business” - LDMST006.

Street vendors also revealed that they also prefer to use cash as their payment method when they are on the other side, acting as the customers. Cost, once again, was a relevant factor for the same reasons mentioned above. Lack of access to cashless payment methods was also a reason given by the participants to explain their choice of cash when making payments. Furthermore, the participants also highlighted that they are already used to using cash and are satisfied with it because they never had problems with it.

The other reason why the participants prefer paying with cash is because cash is accepted everywhere, with only one participant stating that if he had a card, he would use it when possible and keep the cash in his pocket to use in case of emergencies. This is due to the fact that he knows that he would be able to use cash everywhere but with a card, he would only be able to use it in a limited number of places. The participants also revealed that they prefer using cash because the sellers often offer discounts to those paying with cash, and even when discounts are not offered, those paying in cash can still discuss the price.

When asked about the advantages of cash, the answers given by the participants turned out to be the same as the justification they gave for having cash as their favourite payment method. No cost, being able to use it everywhere, being able to negotiate the price, being able to use it as necessary and having better control when having money in hand were advantages of cash mentioned by the participants.

The biggest concerns the participants had with cash were all security related. The vendors pointed out that cash can easily be lost or stolen. Furthermore, the vendors also stated that cash is not safe because it attracts criminals when carried in large volumes, and because traders are paid in cash, they can become easy targets of criminals observing how much the traders are being paid. One of the participants, however, considered cash to be safe because there is less fraud with cash. The participant defended his view by stating that cash counterfeit is an issue, but that with the experience vendors have with cash, they are able to easily identify bogus notes; the participant also added that the risks of counterfeit only relates to notes of high denomination.

Another concern participants had about cash was related to its wide acceptance. This fact was considered by most of the traders as a positive thing, but one of the participants believes that the wide acceptance of cash is a negative thing because it makes it very easy to spend cash and it is very hard to control spending.

The participants also identified different factors which are stopping them from using alternative payment methods, and one of them is lack of access. Street vendors pointed out that they cannot use what they cannot have and that cards machines cannot be obtained easily. The costs associated with alternative payment also play a role on the vendors decision to adopt it or use it. Vendors pointed out that if alternative payment methods were free or at least cheaper, more traders would be willing adopt it.

The other factor preventing street vendors from using alternative payment methods is that unlike cash, alternative payment methods have a small user-base and low acceptance. A small user-base implies that street vendors would not have many customers trying to pay with alternative payment methods, and the low acceptance implies that if not paid in cash, the street vendors would have to go to a bank or ATM to withdraw cash to use because they would not be able to use alternative payment methods in most of the places. The participants suggested that alternative payment methods would be more attractive to them if they had a larger user base and also revealed that they would be motivated to use alternative payment method if it would help traders to save time during the transactions or improve sales.

The complexity of alternative payment methods was also considered an issue as some of the participants stated that alternative payment methods are complicated. A similar view was presented by other vendors, which questioned the ability and readiness of street vendors to use alternative payment methods, pointing out that many vendors are not used to alternative payment methods and do not know how these work. The participants believe that if alternative payment methods are easy to use, street vendors will be more motivated to adopt them.

None of the street vendors that participated in this study had previous banking experience; therefore, none of the traders could express their views on the financial services in Angola. However, some of the participants believe banks do not do enough to create awareness and educate their current and potential clients about their services. Street vendors believe that not only informal traders but bank clients in general lack financial

education and need to learn about the benefits of having a bank account and other banking services, but that the banks are not doing enough to educate them.

Some of the participants showed interest in using banking services but were unclear about the costs or requirements; furthermore, lack of documentation also turned out to be an issue affecting some street vendors. Despite the fact that all were Angolan citizens, some participants confessed to not having some of the basic documentation required to open a bank account, such as an ID card. The traders also claimed not having time to acquire such documents or queueing at the banks to open a bank account because they would be missing on possible sales.

The fact that none of the street vendors who participated in this study has a bank account means that they are limited to using informal means to save money. Two of the participants revealed that currently, they are unable to make any savings because they are not making any profit. The other participants revealed that currently, they save money from their business at home. The participants are aware of the risks involved but argued that they do not have other options because they do not have a bank account.

One of the participants pointed out that besides the risks of theft, other factors such as economic uncertainty also make keeping money at home risky. The participants revealed that the Angolan central bank (Banco Nacional de Angola) often introduces notes with new denominations and discontinues some of the notes in circulation, and this process usually triggers panic and speculation in the markets. The participant stated people who keep their money at home flock to the banks to swap the old notes with the new ones and often have to queue overnight outside the banks in order to do so. Furthermore, the participant also noted that not everybody respects the transition period and that some traders (including wholesalers) start rejecting the notes being phased-out right away, thus leaving those in possession of the said bank notes in a tight situation.

The time that taken to process a transaction is very important, especially for street vendors. Customers inside cars only stop for short periods and sometimes just slow down and never come to a complete halt, and as result, quite often, the vendors must make sales to customers inside a moving vehicle. The process is usually as follows: First, customers ask for the goods and show the money to the vendors, then the customers receive the goods before they make the payment. If change is required, the customers

hold on to the money until the vendor has the change ready; only after the vendor has handed the goods and produced the change does the customer make payment. During this period, the vendors run alongside the car and try to finalise a sale as quick as possible, and if they do not have the change or cannot produce goods fast enough, the customer returns the product and the vendors lose the sale.

5.2.2 The case of market vendors

Most of the participants became informal traders because they needed to support their families and could not get formal jobs. The participants revealed that selling on informal markets was their best opportunity to have a source of income. Some of the participants already had previous experience selling, and some were employees or intermediaries selling on behalf of third parties but later decided to become independent. Others used to help out in family businesses as they grew up and then started their own business. Some of the participants, particularly the ones selling arts-craft, became traders due to the need they had to sell their art work; these participants consider themselves more artists than traders and started working as traders only a secondary effect of their main profession.

Just like the street vendors, most of the community market vendors did not need any financial assistance in order to start their business, but with a large majority raising the funds on their own and only one needing assistance from a family member, the participants revealed that to get started in the informal sector was not really difficult. Only one of the participants confessed to struggling a bit in the beginning due to some difficulties in acquiring the material required for his work.

The participants revealed facing many challenges on their job as informal traders at the local market, and most of the participants stated that they operate under unfavourable conditions and can only rely on themselves to change things because the government is not very helpful; the few existing government projects are benefiting the wrong people.

Regarding the working conditions, the market vendors, arts-craft vendors, in particular, complained about lack of access to modern working tools that facilitate their jobs. Vendors also complained about lack of access to storage facilities and stated that having

to travel constantly back and forth with their products is not only costly and exhausting but that some of their goods get damaged in the process.

The market traders, especially those that do not sell arts-craft, pointed out that selling on the markets is not very profitable and that lately, it is even more difficult due to the increasing number of traders operating outside the markets, which they believe reduces the number of customer that buy items inside the markets dramatically. Traders also revealed they depend on day-to-day sales to survive, and as result, they can hardly take a day off and are usually left with almost no time to rest. The dependence on day-to-day sales also makes informal traders very vulnerable to market fluctuations or health issues because anything that affects their productivity affects their income directly. The participants also stated that due to constant variations on the volumes of sales, it is very hard for them to plan or predict how much they can earn over a certain period of time.

“Sometimes I must make an effort to come to the market even when I’m sick, because I can’t leave my kids with no food” - LDMV008.

Traders on the arts-crafts markets expressed their frustrations for not being recognised as artists and stated that lack of recognition affects their ability to promote their work, find alternative channels to sell their products and obtain funding to expand their business. Another challenge faced by arts-craft vendors is that some of the material is expensive and sometimes hard to obtain; furthermore, traders also state that the local population does not have a taste of arts-crafts, as a consequence, traders are, to a certain extent, dependent on tourists and foreigners, especially when it comes to buying specialised items.

Market vendors showed an awareness of other payment methods besides cash, with all of the participants having heard of at least one payment method besides cash. Debit card was a payment method known by all of the participants, with the majority of them having seen debit cards being used in the informal sector. Cheques and bank deposits were other payment methods known by some of the participants, but none of them had seen them being used in the informal sector. Cash was the most accepted payment method amongst the participants and was accepted by all of the participants while the debit card was the second most popular, being accepted by half of the participants. One

of the participants who accepted pre-orders of customised arts-crafts items revealed that he also accepted bank deposits as a payment method for his orders.

Half of the participants accept card payments and have been motivated to do so because they already have lost business for not accepting any payment method besides cash. Another motivator, especially for arts-crafts vendors, is that many of the customers are tourists or foreigners who prefer to use cards. Furthermore, some of the artefacts are quite pricey, and customers do not bring large amounts of money on hand. There was another participant who also accepted card payments but uses a machine from a fellow trader; the participant revealed that he is not charged for it, but he pays a symbolic value to the card machine owner.

Some of the participants have cash as their only payment method, and their reasons for not using cashless payment methods are the costs associated with cashless payment methods and the fact that they do not have bank accounts or card machine. A few of the participants argued that card machines are neither suitable nor easily accessible to informal business. Some of the participants revealed that they already had clients who wanted to pay using other payment methods besides cash but were not able to do so; the participants explained that in these scenarios, customers that bring cards are asked to go withdraw money so that they can pay, but they sometimes do not return. For this reason, many traders actually walk with the customers to the ATM taking the product with them and finalising the sale there. Few of the participants ever had to deal with customers that wanted to use cashless payment methods and doubted that customers would be willing to use their cards at the market.

Despite half of the market vendors accepting cash and card payments, only two of them would prefer being paid with cards. The reasons pointed out by traders to prefer card over cash are safety and convenience as traders believe that money in the bank is safer and would prefer being paid by card, with the money going straight to the banks over being paid in cash and then having to go to the bank to deposit money, which can be risky especially when dealing with huge sums of money.

Cash was the payment method of choice for the majority of the participants, and the factors influencing this choice were: habits, costs, and usefulness, which happen to be the same factors cited by the street vendors. Market vendors also are used to cash and believe that they have better control when they have cash in hand. Market vendors also

prefer cash over cashless payment methods because it is free and does not involve paying transaction fees to banks or intermediaries. Moreover, just like street vendors, market vendors also emphasised the importance of money from sales being immediate availability for reinvesting in the business, something which is not possible with cards due to the time the money takes to reflect.

When market vendors were asked about their payment method of choice when they are the customers, the majority still opted for cash. The participants stated that they use cash mostly because their suppliers only accept cash. Furthermore, even those suppliers that accept multiple payment methods try to encourage cash payments by offering discounts for those who pay in cash, while other suppliers often pretend their card machines are out of order to force the clients to pay in cash. As a result, informal traders prefer buying using cash not only to get better deals from suppliers but to also avoid any inconvenience in case they cannot swipe their cards.

Other reasons why market vendors prefer to pay in cash is because they think that cash is easy to use and also because some traders do not have access to cards. Cash is also used as a mechanism to control spending as some traders pointed out that they choose to use cash because it is too easy to spend money when you have a card than when you have cash because when you have cash, you are limited to spend the money that you have on you at the moment. One of the participants was the exception to the rule and stated that as a customer, he prefers to pay by card because it is safer and also that with a card, he still can go to an ATM and get some cash if he needs to.

The characteristics that make market vendors see the advantages of cash are not different from the reasons that makes cash the payment method of choice for both street vendors and market vendors, namely no costs attached, wide acceptance, ease of use, more control over money, the ability to get discounts when paying with cash and also the ability to use money obtained from cash sales. Reinvesting in the business was another factor frequently mentioned by the participants as an advantages of cash.

Most disadvantages of cash mentioned by market vendors were centred around the risks associated with cash, the participants pointed out that cash is not safe because it can be lost or stolen and can attract criminals when carried in large amounts. Some of the traders also pointed out that when cash is lost or stolen, it is unlikely to be recovered because it cannot be easily tracked; one of the traders mentioned that money is safer

at the bank but not so useful when it is there. Another negative factors about cash mentioned by the market vendors is that with cash, it is hard to track expenses and that cash can be spent easily.

Costs and accessibility are two major barriers preventing market vendors from using cashless payment methods, and the traders believe that if the requirements to obtain cashless payment methods such as card machine were to be reduced, then more traders would use it. Traders also stated that if cashless payment methods were free, had re-duced bank charges or at least had flat fees, they would be more attractive for them.

Traders revealed that they are attracted cashless payment methods because they are much safer than cash but that many of them do not use them because most of the market vendors run very small business. Another factor hindering the usage of cashless payment methods mentioned by traders was that when using this payment method, the money from sales is not immediately available for use, which is a major negative factor as traders often need immediate access to their funds in order to reinvest in their business and make other payments.

Furthermore, traders also emphasised that they cannot depend on the money that is in their bank accounts because the banks are unreliable and often unable to provide clients timely access to their funds. The participants revealed that many ATMs in Luanda are often out of services, or short of money, which results in very long queues at the few fully functional ATMs. Traders added that these issues with the ATMs often forces people to go inside the banks for money withdrawals and sometimes even just to check their balances which, in turn, results in long queues at the banks. Besides the long queues, traders also pointed out that going to the bank was not a guarantee that that you will be able to withdraw money because the banks frequently have technical issues that make it impossible for customers to access their funds. The participants suggested that improved banking services would make more vendors interested in cashless payment methods.

The participants also expressed their concerns about their readiness to embrace new payment methods, stating that cashless payment methods are still new, and many of the vendors feel intimidated by it because they still do not know how these work. Furthermore, market traders argue that the amount of information available on cashless

payment methods are transmitted using communication channels, such as satellite TV, which are not accessible to them. The participants are of the opinion that the banks should take information about some of their products directly to where their target audience is, and that the communication should not be one way. The traders also want to talk to the bank people and ask questions so that they can make informed decisions.

“The banks should do like the vaccination people do, they come to the market, they tell about their vaccination programmes, what they are doing, why we should allow them to vaccinate our children, which children should be vaccinated, etc; they talk directly to us, if we have questions we ask and they explain and in the end we know what is best” - LDMV006.

Half of the market vendors who participated in this study do not have bank accounts or access to any other formal financial services. The most cited reasons for not having a bank account are: lack of interest, lack of trust of financial institutions, and inability to afford a bank account.

Many of the participants seemed not to realise the benefits of having a bank account and are interest in acquiring one. Some of the participants demonstrated a clear interest in having physical control of their cash: they are used to carrying it around, keeping it at home and having access to it whenever they deem necessary, so they believe having a bank account would just add unnecessary complexity. Furthermore, some of the participants also demonstrated little or no trust in financial institutions; some of the traders did not trust the banks to provide timely access to their funds, while others did not trust the banks to keep their funds safe. The recent embezzlement scandal at Banco Espírito Santo Angola (BESA) involving some well-known political figures just happened to damage even further the trust in and image of financial institutions. The other issue preventing traders from opening bank accounts are the costs attached to it. Some participants stated that they do not have a bank account because they cannot afford one, noting that to open a bank account, one is required to make a deposit of at least 20.000Akz.

Amongst the participants with bank accounts, very few described having a good experience with the banking services in general, but many participants expressed their dislike for banks; some pointed out that they avoid going to banks at all costs. The

lack of professionalism from banking staff is one of the main reasons why people avoid banks. Regardless of the bank used, the participants shared a feeling that the workers at the banks put themselves above the clients. Amongst the many complaints against the banking staff, the most frequent ones are: lack of punctuality, bank staff often stop to socialise or engage in long phone calls instead of assisting customers, banks are often short staffed because employees often take breaks in pairs.

“It’s just unacceptable!! They already arrive late, they walk past a long queue of customers and don’t greet or anything, and when they get to their seat instead of start working, the first thing they do is to take of their fancy phones and start chatting about the weekend” - LDMV002.

The participants also expressed their disapproval regarding the time it takes for one to get service; many of participants stated that they have never gone to a bank and received assistance in less than 1 hour. By assisted they mean just getting to talk a teller or a consultant, without taking into consideration the time they would take to sort the actual issue that took them there. The queues at the bank are very long, the banking staff lack a sense of urgency and often, the banks claim their system is down.

“Não temos sistema” or in English *“We don’t have a system”* is a famous phrase used by bankers to tell their customers that system is down; the banks never explain to their customers why the system is down or for how long it will stay down. The customers just have to make a choice of going home or waiting for an undetermined period of time. However, waiting will not give you any guarantee that you will be assisted because the system can be down for a few minutes, a few hours, or even for the rest the business day.

Most of the participants believe that the “we dont have system issue” has more to do with lack of money than with technology; many of the participants reported that while the banks says that the system is down to customers who want to make withdrawals, banks rarely turn away customers who want to make deposits. According to participants, for the depositing client, the system is almost always available and they even get to skip the queue while the others just wait. For this reason, many traders avoid relying on banks and never have all their money at the bank. Furthermore, some participants believe that sometimes, bank staff hide behind the “we dont have system issue” to avoid doing

their work, and the participants stated that they have seen the same excuses being used in other public institutions when the employees want to close up and go home early.

“You can’t go to the bank if you are in a hurry, if you are going there make sure that you have time, time and patience” - LDMV007.

“Some times you wait there the whole day and when its your turn to get helped they tell you - “there is no system” and that is it, they don’t apologise or anything; and its up to you if you wait or if you go home, because no one can tell you if the system will be back [if it will be restored] and how long it will take” - LDMV004.

Despite the fact that some of the market vendors have bank accounts, most of the participants still save money using informal ways such as saving money at home and stokvels (locally know as *Kixikila*).

Stokvels can be defined as informal financial support groups; they are usually formed by 4 or more members, and each member periodically contributes a fixed amount of money. All the members take turns in a rotatory fashion receiving the money made from the contributions. The period between the contributions can vary - weekly, monthly etc, depending on the agreement between the members.

Not having a bank account is one of the factors that leads traders to save money at home or use stokvels. The participants stated that they usually save money at home when they want to have physical control of the money and easy access to their funds, but this is usually money that they know they will use in the near future. When traders are trying to save money in order to buy or invest in something, traders prefer to use stokvels; the reasons why stokvels are popular amongst traders are (i) it has no bureaucracy or legal requirements (ii) traders have control of who joins the group, (iii) traders do not have to worry about the safety of the money (iv) it also works as a mechanism to control spending, (v) there are no added costs or debt.

Some of the participants expressed that they felt frustrated with banks legal requirements and bureaucratic processes and pointed out that the same does not apply to the

informal financial groups which do not have too many pre-requisites. In fact, the only thing required from traders is the financial capacity to contribute. Furthermore, some of the participants also confessed that they neither trust nor feel comfortable dealing with financial institutions. On the other hand, traders pointed out that they interact on a daily basis with each other, they know each other, trust each other, and feel comfortable making arrangements amongst themselves, especially because they can decide who joins a certain group and who does not.

Traders also highlighted that by using stokvels, they can save money without having to worry about where and how they will keep it safe. Furthermore, the participants also stated that it is difficult to save money without occasionally taking out small amounts. When they use stokvels, they do not have access to the money, and this helps them to avoid unexpected expenses. The participants also pointed out that stokvels are an alternative to banks and informal loan schemes without the high interest or accumulating debt. With stokvels, traders do not feel as if they are borrowing or loaning; instead, they look at it a way of self-financing.

The participants who have bank accounts and still save money at home or use stokvels justified their actions by stating that that they only deposit, at the bank, money that they do not plan to use in the near future and that the money that they would need to acquire more items to sell or need to use sooner is saved at home for easy access.

Despite participants inclination to save money at home, market vendors also reported some concerns related to keeping large sums of cash at home. A number of traders feared for the cash being stolen while they are not home. Added to the risks of theft, there is the risk of unexpected damages, and some participants reported to have lost money due to unforeseen circumstances. One participant in particular stated that he once lost all his hard-earned money in a house fire and only after that did he decide to stop saving money at home and open a bank account.

Change and transaction time also proved to be a factor. Traders sometimes do not have enough change and ask the customers to go exchange their notes for one of the smaller denominations so that it is easier for the traders to provide change; but customers often do not return. Some traders have a different approach and try to ask the traders besides them for change; if those next to them cannot help, the traders walk around looking for someone who can. By doing this, traders manage to retain the customers while they

try to exchange the money, but this reflects on the quality of service because in some situations, customers have to wait up to 4 minutes in order to receive their change. Traders often struggle to get fellow traders to exchange the notes because everyone wants to hold onto the notes of small denomination in order to easily provide change to their own customers.

5.2.3 The case of bank consultants

From the point of view of bank consultants in Angola, there are multiple reasons preventing informal traders in Luanda from using alternative payment methods, and most of them are related to the informal traders themselves. The participants reported that in Luanda, both formal and informal traders have a cash culture, and even those who have access to alternative payment methods still prefer to be paid in cash. The participants pointed out that it is not unusual for the cashier or even attendants at a petrol station to pretend that the card machine is out of order to force the customers to pay in cash. The consultants could not find reasons to justify why some merchants or service providers act this way.

Regarding the accessibility of banking services and products afforded informal traders, the consultants stated banks have very few requirements for those who want to open an account. The only requirements are a copy of the identity card of the customer, his tax number, a photo and a deposit of 20.000Akz. Regarding access to other banking products such as card machines, the consultants revealed that 3 years ago, it was easier to obtain a card machine than it is now that the regulations have tightened. The participants reported that they still accept requisitions for card machines from both companies or individuals but now, they are only granting them to people with registered business even if the customer does not have a business bank account, but if he has a registered business, he would be able to obtain a card machine.

The participants also stated that request from individuals are still being accepted, but they require special approval from bank management and at the moment, it is only being granted to reputable customers. The costs to acquire a card machine include 4.000Akz of installation fees, a monthly fee of 2.000Akz for the rental of machine (which must be returned to the bank after the termination of the contract), and transaction fees of 0.2%, 0.3%, and 0.5% for the different banks. However, the consultants stated

that in some cases, the transaction fees can be negotiated according to the financial capabilities of the customer.

When questioned about the banks efforts to attract informal traders to use their bank products, the consultants reported that the banks usually advertise their products via different communication media. They added that the information about their products is available at their websites as well on flyers and booklets at the banks branches. The participants also stated that they often target small shops which are legalised but not informal traders as they represent a higher risk to the banks.

The participants also explained that banks often have issues with small traders and individuals as many of them adopt the products and then stop using the product, but do not go back to the bank to return the machine and cancel their contracts. As a result, traders often end up in debt because they are billed 2.000Akz monthly even though they are not using the machine, and the banks often have to suspend the accounts to avoid further accumulation of debt. The other issue that banks had with small traders and individuals is that banks used to grant them card machines with the purpose of serving a certain business entity, but those card machines were being used in multiple places by different businesses. As a result, some of the merchants who had very small businesses had turnovers that were not compatible with the sizes of their businesses. The participants stated that this alone gives the banks reason to question the legitimacy of those businesses and that in these situations, the banks have to open investigations to avoid cases of fraud and money laundering.

Regarding the factors which influence informal traders choice of payment methods, the respondents raised several factors. One of them was cost whereby consultants pointed out that many traders do not make enough to afford the fees associated with the products. Others can afford but still have the perception that paying fees is a negative thing, especially when it is month end when traders see that they made a certain profit but then the bank deducts money for rental of the machine. This gives the traders the impression that they are losing too much money on banking fees. One of the respondents pointed out that very few traders deposit their earnings at the banks, and this alone already shows lack of interest on the part of the traders in keeping their money at the bank.

The other factor mentioned was that banking products such as card machines are still in an introductory period. Most traders are still not used to it, and many of them still do not know the full benefits of using card payments over cash. On one side, the consultants said that traders lack financial education but also stated that traders do not need to be educated in order to use card machines. The consultants also stated that card machines are very easy to use, and traders should not have any issues to operate them. Furthermore, the bank offers training to the merchants during the installation phase and there is plenty of information on booklets and user manuals on operating the machines. One of the banks also pointed out that they have a customer support line for merchants.

Another factor which consultants believe influences informal traders choice of payment method is the nature of the business itself. Before banks allow individuals to obtain card machines, they ask some questions to the customers about their business, how profitable the business is, where and how they obtain their products etc, in order to be able to evaluate their needs. However, some traders are not open to discuss such information because they obtain their items via non-official channels and prefer to keep some information about their business to themselves. Moreover, some consultants are of opinion that informal traders do not have a stable income, and this is also an influencing factor as the participants suggest that informal traders avoid this financial commitments because they cannot be sure of how their business will perform each month.

When asked about the times it takes for traders to have money from sales available, the consultants reported that money is available in less than 24 hours after the traders close a transaction period. The transaction period depends on the traders since they can do closings daily, every second day, weekly, monthly or whenever it suits them. The consultant highlighted that some traders forget to close the transactional period and think that the bank is the one taking long to make the money available.

Regarding loans and financing opportunities, none of the banks that participated in this study offered microloans. The minimum amount for loans at these banks varied from 200.000Akz to 500.000Akz and were only available to customers that held accounts at the banks and had their salaries paid at the bank. Regarding collaterals, the consultants said that most of the people do not have good registered in their names that were

evaluated at the value of the loan, and in most cases, the bank requires the customers to bring a third person who would sign as a guarantor. This person would be liable to pay off the debt in case the original borrower does not meet his contractual obligation. The issue borrowers face in getting a guarantor is that to qualify as guarantor, the chosen individual must earn the same amount or more than the original borrower and also needs to have an account at the same bank and have his salary paid into that account.

Regarding the quality of banking service, the consultants stated that the banking sector in Angola is still very new and needs to improve in many aspects. They also stated that things are already improving but admitted that banks could do much better in terms of supply and distribution of funds to ATMs, especially over weekends and public holidays, and that failure to do so often causes inconveniences to bank customers. However, the participants also pointed out that not everything depends on the banks, for example, the technical maintenance of the complete network of ATMs is a responsibility of a third party, and that their failure to do their job is often seen as a failure of the banks.

Chapter summary

This chapter presented the results from the interviews with informal traders in Cape Town and in Luanda. The interviews in Luanda were more exhaustive than the interviews in Cape Town and included consultants from the 3 major private banks in the country. The results from the interviews are analysed and discussed in the next chapter.

Chapter 6

Analysis of and Discussion of Findings

Introduction

This chapter analyses and discusses the interview results presented in [Chapter 5](#), against the findings from the literature and using the concepts described in the conceptual framework presented in [Chapter 3](#). This chapter is divided into 3 major sections. [Section 6.1](#) discusses what the interview results tell us about informal trading in Africa; [Section 6.2](#) analyses what the results tell us about the characteristic of payment methods; and [Section 6.3](#) discusses characteristic of cash and cashless payment methods' compatibility with informal traders.

6.1 Informal trading

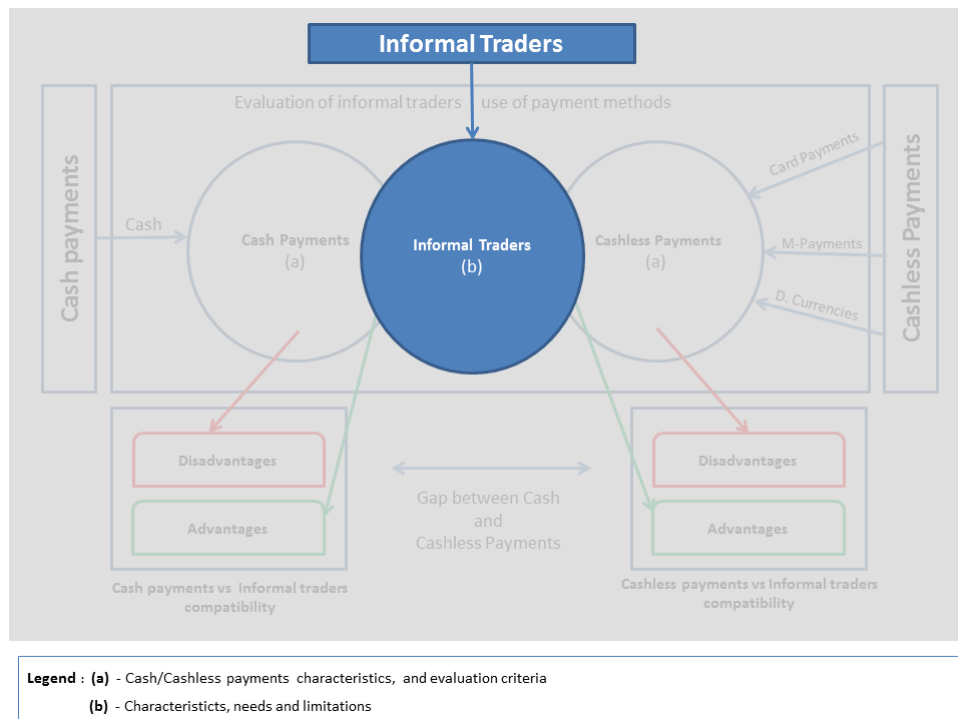


FIGURE 6.1: Conceptual framework - Informal traders characteristics

The interview responses clearly show that many of the participants were driven into informal sector due to lack of employment, and in their fight for survival, many traders found in the informal sector a job and source of income. The importance of the informal sector was already discussed in [Chapter 2](#) with studies by [Hussmanns \(2004\)](#); [Willemse \(2011\)](#) and [Dibben and Nadin \(2011\)](#) emphasising its relevance. The findings from this study confirm the informal sector's importance in terms of employment creation and poverty reduction by contributing to the livelihoods of people who would otherwise have no other means of income generation.

The results from the interviews also revealed that informal trading is a very competitive due to two factors. First, there is a high concentration of merchants who often have to end up competing for customers; second, because customers that seek products in the informal sector often are also people with limited financial power and are there looking for cheap prices. Traders often opt to sacrifice their profit margins in order to offer competitive prices. Furthermore, the results also confirmed other finding by [Willemse \(2011\)](#) that many traders lack documentation and rights to trading sites. In Cape Town, both the street and the market vendors were well regulated and operated

withing demarcated areas, but in Luanda, many traders lacked permits and rights to their trading areas.

The study also confirms a finding by [Comninou et al. \(2009\)](#) that informal traders lack access to funding opportunities, but the study also revealed that despite the fact that traders complain about lack of access to funding opportunities, most of them did not need any funding in order to start their business. Even those who did struggle to raise funds to start their business showed more inclination to borrow from members from their social circles (family and friends) than to borrow from formal financial institutions.

The results of the study also revealed that street traders in Angola operate under unfavourable working conditions and that abuse of power and police brutality are hindering the activities of street traders operating in the city. Furthermore, the study revealed that the local government is actively trying to end the informal trading activities throughout the city of Luanda despite the fact that street trading contributes to the improvement of livelihoods of many families in the province. This finding also confirmed the results of the study conducted by [Willemse \(2011\)](#) which stated that informal traders are often marginalised by policymakers who often pass legislation to cripple the sector and not develop it. However, this finding was particular to Luanda as the traders in Cape Town were not questioned on this issue.

Regarding the nature of informal trading, the results revealed that informal traders live on a day-to-day basis, meaning that informal traders often depend on the sales they make on a particular day to buy food supplies for their families on the same day. In other words, informal traders must sell everyday, and if the day is not productive in terms of sales, they take less money home. If traders fall ill or there is a sudden economic fluctuation, their income is affected directly.

A new factor that was revealed about informal traders is that they need easy and constant access to funds in order to properly conduct their business activities. The need to make payments to third parties and re-inject the money obtained from sales back in the business did not appear in any of the studies reviewed in the literature but was repeatedly mentioned by street vendors and market vendors both in Cape Town and in Luanda.

The results from [Chapter 5](#) also showed that informal traders have limited access to financial services, a finding also presented by [Comninos et al. \(2009\)](#). The participants in Cape Town were mostly foreigners and had limitations due to lack of documentation. Traders in Luanda were mostly nationals but also had limited access, mostly due to costs and lack of documentation as well; both of these finds were also presented in the study conducted by [Flores-Roux and Mariscal \(2010\)](#); [Ndiwalana et al. \(2010\)](#) and [ITU-T \(2013b\)](#). Besides being ineligible to access some financial services, the results also showed that informal traders also have limited knowledge regarding the requirements to access such services and its benefits. Informal traders, especially the ones in Luanda, lacked financial education and access to information regarding banking products.

Lack of access to financial services means that many traders are limited to saving money at home. Informal traders, partially the ones in Luanda, also made use of informal financial schemes such as stokvels in order to save money. Stokvels are safer than saving at home since the traders do not have to worry about the safety of the money; stockvels are also advantageous to informal traders because they are cost-free and work as a mechanism to control spending.

The study also revealed that some of the traders still save money at home or use stokvels despite having a bank account. For some traders, particularly the ones in Luanda, it is still preferable to save money at home due to their need to have easy access to funds and the apparent inability of banks to guarantee their clients easy access to their funds. The results revealed that informal traders do not want to have money in the bank unless it is money they want to save for a not-near future. Traders prefer to have money with them for use in their business and daily operations because having easy and quick access to funds is very crucial for them.

Security is one of the main reasons attracting informal traders to banking services and products, but having money from sales going straight to the bank will only be attractive to informal traders if apart from security, the banks can also offer them easy access and convenience.

When it comes to the acquisition of specialised banking products such as card machines, the study revealed that informal traders represent a higher risk for banks and are harder to supervise and regulate. Banks dealing with informal traders must have strict controlling mechanisms to eliminate possibilities of fraud and money laundering.

6.2 Influential characteristics of payment methods

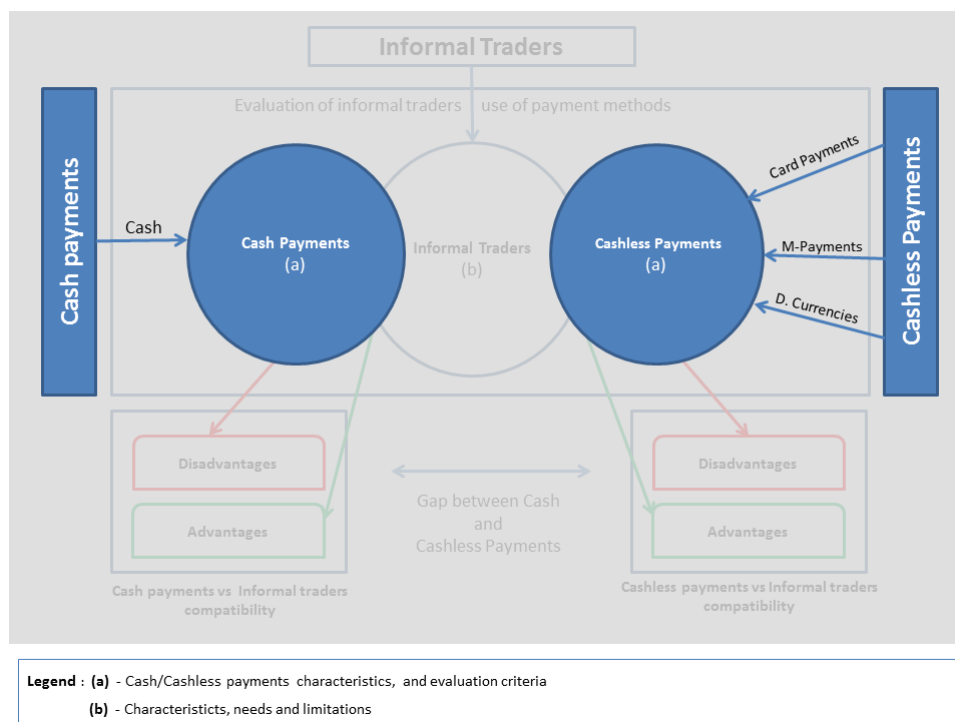


FIGURE 6.2: Conceptual framework - Payment method characteristics

6.2.1 Customer base

Ondrus and Pigneur (2006) defined customer base as the number of existing and potential customers using a payment method. The customer base of a payment method affects the informal traders' perception the value of this payment method has.

The bigger the customer base of a payment method, the more attractive and valuable is the payment method. Cash is perceived as valuable because it has a very large customer base and is frequently used. Many informal traders rely on cash because it is the payment method used by their customers.

Cashless payment methods are not seen as valuable because they are not used as often, and traders that never had any customer who tried to pay with cashless payment methods did not see any value in using any other payment method besides cash. On the other hand, some traders have lost business due to the fact that they do not accept cashless payment methods and see the value in it.

6.2.2 Acceptance

Informal traders not only have to receive payments but also have to make payments, and their ability to make a payment is determined by the levels of acceptance of their payment method of choice. [Abrazhevich \(2001\)](#) defined acceptance as the extent to which a payment is accepted for payments by merchants. The wider the acceptance of the payment method, the bigger the convenient it offers to its users.

The results from [Chapter 5](#) shows that cash is very suitable for informal traders because it is widely accepted, and traders do not have any problems when they have to make payments because all suppliers accept cash; in fact, most suppliers only accept cash.

On the other hand, cashless payment methods have limited acceptance as many of the suppliers used by informal traders only accept cash. Furthermore, even the suppliers that accept cashless payment methods often pretend that they are unable to receive cashless payments and force customers to use cash. Thus reducing even more the convenience of using cashless payment methods because customers cannot be certain that they will be able to use cashless payment methods - not even in places where these are supposedly accepted.

6.2.3 Education and ease of use

Ease of use was an aspect mentioned by [Abrazhevich \(2001\)](#); [Carr \(2007\)](#); [Ondrus and Pigneur \(2006\)](#); [Yu et al. \(2002\)](#) and [Heikkinen \(2009\)](#), and it refers to the user friendliness of a system and the extent it can be used with little or no learning curve.

Traders are familiar with the concept of cash and do not consider cash a sophisticated payment method as cash does not require any training or technological savviness in order to be used. Cash is considered very simple and very easy to use even by those with little or no education. On the other hand, some traders consider certain cashless payment methods difficult to use even though they have never tried to use them. Informal traders just have this perception because they think the payment method is sophisticated and feel intimidated by it.

Currently, many traders are aware of cashless payment methods, but very few are educated in them, not about their practical usage nor about their requirements or implications. For traders, it is important to know the reasons regarding choice of payment method A over payment method B, but if they do not know much about A or B, then they cannot make informed decisions.

6.2.4 Authorisation Type

Authorisation type was an aspect identified by [Abrazhevich \(2001\)](#) and was defined as the extent to which payment transactions can be processed without being connected to a central authority.

Cash payments are offline payments and can be processed without the payer or the payee being connected to a third-party such as banks. Most of the cashless payments require the involvement of a payment processor, which adds a degree of dependency to the payment process. Furthermore, the involvement of third-parties often also means that some kind of connectivity will be required in order for the payment to be processed.

6.2.5 Trust

Trust was a concept defined by [Abrazhevich \(2001\)](#) and [Carr \(2007\)](#) and both definitions were shaped by privacy and security and were concerned with the protection and misuse of users' information. The results of the study did not indicate that informal traders had any concerns over protection or misuse of their personal information. However, the results showed that informal traders, particularly the ones in Angola, lack trust in financial institutions. Angolan informal traders' lack of trust in financial institutions can be divided into three different levels, namely: moral, financial, technical.

On the moral level, traders believe that financial institutions (.i.e banks) lack good faith and are not trustworthy enough to hold their funds. This belief has been stronger lately due to corruption and an embezzlement scandal at one of the major banks which involved some well known political figures. Many citizens were deprived of their funds, and justice is yet to be done. Thus making some of the traders believe that if fraud happened once without consequences, then nothing stops it from happening again.

On the technical level, banks in Angola have repeatedly failed to provide reliable services: ATMs without funds or being out of order and frequent communications breakdown at both ATMs and banks, made traders believe that banks are unable to provide them with timely access to their funds. For these reasons, many traders prefer to have their money under their control for quick and timely access. Currently, even some of the traders with bank accounts do not deposit all their money at the bank. Traders might deposit sums that will not be needed in the near future, but for the money that is already allocated to a certain activity - traders prefer to keep the cash at home and avoid the inconvenience of dealing with banks.

On the financial level, some traders raised concerns that the technical issues faced by the banks are not as bad as they seem. Informal traders believe that the technical issues are being used by banks as an excuse to mask banks' financial incapacity to provide its customers with the funds required in a timely manner. They claim that sometimes during the periods of communication breakdown, bank customers are not able to withdraw funds but are able to make deposits, and this gives some credibility to their claims. For this reason, some traders are reluctant to deposit their money at the bank.

These factors are not related to cash or cashless payment methods per se; they are related to banks as financial institutions and service providers, but during the interviews, it was notable that when traders talk about cashless payment methods they usually assume that the banks are/will be the service providers. As a result, traders project their lack of trust on financial institutions onto cashless payment methods.

6.2.6 Reliability

Reliability is a characteristic identified by [Abrazhevich \(2001\)](#) and [Ondrus and Pigneur \(2006\)](#) as the extent at which users can depend on the system to be available and process transactions successfully.

The reliability of a payment method affects the trust users have in it. As seen in section [6.2.5](#), the reputation of the payment methods is tightly coupled with the reputation of the banks. Banks, particularly in Angola, are not seen as reliable and dependable. The fact that the banks often fail to provide users with easy access to their funds whether

because of technical issues or because of lack of funds, weights negatively against cashless payment methods. Furthermore, as reported in [Chapter 5](#), traders also cannot easily access their funds due to technological issues or lack of funds at ATMs; the consequences of this is reflected in the informal traders' reluctance to use cashless payment methods because they need easy access to funds; if their money goes to the bank, that is something that cannot be granted.

Adding to that, reluctance of traders to use cashless payment methods also affects traders when they are acting as customers and want make a purchases; in this case traders are also not guaranteed that they will be able to make payments using cashless payment methods even at places where cashless payment methods are accepted. Cash, on the other hand, is much more reliable as traders are always guaranteed the ability to make cash payments. Furthermore, when receiving cash payments, traders also get timely and easy access to funds.

6.2.7 Liquidity

Liquidity is not a characteristics of payment methods found in the literature but was found to be a crucial factor for informal traders use and acceptance of payment method. For the purpose of this study we can define **liquidity** as the extent to which informal traders have funds available to meet their short-term needs.

Informal traders reported that they need easy and timely access to funds in order to be able to conduct their daily operations. In formal traders have the constant need to buy more stock to replace the items that have already been sold, and also the need to make payments to individuals, or take money home at the end of the day.

Most of the traders prefer being paid in cash because cash facilitates the process in each of the situations above. Cash payments represent an immediate settlement of balance and at the same time the money is also immediately available for use. Traders have control of the money in hand and can use it to buy stock, make other payments or take home. With cashless payments however, that is not always possible. Being paid through a cashless payment method not only means that they money would go to an account, but in most cases, it also means that the money would not be available

for reuse immediately because most of the cashless payment methods do not offer immediate settlement of balance.

At the moment, even if cashless payment methods offered immediate settlement, they still would not be very convenient to informal traders due to their low acceptance. If traders were paid through a cashless payment method, it is likely that they still would not be able to use that money to reinvest in their business or pay people because most people still only accept cash. Therefore, informal traders would be required to withdraw their funds and then use the cash to conduct their operations.

This process is not very convenient for traders because going to an ATM to withdraw money means that the traders have to get away from their business, thus opening the possibility of traders missing some potential sales or occasional deals. Furthermore, if we take into consideration the long queues and scarcity of funds at the ATMs as reported by the participants in Luanda, it is possible that traders will not be able to get timely access to their funds.

For this reason many traders not only prefer to be paid in cash but also do not deposit their funds at the bank; and even those who do so, do not deposit all the money at the bank because they need their operation money at hand to satisfy their immediate needs.

6.2.8 Cost

Cost was an aspect identified by four authors, namely: [Carr \(2007\)](#); [Ondrus and Pigneur \(2006\)](#); [Yu et al. \(2002\)](#) and [Heikkinen \(2009\)](#) and it refers to the costs paid by both sellers and buyers of the systems. The authors also suggest that both the costs of acquisition and infrastructure and also the transaction costs of new payment methods should not be higher than the costs of payment systems that already exists.

Informal traders are very sensitive to cost and are very attracted to cash because for them, cash is cost free. Cash usage is often also associated with other costs such as transportation costs and labour costs, but those costs do not apply to informal traders as small scale merchants. Therefore, for informal traders, cash does not have any adoption or usage costs attached to it, unlike cashless payments.

Cashless payment methods usually have adoption costs (e.g. hardware cost) and usage costs (e.g. transactions fees) and many informal traders cannot use them because they cannot afford them. Many traders do not consider using cashless payment methods due to the size of their business and their small profit margins. For trader selling expensive items, cashless payment methods are a valuable alternative not only because they are likely to have higher profit margins but also because it would increase the chances of traders completing sales.

Furthermore [Heikkinen \(2009\)](#) also states that customers like cheap payment methods while merchants like payment methods that require minimum investment. Besides cashless payment methods being costlier than cash for informal traders (whether they are selling or buying), they are also more costly for their customers. Previous findings have shown that customers that look for products in the informal sector often have limited buying power, which indicates that they are sensitive to costs too. The costs of a payment method might influence customers' usage of a payment method and, in turn, the customers' usage of payment method affects the value the payment method has to the traders.

Cost is a very important factor affecting informal traders' adoption of payment method as traders prefer to use cash to avoid bank charges and other costs. Nonetheless, the results from [Chapter 5](#) also show that some traders paid up to 10% of the transaction value, which is much higher than the normal banking rates and indicates that traders are willing to bear the costs of a payment method if they determine it to be valuable for them. However, it is also important to note that in this particular case, receiving the remaining amount of the transaction value on the spot and in cash also played a role on traders' acceptance of such high transaction fees.

6.2.9 Efficiency

Efficiency was an aspect defined by [Abrazhevich \(2001\)](#) as the ability of payment systems to process small payments at reasonable transaction costs and without suffering performance degradation. From a performance stand-point cash is not the most efficient payment method for large value payments. Counting large volumes of cash is not convenient and increase transaction times. Furthermore, using cash for large value

payments would represent added risks for both the seller and the buyer, as they would have to carry large volumes of cash.

Cashless payment methods on the other hand, do not have issues handling small value payments, but they are not very cost effective. The smaller the transaction value the more expensive cashless payment methods become. Some informal traders impose minimum transactions values on non-cash purchases to avoid paying high transaction costs on small value payments.

Percentage pricing means that traders would pay proportional values either they are selling large value items or small values items; however the later are more sensitive to those costs due to their reduced profit margins. In case of flat fees, there is a chance that traders selling small value items would have transaction costs which are equivalent or superior to the value of the item sold.

6.2.10 Speed and divisibility

Speed and divisibility are to characteristics identified by [Abrazhevich \(2001\)](#) and [Carr \(2007\)](#) respectively and proved to be important for informal traders. However, both of them seem to be slightly overlooked by the traders; the first one was vaguely mentioned by traders, but during the interviews, its importance emerged during the observations. The second one is related to the first but was not mentioned during the interviews; its importance also emerged during the observations.

[Carr \(2007\)](#) defined speed as the time a payment method takes to process a payment transaction, and even though some traders accept both cash and cashless payment, it was not possible to establish the exact duration a trader takes to process a cash or card transaction. Nonetheless, it became evident that the time taken by informal traders to process a transaction is very important them, especially for street vendors. Street vendors often have to complete sales within very short time frames, and the quicker they can process a payment the better. The slower the payment method, the bigger the chances of street vendors losing sales. Customer often cannot wait and leave while street vendors are counting the money or preparing the change to give them.

The divisibility of a payment method is also important, and during the interviews and observations, it was noticed that traders sometimes struggle to provide change to customers, often having to approach fellow traders for assistance. If fellow traders cannot help, then traders would go somewhere else to try to exchange the money or would tell the customers to go and change the money. Often, customers do not return, which means that traders to lose business. With cashless payment methods, this is not an issue, and customers pay the exact amount, and traders would no longer lose customers or bother fellow traders because they cannot provide change.

Furthermore, the faster the transaction time or speed of a payment method, the better it is for traders. The time traders take moving from one stall to the next trying to exchange and providing change for the customer is reflected in the time or speed the traders take to complete the transaction. In other words, divisibility affects speed negatively. Furthermore, Carr (2007) also states that the speed of a payment method should be acceptable for both the traders and the customers, which means that the customers are equally affected by this process as they end up waiting for long periods for traders to provide change.

6.2.11 Security and financial risks

Security, was identified by Abrazhevich (2001); Ondrus and Pigneur (2006); Yu et al. (2002) and Carr (2007) and can be defined as the ability of the system to prevent fraud, counterfeiting and protect users from financial losses.

The majority of the traders believe that cards are safer than cash because cash is prone to loss and theft. While cash is hard to track and recover once stolen, most cashless payments offer better safety, for example, if a robber steals a card machine, he would not be able access the funds; if he steals a debit card, he would need to have the pin code in order to use it, and even then the card could still be cancelled by the owner. Therefore, cashless payment methods can limit the loss of funds in cases of loss of theft.

Carrying cash, especially in large volumes, represents a risk for informal traders because it can attract criminals. Cashless payments are not 100% safe and have risks associated with them. For example, credit cards and debit cards can be cloned and

illegally used by criminals, but such risks are more related to the customers as card users than the merchants. Furthermore, payment methods such as credit cards offer merchants guarantee of payment to merchants even in cases of fraudulent use of the card because the liability in this scenario lies with the credit card issuer.

6.2.12 Usefulness and convenience

Usefulness and convenience are not characteristic of payment methods and were not covered on the studies reviewed in the literature. However, usefulness and convenience are two related concepts which are constructed by characteristic of payment methods such as **acceptance**, which was covered by [Abrazhevich \(2001\)](#), **customer base** covered by [Ondrus and Pigneur \(2006\)](#), **reliability** covered by [Abrazhevich \(2001\)](#) and [Ondrus and Pigneur \(2006\)](#), and **ease of use** which was covered by [Abrazhevich \(2001\)](#); [Carr \(2007\)](#); [Ondrus and Pigneur \(2006\)](#); [Yu et al. \(2002\)](#) and [Heikkinen \(2009\)](#).

These factors affect the usefulness and convenience of payment methods for informal traders in several ways; currently, most of the traders who accept cashless payment methods cannot use cashless payment methods to make payments because of the limited acceptance, as a result, the traders have to go to withdraw cash in order to be able to spend their funds.

For informal traders with bank accounts who usually go to the bank to deposit their earnings, it is convenient for them to be paid with cashless payment methods and have the money to access their account, thus eliminating the need for having to make a trip to the bank to deposit money as well as eliminating the risks related with transportation of cash. However, if in one or two weeks of sales, a trader only processes one cashless payment, then the cashless payment method is not very useful for them. Furthermore, most traders indicated that they need to have cash from sales in hand in order to conduct their daily business operation smoothly. In this case, having money from sales to go straight to an account is not convenient or useful, especially if banks cannot provide traders with easy and timely access to their funds.

Timely access to funds is also an issue for traders needing huge amounts of money. Traders often feel restrained by the banks' daily withdrawal limits and are forced to withdraw money multiple days in a row in order to gather the desired amount thus making it

impossible to make large value purchases unless they are planned in advance. Therefore, for traders, it is much convenient to receive cash payments because they will have to use cash when they have to make payments, and with cash, they would have direct access to their funds without having to worry about ATM queues, cash availability or withdrawal limits.

The results in [Chapter 5](#) also revealed that some of the traders had well defined schedules and only buy stock on specific days. These traders did not see the advantages of having cash on hand and preferred to have money at the bank to help control spending and avoid temptation of impulsive purchases.

6.2.13 Accessibility

There are many factors that influence informal traders choice of payment method, and **accessibility** is one of these factors; many traders choose to use cash over cashless payment methods, but others would not be able to use cashless payment methods even if they wanted to because they do not have access to it. Accessibility refers to the pre-requirements or restrictions that results in the exclusion of potential users. Accessibility is not a characteristic of payment method covered in the literature, but similarly to usefulness and convenience, accessibility is a concept constructed by a mixture of characteristics of payment methods such as **interoperability (strategic)** covered by [Abrazhevich \(2001\)](#); **cost** covered by [Carr \(2007\)](#); [Ondrus and Pigneur \(2006\)](#); [Yu et al. \(2002\)](#) and [Heikkinen \(2009\)](#); and **legality** covered by [Yu et al. \(2002\)](#) and [Kreyer et al. \(2003\)](#).

Cashless payment methods are often burdened with pre-requirements that result in the exclusion of potential users; these pre-requirements can be (i) technological (e.g. requires hardware or software), (ii) legal (e.g. pre-registration and specific documentation required), (iii) financial (e.g. adoption and usage costs), and (iv) strategic (e.g only available to users associated with the issuer of the payment method)

The technological pre-requisites of a payment method often also affect the financial pre-requisites as many cashless payment methods require specific hardware or software which in most cases, needs to be acquired and affect the adoption costs of the payment method. As seen in section [6.2.8](#), the higher the costs of a payment method, the less

attractive they are to informal traders, and as a result, [chapter 5](#) also demonstrated that many traders do not have access to cashless payment methods because these are costly. Sometimes the financial pre-requisites are not affected by the technical requisites as the traders already have the hardware or software needed to process the payments but the usage cost alone makes it unaffordable for some traders to use the payment.

In terms of legal requirements, payment services providers have to abide by financial regulations such as pre registration and *Know Your Customer regulations (KYC)*. Pre-registrations means that users must be registered before they can make use of a payment method, and in order to register customer should supply certain information and documentation required by regulators. As seen in [Section 6.1](#) many informal traders lack personal or business documentation; and such legal requirements often affect their accessibility to certain cashless payment methods.

[Abrazhevich \(2001\)](#) defined **interoperability** as the extent to which the system is dependent on one organisation and other interested parties are allowed to join. This definition focuses on the openness of the payment method and the dependency it has on the payment service provider. Some cashless payment methods are inaccessible to many users due to strategic decisions taken by the payment service provider, which decided to limit the access to the payment method to the users associated with them. For example Airtel a mobile network operating in Zambia only offer its mobile money solution Airtel Money to their subscribers and not to users subscribed to different mobile network operators, this decision often is not to exclude potential users but to lock the current users to the payment service providers and also to muscle some users away from the competitors, nonetheless, in this situation the acceptance, customer base and accessibility of the payment solution is limited because it only goes as far as the customer base of the payment service provider.

Unlike cashless payment methods, cash does not come with any barriers that prevent its usage or adoption; cash does not require any hardware or software in order to be used. Cash also does not have any usage or adoption costs, and does not require the informal traders to have an association with the issuer of the notes in order to use them. Cash usage is only partially limited by the legal jurisdiction of the issuer (i.e. only a legal tender on the country of the issuer), however, that is not an issue unless it is a

cross-border transaction, but even then, cash can still be used as medium of exchange even though it is not a legal tender.

6.3 Payment methods compatibility

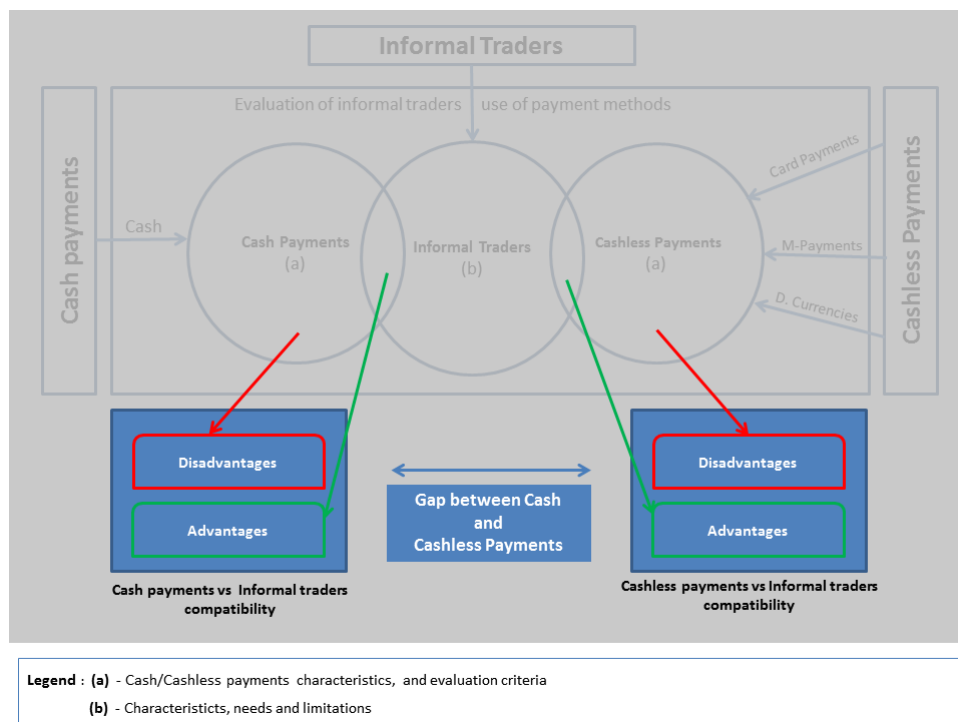


FIGURE 6.3: Conceptual framework - Payment method evaluation

After analysing the results of the study and finding out how the characteristics of payment methods affected informal traders, this study further analyses the findings above in order to determine the gap between cash and cashless payment methods from informal traders' point of view.

6.3.1 Cash payments compatibility

Cash is compatible with informal traders because it has a large user base, and the more a payment method is used, the more valuable it is to the informal trader. Acceptance is another factor that makes cash suitable for informal traders as cash is accepted everywhere and in some cases, it is the only payment method informal traders are allowed to use. Cash is also suitable for informal traders because when informal traders

make purchases using cash, they are able to negotiate the prices and benefit from possible discounts offered by suppliers.

Cash payments are final, and the money from cash payments becomes available to be used immediately, and this is one of the biggest advantages that cash offers to informal traders as traders have a huge need to be able to reinvest the money from sales immediately back into the business in order to keep it operating smoothly. By receiving cash payments, traders have a higher liquidity and better control of their funds, which would be timely and easily accessible.

Another advantage of cash payments is that cash payments can be conducted offline without the involvement of a payment service provider. Traders can be anywhere and at any time, and they would be able to receive or make payments involving only the buyer and the seller.

When traders have cash in hand, the availability of funds is totally dependent on the financial capabilities of the traders. Traders are not limited by the capability of the payment service providers to give them access to funds. Traders are also not affected by any other limitation that could be imposed by the payment service providers.

Cash is free to use, it does not have any adoption or usage costs attached to it. In addition, cash does not have any other pre-requisites: to use cash, one does not need to be associated to a financial institution or provide certain documentation. Furthermore, the use of cash is not restricted to a selected group and does not depend on any kind of approval. Although cash is issued by a single institution (usually the central bank), the use of cash is not tied to any institution in particular, and one does not need to have a bank account at the central bank to make or receive cash payments.

Cash is simple and easy to use, and traders do not need any kind of training or education in order to be able to use cash. Even people that have never used cash have some familiarity with it through second-hand exposure due to its wide acceptance and usage. The familiarity traders have with cash makes people comfortable with it; traders are not intimidated by cash and do not find it hard to use because they have already used it or they have observed cash being used.

On the negative side, cash is not the safest payment method, and informal traders consider cash to be prone to theft and loss, Furthermore, cash can also be damaged

unintentionally. Besides, receiving cash payments, especially for informal traders that work in open public spaces, can be dangerous because it can attract criminals. Similarly, carrying cash from the location of trade to home or to the bank also represents a risk for those in possession of the cash. Moreover, cash is not suitable for large payments because of the time it takes for the money to be counted and that it would require that the customers walk around with huge sums of cash.

When it comes to savings, cash can be saved at home which is advantageous for traders who need timely access to funds, but saving money at home is also dangerous due to risks of theft and unintentional damages such as fire, furthermore saving money at home and having easy access to it also makes more difficult for traders to control spending.

Cash payments often require change, and the need for change is a problem due to trader's inability to timely provide change for the customer. Delays in providing change affects informal trader's quality of services because it directly affects the time a trader takes to complete a sale. Furthermore, sometimes traders are unable to provide change at all, and in this case, the customer becomes responsible for getting change or notes of smaller denomination or the trader lose the sale.

Last but not least, cash also helps the payers (buyers) to control spending because they will only have access to the funds they have with them at the moment, thus decreasing the chances of informal traders benefiting of impulse purchases.

6.3.2 Cashless payments compatibility

Many traders do not consider cashless payment methods as valuable because they have a limited user base. Some traders are reluctant to adopt cashless payment methods because they do not see enough customers using it, and traders believe that cashless payment methods will not add any value to them if it will only be used once or twice.

Limited acceptance is another factor affecting traders' usage of payment methods. The fact that many cashless payment methods can only be used in a limited number of places reduces the utility of the payment method for the informal traders. Furthermore sometimes traders are unable to use cashless payment methods even in places where

cashless payment methods are accepted. The limited acceptance of cashless payment methods prevents traders from using their funds and also forces traders to use cashless payment methods such as cards as a medium to acquire cash. Furthermore, many traders have the daily need to take some of the earnings from sales home, and using cashless payment methods complicates this process because it requires traders to find an easy and quick way to access the money, which in the case of some cashless payment methods only becomes available 24 hours after the transaction was processed.

Some cashless payment methods are not final and can be reverted under certain circumstances; for informal traders that represents a risk because they can still lose the money after they have already handed in the goods to the customer. Furthermore, most of the cashless payment methods also do not offer immediate settlement of accounts, meaning that the money from sales does not become immediately available in the account of the trader. This also means that traders would not be able to immediately use the money from sales to reinvest in the business, even if the money was immediately available, the limited acceptance of a cashless payment method would make it difficult to use funds unless it was converted to cash.

Transactions involving cashless payment methods often involve a payment processor, and also involve the use of communication technologies such as Internet, NFC, GPRS etc. Another factor of a cashless payment method is that the availability of funds often depends on the payment service provider, usually a bank. Traders' access to funds is often limited by the technical and financial capabilities of the service provider to give them quick access to funds. Even when the funds are available, access to funds can still be limited due to rules imposed by the service providers such as withdrawal limits.

Cashless payment methods often come with some prerequisites; traders might need a certain hardware or software in order to use the payment method. The payment method might require pre-registration or specific documents before they can be used. Cashless payment methods also have some financial requirements, and traders often have to pay adoption and usage costs in order to be able to process payments. Cashless payment methods might also be tied to a financial institution, requiring that traders have an association with the said financial institution before they can use the payment method.

The limited usage and acceptance of payment methods also makes it less popular as many traders are not familiar with cashless payment methods and have no idea how they work. Some traders have never used cashless payment methods nor even seen them in use. For them, cashless payment methods is new, unknown, and intimidating; some traders never tried to use cashless payment methods but already perceive it as difficult. Some traders still need to be educated about cashless payment methods and need to have access to more information about them in order to better understand them.

Another factor about cashless payments, especially in Luanda, is that the reputation of the payment methods is closely associated with the reputation of financial institutions. Many traders do not think banks can provide them easy and timely access to money and do not think banks are liquid enough to satisfy all their customers. Many traders do not see banks as ethical institutions that act in good faith; the perceptions traders have of banks and other financial institutions affect how traders perceive the cashless payment methods as many traders believe banks are the providers of such a payment method.

Some informal traders are very sensitive to costs as some payment methods have recurring costs such as rental fees. This is an issue, especially because informal traders do not have a stable income; thus, this type of commitment is not suitable for them. What is also not suitable is the use of cashless payment methods such as cards to make small value payments; small value payments are characteristic of informal trading activities but receiving those payments using cashless payment methods ends up becoming very costly for informal traders, especially those who run very small business with low profit margins.

On the positive side, cashless payment methods are better for informal traders because they eliminate the risks related with the transportation of funds. The money would go straight to the account of the trader and eliminate the need for physical transportation of cash. Furthermore, cashless payment methods also reduce or limit the possible financial loss in the case of theft or loss, as criminals would not be able to access the funds easily. In addition, the medium used to access funds, such as cards, can be cancelled while the money remains in the account until the owner obtains another card.

Also on the positive side, acceptance of cashless payment methods can lead to increased sales, and several participants reported to have lost sales because they only accepted cash as payment methods, thus accepting cashless payment methods would prevent traders from missing on opportunities to finalise possible sales.

If traders use cashless payment methods, then the customers would pay the exact amount, and traders would not need to provide change to customers. Traders would no longer need to retain customers for significant periods of time while they try to obtain change, and neither would they lose out on possible sales due to inability to provide change.

6.3.3 Gap between cash and cashless payment methods

As seen in [Section 6.3.1](#) and [Section 6.3.2](#), both cash and cashless payment methods offer advantages and disadvantages to informal traders. To compare the suitability of cash and cashless payment methods for informal traders the advantage and disadvantages of cash and cashless method were divided into 5 categories, namely: social, economic, operational, technological and legal.

6.3.3.1 Social Factors

Under social factors cash and cashless payment methods differ in terms of customer base, acceptance, ease of use, and trust.

The wide acceptance and large customer base of cash are two of the major advantages that cash have over cashless payment methods and it has an affect on other factors such as convenience, and usefulness. Having a large customer base makes cash more valuable for informal traders, and its wide acceptance make it very convenient for traders to use it. Cashless payment methods that cannot be used everywhere, thus have a limited utility and value to informal traders.

Another barrier of cashless payments is ease of use. Cashless payment methods usually require education and training because they offer added complexity, unlike cash which is very simple, and can be used even by users with little or not education.

Due to the large customer base and acceptance, users are more familiar with cash which results in greater trust. The same does not apply to cashless payment methods which lack trust because the traders are not familiar with it and sometimes because of the reputation of the payment service provider.

TABLE 6.1: Social Factors

Aspect	Cash	Cashless
Customer Base	*Large	Limited
Acceptance	*Wide	Limited
Ease of Use	*Education and training not required	Education and training usually required
Trust	*High - traders trust because of familiarity with it	Limited - lacks trust because traders are not familiar with it
	Trust is not dependent on payment service providers' reputation	Trust is influenced by payment service providers' reputation

6.3.3.2 Legal Factors

Under legal factors cash and cashless payments differ in terms of accessibility, cash does not have any legal pre-requisite, while cashless payments usually have to satisfy some legal requirements such as pre-registration and required documentation from users; these requirements often return end up excluding some potential users who cannot meet the said requirements.

TABLE 6.2: Legal Factors

Aspect	Cash	Cashless
Accessibility	*Does not have any legal pre-requisites - accessible to everyone	Usually has legal pre-requisites - only accessible for those who meet the legal pre-requisites
	*No pre-registration required	Usually requires pre-registration

6.3.3.3 Economic Factors

Under the economic factors cash and cashless payments differ in terms of cost, financial risks, financial benefits, and accessibility.

As the findings in [Section 6.1](#) have shown, informal traders have low profit margins, cashless payment methods are not suitable for informal traders because cashless payment methods usually have adoption fees, usage fees, and sometimes recurring fees which reduces their profit margins even further. Cash on the other hand does not have any adoption or usage costs which makes it more suitable for informal traders. The costs of cashless payment methods also affect their accessibility, as some informal traders cannot have access to them because of their elevated usage or adoption costs.

In terms of security and financial risks, cash clearly loses out to cashless payments which offer improved security and eliminate the financial risks associated with theft, loss and transportation of cash. As the [interview results in chapter 5](#) demonstrated, security is one of the major factors attracting informal traders to cashless payment methods. However, cash payments are final and cannot be reversed unless the trader wishes to do so, and in terms of financial risks this fact represents an advantage of cash over cashless payments.

Cash offers informal traders some financial benefits when they are the purchasers. When paying with cash informal traders are able to negotiate prices and receive discounts. This is a benefit that they are unlikely to get if they paid with cashless payments. However when traders are the purchasers and use cashless payments methods, it improves their spending power as they are not limited to the funds they have in their

physical possession. The possible improvement of spending power provided by cashless payment methods is advantageous for traders but might be of limited utility due to the limited acceptance of cashless payment methods amongst suppliers.

On that note, customers also have an improved spending power when they are paying with cashless payment methods, which in turn increases the chances of (i) traders benefiting from impulse purchases, or (ii) losing sales for not accepting cashless payment methods.

TABLE 6.3: Economic Factors

Aspect	Cash	Cashless
Cost	*No adoption or usage costs	Usually has adoption and usage costs
Financial Risk	*Payments cannot be reversed	Payments can be reversed
	Cash is prone to theft and loss - in case of theft, loss, or damage the financial loss is complete	*Limited losses in case of theft, loss or damages
	It's risky to carry cash in large amounts	*No physical transportation of funds required
Financial Benefits	*Usually prices are negotiable (get discounts)	Usually not able to negotiate prices (no discounts)
	Decreases the chances of traders benefiting from impulse purchases	*Increases the chances of traders benefiting from impulse purchases
	Control spending - spending power is limited to the money in physical possession	Spending power not limited to funds in physical possession
Accessibility (Cost)	*High - no adoption or usage costs	Limited - usually has adoption or usage costs

6.3.3.4 Operational Factors

Under operational factors cash and cashless payment methods differ in terms of efficiency, reliability, accessibility, and liquidity (financial, convenience).

One operational advantage of cashless payment methods over cash is that cashless payment methods are more efficient for large value payments. However, most of the transaction in the informal sector involve small value payments for which cash is suitable for but cashless payment methods are not.

Informal traders have a high need of liquidity; and the funds obtained from cash payments become immediately available for re-use. Cashless payment methods often do not offer immediate payment settlement and the money obtained from sales cannot be re-used immediately. This was a crucial, non-negotiable factor many informal traders as they need easy and timely access to funds in order to conduct their daily operations.

The need to have easy access to money leads many traders to save money at home. The advantage of cash in this case is that the availability and access to funds is totally dependent on the traders financial capabilities. On the other hand, using cashless payment methods, traders would be dependent on the financial and technical capabilities of the payment service provider to have access to funds.

Cash also does not require association with a financial institution, which makes cash more accessible to informal traders than some cashless payment methods that are closed to a specific group of users. Cash is also more suitable for small payment than large value payments, while cashless payment methods are more suitable for large value payments less cost effective for small value payments.

TABLE 6.4: Operational Factors

Aspect	Cash	Cashless
Reliability	Saving cash at home guarantees easy access to funds	-
	*Transactions can be processed at any given moment	Transactions cannot be processed when system is unavailable or out of order
	*Access to funds does not depend on payment service provider	Access to funds depends on the reliability of the payment service provider
Liquidity	*Availability of funds does not depend on payment service provider	Availability of funds depends on the reliability of the payment service provider
	*Money from sales becomes immediately available for re-use	Usually money from sales does not become immediately available for re-use
Accessibility	*High - it does not require association to third-parties	Limited - it usually requires association to third-parties
Efficiency	*Suited for small value payments	Not suited for small value payments
	Not suited for large value payments	*Suited for large value payments

6.3.3.5 Technological Factors

Under technological factors cash and cashless payment methods differ in terms of authorisation type, speed, divisibility, and, accessibility.

Cash does not require third-part involvement for transactions to be processed, while cashless payment methods often require connectivity and third part-part involvement.

Cashless payments eliminate the need to count money which can lead to improved transaction times. Cashless payments also offer better divisibility than cash and eliminate the need to provide change which also can lead to improved transaction times. Improved transaction times is advantageous for informal traders, specially for street vendors which face higher risks of losing sales due to extended transaction times.

In technological terms cash is also a better fit for informal traders because they do not require new hardware or software in order to be used, while cashless payments sometimes have technical pre-requisites that make them inaccessible to some users.

TABLE 6.5: Technological Factors

Aspect	Cash	Cashless
Authorisation type	*Offline payments - third-part involvement not required	Connectivity and third-part involvement usually required
Accessibility	*High - no special hardware or software is required to process payments	Limited - usually requires special hardware or software to process payments
Speed	Variant - money needs to be counted which increases transaction time	*Variant - no need to count money might reduce transaction time
Divisibility	Limited - often requires change which increases transaction time	*High - no need to provide change might transaction time

Looking at the tables above namely: [Table 6.1](#), [Table 6.2](#), [Table 6.3](#), [Table 6.4](#) and [Table 6.5](#), the asterisk (*) marks the most advantageous option in the comparison. For example [Table 6.2](#) the asterisk indicates that cash is superior to cashless payment methods in terms of accessibility because it is accessible to everyone, it does not require pre-registration and does not have any other legal pre-requisite.

The contents from [Tables 6.1](#), [6.2](#), [6.3](#), [6.4](#), and [6.5](#) demonstrate that cash offers informal traders many advantages in terms of acceptance, customer base, high accessibility, convenience, usefulness and liquidity, and fall short in terms of security and protection

against financial risks. On the other hand cashless payment methods offer improved security and better protection against financial risks but the advantages of cashless payment methods are easily out-weighted by the disadvantages.

Chapter Summary

This chapter analysed the results from the findings in the previous chapters, compared it to the findings in the literature. It also used the conceptual framework present in [Chapter 3](#) and the results in [Chapter 5](#) to determine the practical implications that the characteristics of cash and cashless payment methods have for informal traders. The next chapter will present the conclusion of this study and the reflections of the researcher about the research process.

Chapter 7

Conclusion

Introduction

This chapter concludes this research study, the chapter is divided into 5 sections. [Section 7.1](#) presents an overview of the research study. [Section 7.2](#) revisits the research questions and objectives of the study and if or how they were answered and achieved. [Section 7.3](#) reflects on the limitations of the study, [Section 7.4](#) highlights the contributions of the study

7.1 Overview of the study

[Chapter 1](#) provided an introduction to the background of the study and the problem being investigated. It also presented the research questions and objectives of the study; the delineation, limitations and significance of the study were also covered. [Chapter 2](#) focused on the review of the literature and provided insights about the informal sector in Africa and its importance. The chapter also looked at payment methods and the current developments in the payment space in Africa as well as the literature on payment methods, the different types, their characteristics, and how they can be evaluated.

[Chapter 3](#) presented the research methodology. It discussed the research approach used by the researcher and covered the philosophical assumptions, research strategy, sampling, unit of analysis, data collection, data analysis, ethical considerations and the

conceptual conceptual framework used by the researcher. Chapter 4 introduced the cases studied by the researcher, the contextualisation of the study and the demographics of the participants

The research results were presented in Chapter 5, and in Chapter 6 the analysis of the results and the discussion of findings were presented. Chapter 7 contains the conclusion of the study and includes a reflection on the research question and objectives, the limitations and contributions of the study as well as the suggestions for future research.

7.2 Research questions and objectives

This section looks at the research questions and sub-questions this study aimed to answer and reflects on if or how they were answered.

7.2.1 Research question 1

Research sub-question	Research Method	Objective
What are the characteristics of informal traders?	Literature review, interviews, observations	Identify the characteristics, needs and limitations of the informal traders in Africa

TABLE 7.1: Research questions 1.

The first question focused on the characteristics of the informal traders in Africa, and its objective was to identify the characteristics of the informal traders operating in the continent including their needs and their limitations. To answer this question, the researcher reviewed the relevant literature related to informal traders in Africa and also interviewed different informal trader groups (street vendors and market vendors) in two different cities (Cape Town and Luanda). The researcher managed to identify a number of characteristics needs and limitations of informal traders.

TABLE 7.2: Findings - Informal traders

Number	Finding
Finding 01	Informal trading contributes to employment creation and poverty reduction
Finding 02	Informal traders often lack permits and rights to trading sites
Finding 03*	Informal traders have very low profit margins
Finding 04*	Informal traders have customers of limited buying power
Finding 05	Informal traders lack access to funding opportunities to start or expand their businesses
Finding 06	Informal traders are more keen to borrow from members of their social circles (relatives and friends) than they are to borrow from financial institutions
Finding 07	Unfavourable laws and regulations hinder the development of the informal sector
Finding 08	Many informal Traders lack access to proper working conditions
Finding 09*	Many informal traders depend of the sales of each day to survive
Finding 10*	Informal traders have an unstable income
Finding 11*	Informal traders have limited access to financial services
Finding 12*	Costs and lack of documentation hinder informal traders access to financial services
Finding 13*	Informal traders lack financial education and access to information regarding banking products
Finding 14	Stokvel is used by informal traders as a mechanism to save money
Finding 15*	Informal traders need easy and timely access to money in order to properly conduct their business activities
Finding 16*	Security and lost sales are two factors attracting informal trader to use banking products
Finding 17*	Costs and easy access to money are two factors leading informal traders to use cash and save money at home instead of banks
Finding 18	Informal traders acquiring card machines represent a high risk to banks

Table 7.2 presents a summary of the findings regarding the characteristics needs and limitations informal traders in Africa. However, of the 18 findings, only 10 proved to have influence on informal traders choice of payment method, namely: Findings 03, 04, 09, 10, 11, 12, 13, 15, 16 and 17; all marked with an asterisk (*).

7.2.2 Research question 2

Research sub-question	Research Method	Objective
Which are the cashless payment solutions currently available in Africa?	Literature review, interviews	Identify what are the alternative payment options currently available for informal traders in Africa

TABLE 7.3: Research questions 2.

The second question was focused on the cashless payment solutions currently available for the informal traders in Africa, and its objective was to determine the alternatives to cash currently available for informal traders in Africa. To answer the question, the researcher looked at the current literature, both academic and industry developments and reviewed different cashless payment methods, namely: card based payments (credit cards, debit cards and pre-paid cards), mobile based payments (m-wallets, mpos, m-money), and digital currencies (virtual currencies, cryptocurrencies, airtime).

From the reviewed literature and the interviews conducted, it was also possible to note a disparity in terms of development in the payment space across the two locations. In Luanda the only cashless payment methods used are cards payments and services are mostly provided by private banks. In Cape Town a broader broader variety of payment solutions was available, specially in the forms of m-wallets and mPos with most of the initiatives also being bank-led but with some involvement of non-banks. Across the rest of the continent there are various m-money solutions in use. Most of the m-money solutions are led by mobile network operators and they are mainly focused on money remittance services and there are no reports of their usage in informal trading activities.

Informal traders in Luanda and also the informal traders in Cape Town showed limited awareness and familiarity with the existing payment methods available to them, with their knowledge being mostly limited to cash and cards.

7.2.3 Research question 3

Research sub-question	Research Method	Objective
What are the major characteristics of payment methods?	Literature review, interviews	Determine how payment methods can be studied or/and understood.

TABLE 7.4: Research questions 3.

Question 3 was concerned with the characteristics of payment methods. The objective of this question was to identify and understand the different traits of payment methods in order to be able to evaluate their suitability for informal traders. Different studies conducted on the evaluation of payment methods were reviewed, and 28 evaluation criteria were identified and are listed below.

- *Acceptance;
- anonymity;
- atomic exchange;
- *authorisation type;
- authority/validity;
- convertibility;
- *cost;
- *customer base;
- *ease of use;
- *efficiency;
- *financial risks;
- integrity;
- interoperability (technical);
- *interoperability (strategic);
- *legal;
- mobility;
- non repudiation;
- privacy (technical);
- privacy (social);
- *reliability;
- scalability;
- *speed;
- *security;
- traceability;
- *trust;
- universality;
- user range; and
- value Mobility.

Out of the 28 characteristics listed above, only the 13 marked with an asterisk (*) were found to influence informal traders' choice of payment methods. Some of influential characteristics affect informal traders' choice of payment method in more than one way. Furthermore, besides the pre-identified characteristics, the researcher also identified other two influencing factors, namely **liquidity** and **accessibility**. The relevance of each of these characteristic on informal traders' choice of payment method was covered on [Chapter 6](#) in [Section 6.2](#)

7.2.4 Main question

How do the existing cashless payment methods compare to cash from the informal traders' point of view

The main question of the study was concerned with how cashless payment methods compare against cash from a perspective of the informal traders. On [Chapter 6](#) in Section [6.3.3](#) the suitability of cash and cashless payments for informal traders was analysed, and the aspects influencing the payment methods compatibility to informal traders were divided into 5 categories as presented in the table below.

TABLE 7.5: Categorisation of payment methods aspects

Theme/Factor	Aspect
Social Factors	Customer Base
	Acceptance
	Ease of Use
	Trust
Legal Factors	Accessibility (legal)
Economic Factors	Cost
	Security & Financial Risk
	Financial Benefits
	Accessibility
Operational Factors	Reliability
	Liquidity
	Efficiency
Technological Factors	Authorisation type
	Accessibility (technological)
	Speed
	Divisibility

Customer base : The bigger the customer base of a payment method the more valuable it is, and the more traders are inclined to accept it. Cash is more suitable for informal trader than cashless payments because it has a larger customer base. Cashless payments are only seen as valuable by informal traders who have lost sales because they did not accept cashless payments, while traders who never had customers trying to pay with cashless payments do not see the value in it.

Acceptance : The usage of payment methods amongst informal traders is influenced by the the acceptance from suppliers. The higher the acceptance of a payment method from suppliers, the more suitable the payment method will be for the informal traders. Cash is more suitable for informal trader than cashless payments because it has a wider acceptance.

Education and ease of use : Traders need to be educated about cashless payment methods, have more exposure to them and also more access to information on cashless payment methods in order for their perspectives about payment methods to change. When it comes to the actual use of the payment methods, cashless payment methods must be easy to use in order to compete with cash.

Trust : Informal traders have more trust on cash than they have in cashless payments. The trust informal traders have in cash does not originate from the fact it is a legal tender but from the familiarity traders have with cash. The more familiar traders are with a payment method, the more they trust it, and the greater the inclination use it. The trust of users in payment methods is also influenced by the image or trust the users have on the payment service provider. In Angola, the image or reputation of payment methods is heavily tied to the image and reputation of the banks. As long as banks are seen as unreliable and untrustworthy, traders will prefer to trade in cash and save their money at home just to ensure easy access and safekeeping. Similarly, as long as the image and reputation of cashless payment methods remain strongly associated with the banks, cashless payments methods will struggle to gain credibility unless the image and reputation of the banks changes drastically.

Accessibility : Legal requirements (pre-registration, documentation), technical requirements (software, hardware), operational requirements (interoperability(strategic)) and financial requirements affect trader accessibility or eligibility to use cashless payment methods. Reduced requirements for cashless payments would soften the barriers

preventing its adoption. Even though some of the participants that have access to cashless payment methods indicated that cash is still their payment method of choice, it is arguable that increased accessibility and adoption could make cashless payment methods more attractive to informal traders due to increased customer base, acceptance and convenience.

Cost : Cost is an aspect that affects payment methods negatively, and the higher the costs, the less attractive they are for informal traders. Many informal traders run very small business with very low profit margins and prefer to use cash because it has no adoption or usage costs attached to it. Cashless payment methods have costs attached, and those costs not only affect informal traders choice of payment method but also affect the accessibility of the payment method.

Security and financial risk : The financial risks associated with cash are by far its biggest disadvantages. Despite the costs associated with cashless payment methods, and informal traders need of liquidity and easy access to funds; security is the one of the major aspects driving up informal traders' adoption of cashless payment methods. Unlike cash, cashless payment methods have security mechanisms that prevent financial loss in case it is lost, stolen or damaged, thus, represent limited financial risks to informal traders. Cash does not offer many guarantees in terms of security to its users; cash is prone to theft, loss and damaged and its almost impossible to track or recover once lost or stolen.

Financial Benefits : Both cash and a cashless payments offer financial benefits to the traders. Cash offers financial benefits when the traders are making purchases, and Cashless payments offer financial benefits when the traders are selling. When purchasing with cash, traders are able to negotiate the prices and often are offered discounts on purchases; benefits that traders paying with cards usually do not have. Traders paying with cashless payment methods have a higher financial power because they are not limited by the amount of funds they have in hand. On the other hand traders paying with cash have a limited financial power but it could be an advantage because it helps them to control spending.

When traders are selling, cash means that the buyers have a more limited financial power, therefore, decreases the chances of traders benefiting from impulse purchases.

On the other hand cashless payment methods increase the chances of traders finalising sales, and benefiting from impulse purchases as the buyers are not limited by the amount of money they have in hand.

Efficiency : Cashless payment methods are not very cost efficient for small value payments; the smaller the transaction amount the more expensive cashless payment methods become. This is a clear disadvantage cashless payment methods have in relation to cash; especially because most of the transaction in the informal sector involve small value payments. Most of the informal traders run small business with very low profit margins; unless payment service provider provide pricing models suitable for the small value transactions, cashless payment methods will remain too costly for traders operating very small businesses.

Authorisation types : Cash payments do not have any dependencies and can be conducted without the involvement of a third-party such as a payment service provider. This means that cash payments can be processed without the influence of any external factor, and because there are no third parties involved there is also no added costs associated to it such as transaction fees. Cashless payments often require the involvement of a third-party to process the payment; the third-party is usually the payment service provider, which is involved through some kind of connectivity, and operates at a cost (transaction fees). The ability to process payments without the involvement of the payment service provider is an advantage for cash, and cashless payment methods would be more attractive to traders if they offered the same capabilities

Reliability : Informal traders consider cash to be more reliable than cashless payment methods. Traders have can process cash payments at any given time as cash has payments have no dependencies. On the other hand traders are not always able to process cashless payments as sometimes they are unavailable or out of order. Furthermore, informal traders not only use cashless payments such as debit cards to make payments but also use them to access and obtain cash. Due to technical difficulties or lack of funds at the ATMs traders are not always granted to have access to the money in their accounts. On the other hand, the money from cash payments usually remains in the hands of the traders, and the access to those funds is always granted because it depends on the traders themselves and not on the Technical or financial capabilities of the payment service provider to give them access to funds.

Possible lack of technical or finalising capabilities of the payment service provider to provide traders access to their funds, is not an issue of the cashless payment method but is an issue of the payment service provider. Nonetheless, its implications still indirectly affect informal traders' perceptions about the reliability of cashless payment methods and also their trust and intention to use cashless payment methods.

Liquidity : For informal traders one of the major gaps between cash and cashless payment methods is that the money from cashless payments does not become immediately available for reuse. Throughout the day informal traders have the need to buy more stock to replace the items that they have already sold. When informal traders are paid in cash, they have total control of the cash in hand, and can immediately use it to make payments for goods or services. Cashless payments on the other hand, usually do not offer immediate settlement of account, in other words, the money obtained from a sale does not become immediately available in the traders account, therefore is not money that the traders can use to buy more stock or to pay people.

The liquidity of the traders is also affected by the acceptance of the payment method, because even if the money from cashless sales became available immediately for reuse, it would be of limited use to traders due to limited acceptance of cashless payment methods. Therefore traders would need to get cash in order to be able conduct their daily operations without financial limitations.

Liquidity, might be the reason why suppliers try to force buyers to make cash payments by pretending that their card machines are out of order; and might also be the reason why merchants offer discounts to the customers paying in cash. Having cash in hand is not just a habit but also a necessity, and the importance of liquidity for informal traders cannot be underestimated.

Divisibility and speed : The speed of a payment method can affect the quality of service a trader is delivering and also can affect the ability of the trader to finalise sales. The faster the payment method is the better it is for informal traders. Cashless payment methods eliminate the need to count money, which can improve transaction times but cashless payments can be faster or slower than cash, depending on the available infrastructure and the exact cashless payment solution. The divisibility of funds in cashless payment methods allows the customers to pay the exact amount, thus

also contributes to improved transaction times by eliminating the need of the traders having to provide change.

In resume, cash is lagging behind in relation to cashless payment methods in terms of divisibility, speed, security and financial risks. There is an equilibrium in terms of financial benefits, with the scale tilting in favour of cashless payment methods when traders are selling, and in favour of cash when the traders are making purchases. In terms of acceptance, customer base, trust, ease of use, cost, accessibility, efficiency, authorisation type, reliability and liquidity cash is more suitable to informal traders than cashless payments.

However its important to note that factors such trust, reliability and accessibility are affected by external factors. These external factors such as (i) legislation, (ii) reliability of the payment service provider, and (iii) user's trust and perceptions about their payment service providers, are not factors inherent from payment methods but direct or indirectly affect the degree of compatibility between informal traders and the payment methods.

For example; in cashless payment methods, the availability and access to funds is dependent on the payment service provider. If the payment service provider is financially, and technologically capable of providing traders with timely access to funds, traders will perceive the payment method as reliable. If not, then the payment method will be seen as unreliable. Therefore, these external factors can increase or decrease the degree of compatibility payment methods and informal traders depending on the legislation in place and the payment service provider in question. The influence of these external factors on the degree of compatibility between informal traders and payment methods is accordingly represented in the final conceptual model presented below in [Figure 7.1](#)

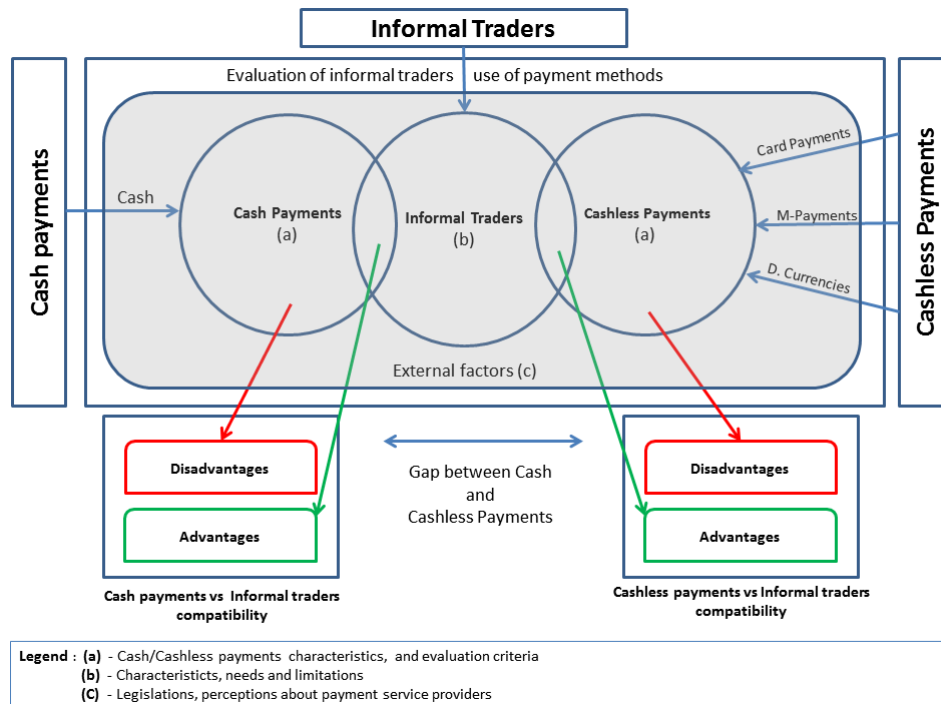


FIGURE 7.1: Informal traders vs payment method compatibility model

7.3 Generalisability and limitation of the study

One of limitations of this study was that the data collected from the informal traders in Cape Town was not as rich as the data collected in Luanda. The initial interview questions were not developed in alignment with the main research questions and failed to capture information on some of the topics under investigation. The case study in Cape Town did lead the researcher in the right direction and enable him to develop better questions for the case study in Luanda, but the inability of the researcher to have a second round of data collection in Cape Town to improve the quality of data hampered the ability of the researcher to make cross-country comparisons regarding some of the topics under investigation. As results, some of the findings are particular to the informal traders in Luanda and might not hold true in other geographical locations.

The case study in Cape Town further differs from the case study in Luanda because it did not include the participation of bank consultants. Initially the researcher planned to interview only informal traders, and the need to interview the bank consultants only emerged during the stage of data analysis of the data collected in Luanda. At that point, bank consultants from Cape Town could not longer be included since the researcher

was unable to conduct a second set of interviews in Cape Town. Further research could be conducted in Cape Town or in a city with similar characteristics in order to test these findings or develop a cross-country comparison.

This study was also limited in terms of participants' lack of knowledge about most of the existing cashless payment methods, and the researcher was unable to compare cash to each of the cashless payments individually because the participants not only lacked first hand experience with such payment methods, but also lacked awareness of them. Most of their views and perceptions about cashless payment methods were based on their limited exposure to card payments. Further research could be conducted in countries such as Kenya where cashless payment methods such as M-pesa are widely used and more traders are likely to be familiar with cashless payment methods.

The other limitation of this study is that cash is compared to cashless payments as a whole, but the different types of cashless payments have multiple differences amongst them, and from the results of this study it is still not clear how each of the findings regarding the payment methods affects each type of payment method individually. For example credit cards can have higher usage costs in relation to cryptocurrencies such as Bitcoin, on the other hand informal traders are likely to require much more education and training in order to be able to use Bitcoins, than they would need in order to use credit cards. Based on the findings of this study further research could be conducted in order to find the gaps between cash and each type of payment method individually.

Most of the findings in this study are generalisable to a certain extent. The findings regarding the factors that affect informal traders' choice of payment method such as cost, security and need to have cash in hand, etc. emerged both from the findings in Cape Town as well as from the findings from Luanda, this suggests that these findings are not context-specific. However, the level of importance each factor has for informal traders might vary according to the context, for example if City A is more violent than City B, it is likely that traders from City A will give more importance to security than traders in City B. Similarly the fact that the image of payment service providers affects traders' perception about the payment method is a generalisable finding. However, the fact that the image of payment service providers (banks) in Angola affected negatively traders' perceptions about cashless payment methods, does not mean that it will hold true in

other cities with more advanced infrastructure and payment service providers that offer better services.

7.4 Contribution of the study

Many of the studies in the payment literature are conducted from a perspective of the users or large scale merchants such as retailers. This study contributes to body of knowledge by bringing into perspective a different user group, the informal traders.

This study sheds light into limitations of informal traders such as: no documentation, lack of access to financial services, unstable income, customers with limited buying power, and low profit margins. The study also sheds light on the payment needs of informal traders, namely the need of liquidity and easy access to funds, the need of reliable, fast, secure, and cost-efficient payment methods.

The study also identified the barriers stopping informal traders from adopting cashless payment methods such as: small customer base, limited acceptance, limited trust, perceived complexity, adoption and usage costs, low liquidity, and limited accessibility (legal, technical, strategic).

Many studies are conducted on the ability of payment methods to compete with cash or even to replace it, but many of these studies are technology-centric and do not look at the ability of cashless payment methods to satisfy the needs of those that are heavily reliant on cash. Technology does solve some of the limitations related to cash such as divisibility and speed and also contribute to better security and minimisation of financial risks. However the results of this study show that most of the advantages of cash are related to social factors, legal factors, economic factors and operational factors; and that is where cashless payments loses to cash despite being technologically more advanced.

Bibliography

- About Payments, A. (n.d.), 'Digital wallet payments'. [Online; accessed 27-05-2015].
URL: <https://www.about-payments.com/knowledge-base/methods#wallets>
- Abrazhevich, D. (2001), *Classification and characteristics of electronic payment systems*, Springer.
- ABSA (n.d.), 'Payment pebble'. [Online; accessed 25-05-2015].
URL: <http://www.absa.co.za/Absacoza/Commercial/Your-needs/Receive-payments/Payment-Pebble>
- Alleman, J. and Rappoport, P. (2010), 'Mobile-money: Implications for emerging markets', *Communications and Strategies* **79**(3), 15–19.
- Arango, C., Hogg, D. and Lee, A. (2012), Why is cash (still) so entrenched? insights from the bank of canada's 2009 methods-of-payment survey, Technical report, Bank of Canada Discussion Paper.
- Arango, C., Huynh, K. P., Fung, B. and Stuber, G. (2012), 'The changing landscape for retail payments in canada and the implications for the demand for cash', *Bank of Canada Review* **2012**(Autumn), 31–40.
- Babbie, E. and Mouton, J. (2001), *The practice of social research*, Cape Town: Oxford University Press.
- BBC News, S. (2014), 'Cape town goes cashless as mobile payment apps take off'. [Online; accessed 05-05-2015].
URL: <http://www.bbc.com/news/business-30184359>
- BBC News, U. (2009), 'Zimbabwe abandons its currency'. [Online; accessed 09-08-2015].
URL: <http://news.bbc.co.uk/2/hi/7859033.stm>

- Bhattacharjee, A. (2012), *Social science research: principles, methods, and practices*, Global Text Project.
- Borzekowski, R., Elizabeth, K. K. and Shaista, A. (2008), 'Consumers' use of debit cards: patterns, preferences, and price response', *Journal of Money, Credit and Banking* **40**(1), 149–172.
- Bourreau, M. and Verdier, M. (2009), 'Private cards and the bypass of payment systems by merchants'.
- Brown, A., Lyons, M. and Dankoco, I. (2010), 'Street traders and the emerging spaces for urban voice and citizenship in african cities', *Urban Studies* **47**(3), 666–683.
- Business Daily, B. (2013), 'Equity eyes matatu billions in card venture with google'. [Online; accessed 18-05-2015].
URL: www.businessdailyafrica.com/Equity-eyes-matatu-billions-in-card-venture-with-Google-/1248928/1766562/-/9dtv7d/-/index.html
- Business Daily, B. (2015), 'Google quits cashless fare business after bebapay exit'. [Online; accessed 18-05-2015].
URL: www.businessdailyafrica.com/Corporate-News/Google-quits-cashless-fare-business/-/539550/2625662/-/lniipoz/-/index.html
- BusinessNewsDaily (2014a), '5 mobile pos success stories'. [Online; accessed 24-05-2015].
URL: www.businessnewsdaily.com/6691-mobile-pos-systems.html
- BusinessNewsDaily (2014b), '5 ways pos systems are changing (and why it matters)'. [Online; accessed 27-05-2015].
URL: www.businessnewsdaily.com/6499-pos-changes.html
- Camner, G., Sjöblom, E. and Pulver, C. (2009), 'What makes a successful mobile money implementation', *Learnings from M-PESA in Kenya and Tanzania* .
- Carr, M. (2007), Mobile payment systems and services: an introduction, in 'Mobile Payment Forum', pp. 1–12.
- Cavana, R. Y., Delahaye, B. L. and Sekaran, U. (2001), *Applied business research: Qualitative and quantitative methods*, John Wiley & Sons Australia.

- Chaia, A., Dalal, A., Goland, T., Gonzalez, M. J., Morduch, J. and Schiff, R. (2013), 'Half the world is unbanked', *Banking the world: empirical foundations of financial inclusion* p. 19.
- Chakravorti, S. and Emmons, W. R. (2003), 'Who pays for credit cards?', *Journal of Consumer affairs* **37**(2), 208–230.
- Chakravorti, S. and Lubasi, V. (2006), 'Payment instrument choice: The case of prepaid cards', *Economic Perspectives, Second Quarter* .
- Ching, A. T. and Hayashi, F. (2010), 'Payment card rewards programs and consumer payment choice', *Journal of Banking & Finance* **34**(8), 1773–1787.
- City of Cape Town, C. (2004), 'Informal trading policy and management framework'.
- City of Cape Town, C. (2013), 'Informal trading policy and management framework'.
- CoinDesk (2013), 'How bitcoin mining work'. [Online; accessed 05-April-2015].
URL: <http://www.coindesk.com/information/how-bitcoin-mining-works>
- CoinDesk (2014), 'Bitx targets developing countries with global expansion plan'. [Online; accessed 13-12-2015].
URL: <http://www.coindesk.com/bitx-targets-developing-countries-global-expansion-plan/>
- Comninou, A., Esselaar, S., Ndiwalana, A. and Stork, C. (2009), 'Airtime to cash: Unlocking the potential of africa's mobile phones for banking the unbanked'.
- CPAfrica (2013), 'Kipochi launches first bitcoin wallet with mpesa integration..'. [Online; accessed 13-12-2015].
URL: <http://www.cp-africa.com/2013/07/08/kipochi-launches-africas-first-bitcoin-wallet-with-mpesa-integration/>
- CPSS (2012), 'Innovations in retail payments. committee on payment and settlement systems'.
- Creswell, J. (2009), *Research design: Qualitative, Quantitative, and mixed methods approaches*, London: SAGE, 2009.
- Cross, J. (1999), Informal sector, in 'P. A. OHara (Ed.) Encyclopedia of Political Economy', London: Routledge, p. 580582.

- Dahlberg, T., Mallat, N., Ondrus, J. and Zmijewska, A. (2008), 'Past, present and future of mobile payments research: A literature review', *Electronic Commerce Research and Applications* 7(2), 165–181.
- Davidson, N. and McCarty, Y. (2011), 'Driving customer usage of mobile money for the unbanked', *London, UK: GSM Association (GSMA)* .
- Davidson, N. and Pénicaud, C. (2012), 'State of the industry: Results from the 2011 global mobile money adoption survey', *GSMA*. Available at; http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2012/05/MMU_State_of_industry_AW_Latest.pdf .
- de Koker, L. and Jentzsch, N. (2011), Financial inclusion and financial integrity: aligned incentives?, in 'Shadow 2011: The shadow economy, tax evasion and money laundering: Proceedings of the 2011 Shadow conference', University of Münster, pp. 1–28.
- Demirgüç-Kunt, A. and Klapper, L. F. (2012), 'Financial inclusion in africa: an overview', *World Bank Policy Research Working Paper* (6088).
- Dibben, P. and Nadin, S. (2011), 'Community unionism in africa: The case of mozambique', *Relations Industrielles/Industrial Relations* pp. 54–73.
- Diniz, E. H., Porto de Albuquerque, J. and Cernev, A. K. (2011), 'Mobile money and payment: a literature review based on academic and practitioner-oriented publications (2001-2011)'.
- Donner, J. and Tellez, C. A. (2008), 'Mobile banking and economic development: Linking adoption, impact, and use', *Asian Journal of Communication* 18(4), 318–332.
- ECB (2009), 'Glossary of terms related to payment, clearing and settlement systems'.
- ECB (2015), 'Virtual currency schemes - a further analysis', *European Central Bank* .
- Economist, T. (2013), 'Continent of dreams : Across africa, banks are expanding. their returns aren't'. [Online; accessed 22-May-2014].
URL: <http://www.economist.com/news/finance-and-economics/21572768-across-africa-banks-are-expanding-their-returns-arent-continent-dreams>
- EPC (2012), 'White paper: Mobile payments'.

Estel Telecom, E. (n.d.), 'Now, accept card payments in few easy steps using estel mpos'. [Online; accessed 27-05-2015].

URL: <http://www.esteltelecom.com/mobile-point-of-sale-terminal.html>

European Central Bank, E. (2012), 'Virtual currency schemes'.

European Payment Council, E. (2014), 'Overview of mobile payments initiatives'.

Ezetap (n.d.), 'Ezetap'. [Online; accessed 27-05-2015].

URL: <https://www.ezetap.com/>

Feigenbaum, K. (1995), 'Case studies as a research method.', *Gastroenterology Nursing* **18**(2), 54–56.

Financial Brand, T. (2014), 'When will pos mobile payments go mainstream?'. [Online; accessed 28-05-2015].

URL: <http://thefinancialbrand.com/42760/mobile-payments-report-pos-trends/>

Fin24Tech (2014), 'Evolution of mobile payments in sa'. [Online; accessed 06-05-2015].

URL: <http://www.fin24.com/Tech/News/Mobile-payment-evolution-picks-up-speed-20140714>

Fin24Tech (2015), 'Mxits commercial closure unsurprising'. [Online; accessed 12-12-2015].

URL: <http://www.fin24.com/Tech/News/Mxits-commercial-closure-unsurprising-20151023>

FinExtra (2013), 'Current and future challenges of mobile pos solutions'. [Online; accessed 25-05-2015].

URL: www.finextra.com/blogs/fullblog.aspx?blogid=7508

FlickPay (n.d.), 'Flickpay'. [Online; accessed 06-05-2015].

URL: <http://www.flickpay.co.za/>

Flores-Roux, E. M. and Mariscal, J. (2010), 'The enigma of mobile money systems', *Communications and Strategies* (79), 41–62.

Flores-Roux, E. and Mariscal, J. (2011), *The development of mobile money systems*, Centro de Investigación y Docencia Económicas, División de Administración Pública.

- Foster, K., Meijer, E., Schuh, S. D. and Zabek, M. A. (2011), 'the 2009 survey of consumer payment choice', *FRB of Boston Public Policy Discussion Paper* (11-1).
- Goetz, M. (2009), *Mobile business models in African rural communities*, PhD thesis, Stellenbosch: University of Stellenbosch.
- Górka, J. (2012), *Payment behaviour in poland—the benefits and costs of cash, cards and other non-cash payment instruments*, Technical report, Working Paper.
- Gresvik, O. and Haare, H. (2008), 'Payment habits at point of sale: Different methods of calculating use of cards and cash in norway', *Staff Memo* 6, 60.
- Grinberg, R. (2012), 'Bitcoin: an innovative alternative digital currency', *Hastings Sci. & Tech. LJ* 4, 159.
- GSMA (2010), 'Mobile contactless payments service management roles requirements and specifications'.
- GSMA (2015), 'Mobile development tracker'. [Online; accessed 06-05-2015].
URL: <http://www.gsma.com/mobilefordevelopment/tracker/>
- Gup, B. E. (2014), 'What is money? from commodities to virtual currencies/bitcoin', *From Commodities to Virtual Currencies/Bitcoin* (March 14, 2014) .
- Gutierrez, E. and Choi, T. (2014), 'Mobile money services development: the cases of the republic of korea and uganda', *World Bank Policy Research Working Paper* (6786).
- Hancock, D. and Humphrey, D. B. (1997), 'Payment transactions, instruments, and systems: A survey', *Journal of Banking & Finance* 21(11), 1573–1624.
- Hans, D. (2014), *Virtual currency in an emerging market: A study on adoption barriers*, Master's thesis, Cape Peninsula University of Technology (CPUT).
- Heikkinen, P. (2009), 'A framework for evaluating mobile payments'.
- Heintz, J. and Valodia, I. (2008), 'Informality in africa: A review', *Background paper for the Swedish International Development Cooperation Agency (Sida)*, *Unpublished Working Paper* .

- Herrera, J., Kuépié, M., Nordman, C. J., Oudin, X. and Roubaud, F. (2012), 'Informal sector and informal employment: Overview of data for 11 cities in 10 developing countries', *Women in Informal Employment: Globalizing and Organizing Working Papers. Women in Informal Employment: Globalizing and Organizing, Cambridge, MA* .
- Heyer, A. and Mas, I. (2009), 'Seeking fertile grounds for mobile money', *Unpublished paper* .
- Hoofnagle, C. J., Urban, J. M. and Li, S. (2012), 'Mobile payments: Consumer benefits & new privacy concerns', *Available at SSRN 2045580* .
- Humphrey, D. B. (2010), 'Retail payments: New contributions, empirical results, and unanswered questions', *Journal of Banking & Finance* **34**(8), 1729–1737.
- Husmanns, R. (2004), 'Measuring the informal economy: From employment in the informal sector to informal employment', *Integration Working Paper* **53**.
- iKhokha (n.d.a), 'Frequently asked question'. [Online; accessed 26-05-2015].
URL: www.ikhokha.com
- iKhokha (n.d.b), 'ikhokha'. [Online; accessed 26-05-2015].
URL: www.ikhokha.com/
- International Labour Office, I. (2014), 'Global employment trends 2014: Risk of a job-less recovery?'.
URL: <http://www.ilo.org/public/eng/mediacentre/pressreleases/2014050101.pdf>
- IOL (2002), 'Women and men in the informal economy: A statistical picture', *Employment sector. Geneva: International Labour Organization* .
- ITNewsAfrica (2014), 'Takealot now accepting bitcoin payments.'. [Online; accessed 13-12-2015].
URL: <http://www.itnewsafrika.com/2014/07/takealot-now-accepting-bitcoin-payments/>
- ITU-T (2013a), 'The mobile money revolution : Part 1 - nfc mobile payments'.
- ITU-T (2013b), 'The mobile money revolution : Part 2 - the financial inclusion enabler'.
- ITWeb (2015), 'Uber sa goes zazoo'. [Online; accessed 06-05-2015].
URL: www.itweb.co.za/

iVeri (n.d.), 'Acquiring m-press'. [Online; accessed 28-05-2015].

URL: <http://www.iveri.com/products/acquiring/mpress/>

Jonker, N. (2013), Social costs of pos payments in the netherlands 2002-2012: Efficiency gains from increased debit card usage, Technical report, Netherlands Central Bank, Research Department.

Jyrkonen, H. and Paunonen, H. (2003), 'Card, internet and mobile payments in finland', *Bank of Finland Discussion Paper* (8).

Karnouskos, S. (2004), 'Mobile payment: a journey through existing procedures and standardization initiatives', *Communications Surveys & Tutorials, IEEE* **6**(4), 44–66.

Kendall, J., Maurer, B., Machoka, P. and Veniard, C. (2011a), 'An emerging platform: From money transfer system to mobile money ecosystem', *innovations* **6**(4), 49–64.

Kendall, J., Maurer, B., Machoka, P. and Veniard, C. (2011b), 'An emerging platform: From money transfer system to mobile money ecosystem', *innovations* **6**(4), 49–64.

Kimenyi, M. and Ndungu, N. (2009), 'Expanding the financial services frontier: Lessons from mobile phone banking in kenya', *Washington, DC: Brookings Institution*, October.

Krauss, S. E. (2005), 'Research paradigms and meaning making: A primer', *The qualitative report* **10**(4), 758–770.

Kreyer, N., Pousttchi, K. and Turowski, K. (2003), 'Mobile payment procedures: scope and characteristics', *e-Service Journal* **2**(3), 7–22.

Levitin, A. J. (2008), 'Priceless-the social costs of credit card merchant restraints', *Harv. J. on Legis.* **45**, 1.

Ligthelm, A. (2003), 'Informal retail structures in south africa: An exploratory study', *Southern African Business Review* **7**(1), 54–63.

Madise, S. (2015), 'Mobile money and airtime: emerging forms of money', *Available at SSRN 2589058*.

Mail & Guardian, M. (2014), 'In kenya m-pesa is king - and the best is yet to come'. [Online; accessed 27-05-2015].

URL: <http://mg.co.za/article/2014-12-12-00-in-kenya-m-pesa-is-king-and-the-best-is-yet-to-come>

Maimbo, S., Saranga, T. and Strychacz, N. (2010), 'Facilitating cross-border mobile banking in southern africa'.

Mas, I. (2011), 'Capturing the potential of m-payments for the unbanked', *E-Finance & Payments Law & Policy* p. 7.

Mas, I. (2012), 'Making mobile money daily relevant', *Retrieved August 27*, 2012.

Mas, I. and Radcliffe, D. (2011), 'Scaling mobile money', *Journal of Payments Strategy & Systems* **5**(3), 298–315.

Mas, I. and Sullivan, N. (2011), 'Mobile money as an information utility that touches everyone: Refining the vision for financial inclusion', *innovations* **6**(4), 17–25.

Maurer, B. (2008), 'Retail electronic payments systems for value transfers in the developing world', *Department of Anthropology, University of California* .

McMillan, R. (2014), 'The inside story of mt. gox, bitcoin's \$460 million disaster'. [Online; accessed 05-April-2015].

URL: <http://www.wired.com/2014/03/bitcoin-exchange/>

MegaStart, I. (n.d.), 'Why mobility is becoming a trend among top retailers'. [Online; accessed 27-05-2015].

URL: www.magstarinc.com/why-pos-mobility-is-becoming-a-trend-among-top-retailers

Merritt, C. (2011), 'Mobile money transfer services: The next phase in the evolution of person-to-person payments', *Journal of Payments Strategy & Systems* **5**(2), 143–160.

Meyer, C. B. (2001), 'A case in case study methodology', *Field methods* **13**(4), 329–352.

Mingers, J. (2001), 'Combining is research methods: towards a pluralist methodology', *Information systems research* **12**(3), 240–259.

MoneyWeb (2012), 'Absa prepares for contactless payments in south africa'. [Online; accessed 18-05-2015].

- URL:** www.moneyweb.co.za/archive/absa-prepares-for-contactless-payments-in-south-af/
- Mosambee (n.d.), 'Introducing mpos accept card payments anywhere with mosambee'. [Online; accessed 27-05-2015].
URL: <http://home.mosambee.in/home/mpos-mobile-point-sale/>
- Mouton, J. (1996), *Understanding social research*, Van Schaik Publishers.
- Mouton, J. (2001), *How to succeed in your master's and doctoral studies: A South African guide and resource book*, Van Schaik.
- Mugenda, O. M. and Mugenda, A. G. (2003), 'Research methods: Quantitative and qualitative approaches'.
- Mxit (2014), 'What is moola?'. [Online; accessed 12-12-2015].
URL: <http://web.support.mxit.com/articles/moola/what-is-moola>
- MyBroadband (2014a), 'Absa payment pebble launches'. [Online; accessed 26-05-2015].
URL: <http://mybroadband.co.za/news/banking/100142-absa-payment-pebble-launches.html>
- MyBroadband (2014b), 'Big south african smartphone app battle'. [Online; accessed 26-05-2015].
URL: <http://mybroadband.co.za/news/internet/105969-big-south-african-smartphone-app-battle.html>
- MyCiti (2010a), 'Myciti : History'. [Online; accessed 19-05-2015].
URL: <http://myciti.org.za/en/about/about-us/history/>
- MyCiti (2010b), 'Myciti : Other card service'. [Online; accessed 19-05-2015].
URL: <http://myciti.org.za/en/myconnect-fares/other-myconnect-services/>
- Nakamoto, S. (2008), 'Bitcoin: A peer-to-peer electronic cash system', *Consulted* **1**(2012), 28.
- Ndiwalana, A., MORAWCZYNSKI, O. and Popov, O. (2010), 'Mobile money use in uganda: A preliminary study', *M4D 2010* **121**.

Nedbank (n.d.), 'Merchant support'. [Online; accessed 27-05-2015].

URL: <http://www.nedlink.nedbank.co.za/nedlink/standalone-pos/pocketpos>

Neuman, W. L. (2006), *Social research methods: Qualitative and quantitative approaches (7th Edition)*, Pearson/Allyn and Bacon.

New West, T. (n.d.), 'Mobile point of sales'. [Online; accessed 28-05-2015].

URL: www.newestech.com/pos-solutions/mobile-pos

Niehaves, B. (2005), 'Epistemological perspectives on multi-method information systems research'.

Oates, B. J. (2005), *Researching information systems and computing*, Sage.

Ondrus, J. and Pigneur, Y. (2006), 'Towards a holistic analysis of mobile payments: A multiple perspectives approach', *Electronic Commerce Research and Applications* 5(3), 246–257.

PayFast (2014), 'Payfast enables bitcoin payments to 30 000+ merchants.'. [Online; accessed 13-12-2015].

URL: <https://www.payfast.co.za/support/index.php?/News/NewsItem/View/42/payfast-%20enables-bitcoin-payments-to-30000-merchants>

Petersen, M. M. (2012), *Informal Employment in South Africa: A Critical Assessment of Its Definition and Measurement*, PhD thesis, University of Western Cape.

Porteous, D. (2006), 'The enabling environment for mobile banking in africa'.

Pratap, S. and Quintin, E. (2006), *The informal sector in developing countries: Output, assets and employment*, number 2006/130, Research Paper, UNU-WIDER, United Nations University (UNU).

Raddon, A. (2011), 'Early stage research training: Epistemology & ontology in social science research'. College of Social Science Generic Skills Training for Research Students, University of Leicester, Leicester.

Rambure, D. and Nacamuli, A. (2008), *Payment systems: From the salt mines to the board room*, Palgrave Macmillan.

Reserve Bank of Fiji, R. (2011), 'Types of payment systems and instruments'.

- RetailCare (n.d.), 'Pos point of sale software'. [Online; accessed 25-05-2015].
URL: www.retailcare.com.au/pos
- Robson, C. (1993), 'Real world research: A resource for social sciences and practioner researcher'.
- Rotman, S. (2014), 'Bitcoin versus electronic money'.
- Russian Today, R. (2015), 'Zimbabwe phases out local currency at 35 quadrillion to us\$1'. [Online; accessed 09-08-2015].
URL: www.rt.com/business/267244-zimbabwe-currency-compensation-hyperinflation/
- Safaricom (n.d.), 'Lipa na m-pesa buy goods and services'. [Online; accessed 26-05-2015].
URL: <http://www.safaricom.co.ke/personal/m-pesa/lipa-na-m-pesa>
- Saunders, M. N., Saunders, M., Lewis, P. and Thornhill, A. (2009), *Research methods for business students, 5th ed*, Pearson Education Limited, England.
- Schwiderski-Grosche, S. and Knospe, H. (2002), 'Secure mobile commerce', *Electronics & Communication Engineering Journal* **14**(5), 228–238.
- Selgin, G. (2014), 'Synthetic commodity money', *Journal of Financial Stability* .
- Shaw, N. (2014), 'The mediating influence of trust in the adoption of the mobile wallet', *Journal of Retailing and Consumer Services* **21**(4), 449–459.
- Shin, D.-H. (2009), 'Towards an understanding of the consumer acceptance of mobile wallet', *Computers in Human Behavior* **25**(6), 1343–1354.
- SimplyBiz (n.d.), 'Nedbank pocketpos'. [Online; accessed 27-05-2015].
URL: <http://simplybiz.co.za/banking-solutions/pocketpos>
- Smith, A., Anderson, J. Q. and Rainie, L. (2012), 'The future of money: Smartphone swiping in the mobile age', *Report, Washington, DC: Pew Research Centers Internet & American Life Project* .
- Smyth, R. et al. (2004), 'Exploring the usefulness of a conceptual framework as a research tool: a researcher's reflections.', *Issues in Educational Research* **14**(2), 167.

SnapScan (n.d.), 'Snapscan'. [Online; accessed 08-05-2015].

URL: <http://www.snapscan.co.za>

SouthAfricanInfo (2011), 'Absa trials 'tap-and-go' payment cards'. [Online; accessed 18-05-2015].

URL: www.southafrica.info/business/trends/newbusiness/transitcard-220911.htm#.VWe1oa04bK4

Stavins, J. (2002), 'Effect of consumer characteristics on the use of payment instruments', *New England Economic Review* (Q 3), 19–31.

Techcentral (2012), 'Absa turns to pebble for payments'. [Online; accessed 25-05-2015].

URL: <http://www.techcentral.co.za/absa-turns-to-pebble-for-payments/36643/>

TechSmart (n.d.), 'Uba partners with africapos partners to introduce mobile point terminals'. [Online; accessed 27-05-2015].

URL: <http://techsmart.ng/uba-partners-africapos-partners-introduce-mobile-point-terminals/>

TechTarget (2014), 'mpos (mobile point of sale)'. [Online; accessed 24-05-2015].

URL: <http://searchcio.techtarget.com/definition/mPOS-mobile-point-of-sale>

The Guardian, U. (2015), 'Zimbabwe offers new exchange rate: \$1 for 35,000,000,000,000,000 old dollars'. [Online; accessed 09-08-2015].

URL: www.theguardian.com/world/2015/jun/12/zimbabwe-offers-new-exchange-rate-1-for-35000000000000000-old-dollars

Van Hove, L. (2007), 'Central banks and payment instruments: A serious case of schizophrenia', *Communications & Strategies* (66), 19–46.

Vanek, J., Chen, M., Heintz, J. and Hussmanns, R. (2014), Statistics on the informal economy: Definitions, regional estimates and challenges, Technical report, WIEGO Working Paper.

VCPay (n.d.), 'Vcpay'. [Online; accessed 07-05-2015].

URL: <https://www.zapper.com/>

VentureBurn (2014a), 'Meet ikhokha, the latest sa player to take on mobile pos'. [Online; accessed 26-05-2015].

URL: <http://ventureburn.com/2014/07/meet-ikhokha-the-latest-sa-player-to-take-on-mobile-pos/>

VentureBurn (2014b), 'Snapscan finally brings mobile payments to parking in cape town'. [Online; accessed 05-05-2015].

URL: <http://ventureburn.com/2014/10/snapscan-finally-brings-mobile-payments-cape-town-parking/>

Warden, S. C. (2011), 'Reader: Case study research - methodology and design'. BTech Public Relations, Research Methodology, Cape Peninsula University of Technology, Cape Town.

Willemse, L. (2011), 'Opportunities and constraints facing informal street traders: Evidence from four south african cities', *Town and Regional Planning* **59**, 7–15.

Yin, R. K. (2013), *Case study research: Design and methods*, Sage publications.

Yu, H.-C., Hsi, K.-H. and Kuo, P.-J. (2002), 'Electronic payment systems: an analysis and comparison of types', *Technology in Society* **24**(3), 331–347.

Zapper (n.d.), 'Zapper'. [Online; accessed 06-05-2015].

URL: <https://www.zapper.com/>

Zapreneur (2014), 'ikhokha payment processing in south africa'. [Online; accessed 26-05-2015].

URL: <http://zapreneur.com/ikhokha-innovative-payment-processing-south-africa/>

ZipZap (n.d.), 'Mobile pos payments solution'. [Online; accessed 25-05-2015].

URL: www.zipzap.co.za/overview.aspx

Appendix A

Consent Forms

Appendix A.1 Consent form (English)



Cape Peninsula
University of Technology

FID/REC/ICv0.1

FACULTY OF INFORMATICS AND DESIGN

Individual Consent for Research Participation

Title of the study: Cashless Payment System for Informal Traders

Name of researcher: Fernando Neto

Contact details: email: fernandoneto@live.co.za phone: 076 180 9890

Name of supervisor: Boniface Kabaso

Contact details: email: Boniface@kabaso.com phone: 083 302 4005

Purpose of the Study: To identify and understand the characteristics and mechanics that make cash a suitable payment method for informal traders, and identify what would make cashless payment systems suitable for informal traders.

Participation: I will participate as an informal trader, I will be interviewed about my daily trading practices.

Confidentiality: I have received assurance from the researcher that the information I will share will remain strictly confidential unless noted below. I understand that the contents will be used only for the M Tech. qualification and that my confidentiality will be protected by using codes instead of real names.

Anonymity: Will be protected in the following manner (unless noted below): the identities and other personal information of the participants will not be disclosed, and no data collected will be accessible beyond the immediate research involved.

Conservation of data: The data collected will be kept in a secure manner; the researcher will use his recording device, and he will make sure that data is kept safe all the time and no one will have access to it except his supervisor on request.

Voluntary Participation: I am under no obligation to participate, and if I choose to participate, I can withdraw from the study at any time and/or refuse to answer any questions, without suffering any negative consequences. If I choose to withdraw, all data gathered until the time of withdrawal will be destroyed.

Additional consent: I make the following stipulations (please tick as appropriate):

	In thesis	In research publications	Both	Neither
My image may be used:				
My name may be used:				
My exact words may be used:				
Any other (stipulate):				

Acceptance: I, (print name) _____

agree to participate in the above research study conducted by Mr Fernando Neto of the Faculty of Informatics and Design, Department of Information Technology at the Cape Peninsula University of Technology, whose research is under the supervision of Dr Boniface Kabaso.

If I have any questions about the study, I may contact the researcher or the supervisor. If I have any questions regarding the ethical conduct of this study, I may contact the secretary of the Faculty Research Ethics Committee at 021 469 1012, or email naidoo@cput.ac.za.

Participant's signature: _____

Date: _____

Researcher's signature: _____

Date: _____

Appendix A.2 Consent form (Portuguese)



Cape Peninsula
University of Technology

FID/REC/ICv0.1

FACULTY OF INFORMATICS AND DESIGN

Autorização Individual Para Participar Na Pesquisa

Título da pesquisa: Pagamento Electrónicos para Vendedores Informais

Nome do investigador: Fernando Neto

Contactos: email: fernandoneto@live.co.za Telephone: (0027) 76 180 9890

Nome do supervisor: Boniface Kabaso

Contactos: email: Boniface@kabaso.com Telephone: (0027) 83 302 4005

Objectivo do Estudo: Identificar e compreender as características e mecânicas que fazem dinheiro vivo um método de pagamento adequado para os vendedores informais, e identificar o que o que poderá tornar sistemas de pagamentos electrónico mais adequados para os vendedores informais.

Participação: Eu irei participar como um vendedor informal e serei entrevistado acerca das minhas actividades diárias e práticas de negócios.

Confidencialidade: Eu recebi garantias do investigador que a informação que eu partilhar será estritamente confidencial excepto observado abaixo. Eu entendo que o conteúdo desta entrevista será usado para uma Tese de Mestrado e que a minha confidencialidade será protegida através do uso de códigos e pseudónimos invés de nomes reais

Anonimidade: Será protegida da seguinte forma (excepto observado abaixo): as identidades e outras informações pessoais dos participantes não serão discutidas, e os dados recolhidos não estarão acessíveis a ninguém para além dos investigadores imediatamente envolvidos na pesquisa.

Conservação dos Dados: Os dados recolhidos serão guardados de forma segura; o investigador ira usar o seu gravador de áudio que Eu acredito que ele irá garantir que os dados serão preservados de forma segura a todo tempo e ninguém terá acesso com excepção do seu supervisor se requisitar.

Participação: Eu não estou sobre qual quer obrigação de participar nesta investigação; e se eu decidir participar nesta investigação, Eu posso retirar-me do estudo a qual quer momento, ou me recusar a responder qual quer questão sem sofrer quais queres consequências negativas. Se Eu decidir abandonar o estudo toda informação colhida até o momento do abandono será destruída.

Permissão Adicional: Eu gostaria de indicar as seguintes condições (por favor marque onde apropriado):

	Na tese	Nas publicações de pesquisa	Ambas	Nenhuma das duas
Minha imagem pode ser usada				
Meu nome pode ser usado				
Minhas palavras exactas podem ser usadas				
Outras (especifique):				

Aceitação: Eu, (nome) _____

concordo participar na pesquisa descrita acima a ser executada por Fernando Neto, estudante da Faculdade de Informática e Design; Departamento de Tecnologias Informáticas na Universidade de Tecnologia da Cidade de Cabo, onde está a ser supervisionado pelo Dr. Boniface Kabaso

Se eu tiver qual quer questão acerca do estudo, Eu posso contactar o investigador ou o seu supervisor. Se eu tiver qual quer questão sobre a conduta ética do investigador, eu posso contactar a secretaria do Comité de Ética de Investigação da Faculdade através do (0027) 21 469 1012, ou mandar um email para naidoove@cput.ac.za.

Assinatura do participante: _____ Data: _____

Assinatura do Investigador: _____ Data: _____

Appendix B

Interviews Questions

This questionnaire aims to investigate which factors condition or influence informal traders' choice of payment method, which payments are being used by informal traders and how these payment methods are being used.

Appendix B.1 Informal Traders (Cape Town)

1. For how long have you been an informal trader?
2. What is the cheapest item that you are selling, and how much does it cost?
3. What is the most expensive item that you are selling and how much it cost?
4. On average how many customers do you have per day?
5. How do your customers pay for items they buy from you?
6. Which payment method do you accept and why?
7. If besides cash you accepted another payment method, how would you prefer to get paid and why?
8. When you are the customer, which payment method do you prefer to use? Why?

Appendix B.2 Informal Traders (Luanda)

1. What are the characteristics of informal traders?

Why or how did you become an informal trader?

What are the major challenges that you face in your job as an informal trader?

2. Which factors influence informal traders' choice of payment method?

Which payment methods do you accept and why?

If besides cash you accepted another payment method, how would you prefer to get paid and Why?

3. How do informal traders view cash and alternative payment methods?

What do you think are the advantages and disadvantages of cash? Why?

What do you think motivates or stops informal traders from using other payment methods?

What you think about the financial services in Angola?

Appendix B.3 Bank Consultants (Luanda)

1. Which payment solutions do the banks have available for informal traders?
2. What are the requirements for informal traders to use banking products?
3. What are the requirements to obtain a loan?
4. How do banks deliver information about the banking products to informal traders?
5. What do you think influences informal traders' choice of payment method?
6. Is your bank doing anything in specific to attract more informal traders?

Appendix C

Interview responses

Appendix C.1 Street Vendors (Cape Town)

Interview Question	Participants							
	CTSV001	CTSV002	CTSV003	CTSV004	CTSV005	CTSV006	CTSV007	CTSV008
Demographics	Female (26-35)	Female (26-35)	Female (26-35)	Female (26-35)	Female (Over 45)	Male (26-35)	Male (36-45)	Male (36-45)
Nationality	Congo DRC	Angola	Congo	South Africa	Angola	Malawi	Senegal	Somalia
Cell phone ownership	Owns cell phone, only uses as needed doesn't use phone for business related activities	Owns phone, only uses on free times. Uses phone for business related activities. Loads R5 or R12 of airtime 3 times a week	Owns phone, does not use it during work hours. Use phone to talk to family and friends. Does not use for business related activities.	Has cell phone, uses to talk to family and friends and business related activities. Loads 12 airtime multiple times a week.	Does not own a cell phone.	Has cell phone, uses for business and to access social media. Loads R5 airtime multiple times a week	Has cell phone uses it for business and to access social media. Loads R10 of airtime multiple times a week	Has cell phone, uses to chat with family and friends. Doesn't load airtime often
For how long you have been operating as an informal trader?	1 year. Started with own money. No alternative source of income	2 years. Doesn't have alternative source of income	Trading for 4 months. Started with money from donations. No alternative source of income	8 years. Started with own money. No alternative source of income	3 years. Doesn't have alternative source of income	7 years. Started with own money. No alternative source of income	9 years. Started with own money. No alternative source of income	8 months. Started with own money. No alternative source of income

How many clients do you have on a daily basis?	Over 50 daily	More or less 400 clients weekly	About 50 clients a day	Between 5 and 15 clients daily	Over 40 customer s a day	Between 10 and 20 customers per day	Between 7 and 15 customer daily	Between 2 and 7 customer s daily
What is the price of the cheapest, and the most expensive item you are selling?	25c-R1	25c-R3	30c-R5	R20-R550	20c-R2.50	25-350	R60-R300	R5-R200
Which payment method do you accept and why?	Knows cash and card payment. Never saw informal traders using another payment method besides cash. Only accepts cash because that is what customers use	Knows cash and debit card. Never saw informal traders using another payment method besides cash. Only c ash, Is happy with it because never had issues with it	Knows cash, debit card and internet banking. Never saw informal traders using another payment method besides cash. Only accepts cash. Likes to have money in his pocket.	Know cash and debit card. Never saw informal traders using another payment method besides cash. Only accepts cash. If customers must go to the ATM get cash. Already have lost customers	Knows cash. Nev er saw informal traders using another payment method besides cash. Only acce pt cash. Doesn't need cards because runs a small business	Knows cash, card and western union. Never saw informal traders using another payment method besides cash. Only accept s cash. Does not have a card machine. If customers want to pay with	Knows cash and debit card. Never saw informal traders using another payment method besides cash. Only accept s cash. Does not have card machine. Does not have documenta tion. Have lost	Knows cash and debit cards. Ne ver saw informal traders using another payment method besides cash. Only acce pt cash because does not have card machine. Does not have proper

				because did not accept cards.		card he must go to the ATM.	customer because only accepts cash.	documen tation
If besides cash you accepted another payment method, how would you prefer to get paid and why?	Prefers to be paid in cash to avoid costs. Would use cards if they were free	Prefers to be paid in cash because it is used to it and because he can use cash everywhere	Prefers to be paid in cash because needs money in hand to buy more business and to take home	Prefers to be paid in cash because cards are expensive but thinks cards are safer	Prefers to be paid in cash cards are too expensive for people with small business. Needs cash in hand to buy food.	Prefers to be paid in cash because needs to have money in hand	Prefers to be paid in cash because card payments take long to reflect. Needs to use money to buy food and more stock	Prefer to be paid in cash because cash is free
When you are the customer, which payment method do you prefer to use? Why?	Only pays with cash because is the only way she pay. Cash is accepted everywhere .	Prefers to pay with cash because suppliers only accept cash	Prefers to pay with cash because might get discounts when paying with cash. Not everybody accepts cards.	Prefers to use cash because it helps to control spending. Cards are not accepted everywhere	Prefers to pay with cash because it is free.	Prefers to use cash because it helps to control spending. When paying with cash you can negotiate the prices	Prefers to pay with cash because that is what most of people use	Prefers to use cash because supplier only accepts cash.

Appendix C.2 Market Vendors (Cape Town)

Interview Question	Participants							
	CTMV001	CTMV002	CTMV003	CTMV004	CTMV005	CTMV006	CTMV007	CTMV008
Demographics	Female (Over 45)	Male (18-25)	Male (26-35)	Male (26-35)	Male (36-45)	Male (Over 45)	Male (26-35)	Male (Over 45)
Nationality	Nigeria	Zimbabwe	Uganda	South Africa	Zimbabwe	Ghana	South Africa	Eritrea
Cell phone ownership	Owns cell phone, uses phone to chat with family and for business related activities	Owns phone, uses phone to talk to family and access social media.	Owns phone, Use phone for business related activities and social media	Has cell phone, uses to talk to family and friends but not for business	Owns phone, Uses phone for social media and business related activities	Owns phone, Uses phone for business related activities and chat to friends	Has cell phone uses it for business and to access social media.	Has cell phone, uses to talk to family and friends
For how long you have been operating as an informal trader?	14 years	5 years	4 years	6 years	6 years	16 years	2 years	11 months
What is the price of the cheapest, and the most expensive item you are selling?	R30-R500	R50-R2000	R50-R4000	R40-R500	R5-R200	R30-R200	R70-1000	R20-R300
How many clients do you have on a daily basis?	On Average 20 clients a day	Over 15 clients daily.	Average 10 clients a day	Almost 20 customers a day	On average between 15 to 30 customers daily	Varies between 10 and 30 customer s per day	Varies between 10 and 30 customers per day	Over 15 customer s a day

Which payment method do you accept and why?	Knows cash and card payment. Has seen informal traders receiving cards payments . Only accepts cash because doesn't have card machine. If customer s want to pay with cards he must go buy from someone else.	Knows cash and debit card. Accepts cash and cards but does not have card machine. A process payment at a nearby shop and the shop owner gives him 90% in cash and keeps 10% of the transaction value.	Knows cash, debit card. Never saw informal traders using another payment method besides cash. Only accepts cash. Likes to have money in his pocket. Never lost customers because does not accept card.	Know cash and debit card. Accepts cash and cards. Used to lose customers because did not accept cards.	Knows cash and debit card. Only accepts card because it is a small business. Never lost customers because of not accepting cards.	Knows cash, debit card and I only accept cash because do not have card machine. Does not have proper document ation. If customer s want to pay with card he must go to the ATM or lose sales.	Knows cash and debit card. Only accepts cash. Does not have card machine. Have lost customer because only accepts card.	Knows cash. Never saw informal traders using another payment method besides cash. Only accept cash because does not have card machine
If besides cash you accepted another payment method, how would you prefer to get	Is paid in cash but would prefer to be paid with card because money in	Prefers to be paid in cash because needs to have cash in hand and card	Prefers to be paid in cash because of the costs of cashless payments	Prefers to be paid in cash because he can buy more business	Prefers to be paid in cash because of bank charges and because	Prefers to be paid in cash because of bank charges, also cash allows	Prefers to be paid with card because wouldn't have to go deposit the money.	Prefers to be paid in cash because you can buy more business but

paid and why?	the bank is harder to use.	payments take long to reflect			with cash he can buy more business	him to buy more business		having cash in hand is risky.
When you are the customer, which payment method do you prefer to use? Why?	Prefers to pay with cash because it's free and you can get discounts.	Prefers to pay with cash because suppliers only accept cash. Suppliers offer discounts for those paying in cash.	Prefers to pay with cash because of costs and because that it's how he prefers to be paid	Prefers to use cash because can get discounts.	Prefers to pay with cash because it is free.	Prefers to use cash because there is no costs and it is easy to use	Prefers to use cash because supplier only accepts cash.	Prefers to use cash because there are no costs and some supplier only accepts cash.

Appendix C.3 Street Vendors (Luanda)

Interview Question	Participant					
	LDMST001	LDMST002	LDMST003	LDMST004	LDMST005	LDMST006
Demographics	Male (26-35)	Male (18-25)	Male (26-35)	Female (18-25)	Male (26-35)	Female (26-35)
For how long you have been operating as an informal trader?	5 years	8 months	9 years	5 years	4 years	7 years
What is the price of the cheapest, and the most expensive item you are selling?	50-150 (Akz)	100-250 (Akz)	900-2.500 (Akz)	50kz-400 (Akz)	1.500-9.000 (Akz)	50-150 (Akz)
How many clients do you have on a daily basis	More or less 20 clients	Over 25 clients daily	About 15 clients daily	About 10-15 clients daily	About 4 clients daily	More or less 50 clients

1. What are the characteristics of informal traders in Luanda?

1.1. Why or how did you become an informal trader?	Could not find work. Sold some personal items to raise the money. Never asked for a loan because doesn't have a bank account.	Needed to help with the expenses at home. Mother gave the money to start the business. Did not need a loan.	Did not have a job. Saved in order to be able to buy things to sell. Prefers to borrow from friends than from banks	Did not have a job. Did not have initial capital. Borrowed money from friends.	Lost his job. Used my own money to start the business. Did not need a loan and does not like to have debt.	Needed to help with house expenses but couldn't find a job. Didn't need a loan, husband helped to raise the initial capital.
1.2. What are the major challenges you face in your	It is not a very profitable	Having to fight for the customers.	Having to fight for the customers.	Having to walk long distances with the	Too many people selling.	Business sometimes is slow.

job as an informal trader?	business. Walking around the city under the sun. After the construction work the market did not have space for everyone. Having my business taken away.	Have to sell every day. Working conditions. The police treats us like criminals and is trying to take the bread out of our mouth	Working under the sun. Running away from the police all the time. The police care more about the image of city than they care about us.	bucket and the baby. New markets are good but far Run away from the fiscal police. Work too hard for little bit of money.	There isn't much money here. No retirement. New markets are smaller. Laws do not take poor people in consideration. Government is trying to suffocate street vendors.	Lost place on the market but sells a bit more because she sells outside. The government wants to sweep street vendors under the rug.
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2. Which factors influence informal traders' choice of payment method?

2.1. Which payment methods do you accept and why?	Knows cash and cards but never saw any informal trader using it. Only accepts cash because this is a very small business and cash is the payment	Knows cash and cards but only sees informal traders using cash. Only accepts cash because doesn't have a card machine; card machines are only for big	Knows cash and cards but only sees cash being used in informal trade. Only accepts cash because does not have a card machine and card machines are	Knows cash and card; have seen card being used but not in informal trade. Only accepts cash because this is a small business, the amounts of money involved are	Knows cash, cheques and cards but has never seen cards or cheques being used but not in informal trade. Only accepts cash because It is a small business also	Knows cash and cards but only sees cash being used in informal trade. Only accepts cash because does not have a card machine, but the most
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	method that used by the customers. Never lost a customer because the customer wanted to use other payment method.	business. Never had to deal with a customer wanted to pay with a different payment method	not easy to get. Only accepting cash does not affect his business because customers only use cash.	too small so there is no need to use cards.	because that is what customers use. Accepting cards does not add any business value if they won't be used often	of the customers also do not use cards
2.2. If besides cash you accepted another payment method, how would you prefer to get paid and Why?	Prefers cash because likes to have the money in his pocket; and money in hand can be used at will. The card is not his preference because he doesn't want to pay the bank. When he is the customer he prefers with paying cash because everybody accepts it.	Does not have any preference between cash or cards because it does not make any difference. However customers want to pay is the best way. He does not have card but would choose card over cash to make payments, and keep the cash in his	Would prefer cash because it is free. Also traders need cash in hand in order to do their job; because they usually need to buy more stock and replace the one that was already sold. Would prefer to use cash over card to make payments because of costs and also because	Prefers cash because it is easy to use; if you are paid in cash you do not need to go to the bank to get money before you buy supplies for home. Would prefer cash over cards to make payments because can get discounts when paying with cash.	Prefers cash because one has better control of his money when it is on his hand; when paid in cash he can buy what he needs and take some home without having to go to the bank. To make payments would prefer cash over cards because cash is free, he is	Would prefer being paid in cash because she would receive the full amount; also with cash she would be able to buy more business and buy things to take home. When comes to making payments prefers cash over cards because

		pocket for emergencies.	does not have card.		used to using cash and never had a problem with it	with cash you can get discounts and cash can be used everywhere.
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3. How do informal traders view cash and alternative payment methods?

3.1. What do you think are the advantages and disadvantages of cash? Why?	The bad thing about cash is that it can attract criminals because of the large volumes. The good thing is that cash can be used everywhere and there is no fraud with cash.	The disadvantage of cash is that cash can be easily spent since it is accepted everywhere. The advantage is that when you pay with cash you always have a chance to negotiate the price.	The bad thing about cash is that you still have to count the money which sometimes complicates the sales; also when you use cash you can get robbed for your cash. The advantage of cash is that you don't need to pay to use cash	The disadvantages of cash are that cash can be lost easily and also you can get robbed; the advantages of cash is that because it is in your hands you can use whenever you feel like.	One disadvantage of cash is that people can see how much you are making for a complete day. The advantage of cash is that cash is free, you have a better control over it and you can spend it whenever you need to.	Cash is advantageous because cash is accepted everywhere so you do not have problems when you want to spend it. The disadvantage is that it can be easily stolen from you.
3.2. What do you think motivates or stops informal traders	Traders would use alternative	Traders do not use other payment	Traders would be motivated to	Traders do not use alternative	Traders do not use alternative	Traders don't use alternative

<p>from using other payment methods?</p>	<p>payments if more people were using it; also if it can help traders to save time. What stops traders from using other payment methods is that they are not ready for it, and even if they were ready they would not use because they have no access to it.</p>	<p>methods because the do not have access to it; and also because those payments are not free. If alternative payment methods were free, easy to get, easy to use and fast more traders would be using it.</p>	<p>use cards if cards were fee, fast and more clients were using it. What is stopping traders from using it is that they do not have access to it; they are not used to it, and want to avoid bank charges.</p>	<p>payment methods because it complicates things; also some traders are afraid to learn new technologies. Traders would use alternative payment methods if they were easy to use and cheap</p>	<p>payment methods because there are no benefits for them. Traders would use alternative payment methods if they were free, and helped them to sell more</p>	<p>payment methods because customers do not use it and most of traders still do not know how card work; traders do not like to go to the bank. Traders would use cards if they have access to it.</p>
<p>3.3. What you think about the financial services in Angola?</p>	<p>No previous banking experience. Not able to save at the moment because it's not making enough money.</p>	<p>No previous banking experience. Saves at home because does not have a bank account.</p>	<p>No previous banking experience. Saves money at home</p>	<p>No previous banking experience. Currently has no money left to save</p>	<p>No previous banking experience. Save money at home</p>	<p>No previous banking experience. Saves money at home</p>

Appendix C.4 Market Vendors (Luanda)

Interview Question	Participants							
	LDMV001	LDMV002	LDMV003 (Arts craft)	LDMV004 (Arts craft)	LDMV005 (Arts craft)	LDMV006 (Arts craft)	LDMV007	LDMV008
Demographics	Male (18-25)	Female (Over 45)	Male (26-35)	Male (36-45)	Male (above 45)	Male (36-45)	Female (26-35)	Female (36-45)
For how long you have been operating as an informal trader?	4 years	Over 30 years	7 years	11 years	20 years	13 years	15 years	16 years
What is the price of the cheapest, and the most expensive item you are selling?	500 - 25.000 (Akz)	100-250 (Akz)	800 - 15.300 (Akz)	200 - 500.000 (Akz)	350 - 160.000 (Akz)	300 (Akz) - Depends on how the artist thinks about his art piece	100 - 450 (Akz)	50-600 (Akz)
How many clients do you have on a daily basis?	10-20 clients	More or less 30 clients daily	Over 50 clients weekly. Most sales are on a Sunday.	About 10 clients daily	About 15- 20 clients daily	More than 15 clients daily. Also take special orders.	Over 20 clients daily	More or less 25 clients daily

1. What are the characteristics of informal traders in Luanda?

1.1. Why or how did you become an informal trader?	Used to be middle men finding clients for people trying to sell their possessions, and then	Started selling at the door of her how just to get by and feed her kids, after sometime moved to the market	Became informal trader because as a craftsman he needed to sell his work did not have anyone	Could not find a job but had some craftsman skills decided try to make some money out of it.	Already had previous experience from working with his father, and then started his own	Did not plan to become an informal trader but due to the need to sell his work ended up becoming a trader.	Did not have a problem to start she started helping her mom and only after 9 years	Grew up looking after someone else's business, after sometime decided to
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	decided to become independent. Did not have any issues to start, raised the money for the business without any assistance.	and have been working on the same place ever since. Did not need a loan to start business.	that could do it for him. Started business with his money.	Started business with his money.	business. Raised the money with the help of his brother who is also his partner.	Start selling was not hard but it used to be hard to get materials.	started selling on her own stall. Did not need a loan to start her business because it was planned in advance.	become independent and raised the money to buy her own business.
1.2. What are the major challenges you face in your job as an informal trader?	It is difficult because there is almost no rest and the money is not very good. The work conditions at the market are also not very favourable.	Too many people selling outside the markets. There is no place to keep the merchandise. Income is not predictable.	The production is slow because artefacts are handmade. The materials are very expensive and it is hard to get financial assistance.	Locals do not have the habit of buying specialized items. The most beautiful sculptures are the hardest to sell. Informal traders depend on themselves because	Traders are also artists but do not get any recognition, their work is not promoted and they do not have access to alternative channels to expose and/or sell their items.	Being seen only as a trader and not as an artist. Materials are expensive and sometimes hard to get. No access to modern working tools makes hard to meet	Spends too much on transport to go buy the merchandise and to pay for storage because there is no more space in the market to keep the	Having to work almost every day because depends on day to day sales to survive. Taking a day off is losing business.

	e			the government doesn't help.	Government projects are benefiting the wrong people.	deadlines.	merchandise.	
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2. What are the factors that influence informal trader's choice of payment method?

2.1. What are the different forms of payment you can mention?	Knows cash and cards already saw both being used in informal trade	Knows cash, and cards already saw people using cards in informal trade.	Knows cash and cards but never saw any informal trader using cards.	Knows cash, cheques and cards; never saw people accepting cheques but accepts cash and cards.	Knows cash, and cards already saw people using cards in informal trade.	Knows cash, cards and bank deposits, already saw cash and cards being used in informal trade.	Knows cash; never saw informal traders using anything but cash	Knows cash and cards but never saw any informal trader using cards.
2.2. Which payment method do you accept and why?	Accepts cash and cards, got card machines because already lost customer that did not buy because he did not accept	Only accepts cash because alternative payment methods cost money. Doesn't not think her business is affected because she only accepts cash.	Only accepts cash because does not have a card machine. Card machines are hard to get if you do not have	Accepts cash and card payments; got a card machines because many customers that come to buy expensive items do not bring	Accepts cash and card but does not own a card machine; card payments are processed at a nearby shop; the trader receives	Accepts cash, cards and bank deposit but does not own a card machine. Uses machine of a fellow trader who does not charge him for the	Does not accept anything but cash, Doesn't think people would be interested in using cards at the market. Does not	Only accepts cash because doesn't have card machine. Thinks cards are not suited for informal traders, and never

	card payments .	Customer that wants to buy and do not have cash must go withdraw money and then come back; sometimes customers do not return.	a real business. Already lost customer s because he does not accept card payments . Customer with cards must go to the ATM withdraw money but often customer s do not return.	all that money in hand. Also many of the customers are foreigners and like to pay card. Before he got a card machine he used to miss on some opportunities to sell because he only accepted cash.	90% of the transaction value in cash and the shop owner keeps the other 10%. In the past already lost customers for not accepting card payments.	services but still pays a symbolic amount to the card machine owner; sometimes does not receive the money for the card sale on the same day. Accepts bank deposit for customers who make pre-orders, when money is in the bank goes to buy material.	have a bank account, and never lost a customer because only accepts cash	had a customer that wanted to pay with a different payment method.
2.3. If besides cash you accepted another payment method, how would	Prefers cash because the money can be used to make	Would prefer to be paid in cash because she is used to it and cash gives you a better	Would prefer to be paid via card payments because money in the bank	Prefer to be paid with card because then the money would go straight to	Prefers to be paid in cash because he does not lose any profits on cash sales	Prefers cash because like to have the money in his hand and does not have to	Would prefer to use cash because is already used to it and is not familiar	Would prefer cash because money at the bank cannot be used easily and cash

you prefer to get paid and why?	another deals during the day, while card payments take long to reflect. When he is the customer he also prefer to pay using cash because he can get discounts and also because most of the suppliers only accept cash.	control of the money and it is free; money in hand can be used to buy more business. As a customer Only pays with cash because it is easy to use and she can get discounts when she pays with cash	is safer; also he wouldn't have to go to the bank to deposit the money. Prefers to pay with cash when he is the customer because most of the suppliers only accept cash and also because when you are buying with cash you can only spend the money that is in your	the bank he wouldn't have to walk with large sums of money. When he is the customer he prefers to use card because is more secure and you can use the card to pay or to get cash.	and also because he does not depend on anyone to accept cash payments. Money from sales can be used to buy business Prefers to pay with cash when he is the customer because he does not have cards, also because card are not accepted everywhere and even where cards are accepted the machines sometimes are out of	go to the bank to withdraw the money before he can go and buy materials. When he is the one buying he prefers to pay with cash because he can get discount on cash purchases; also because you can never know if a merchant accepts cash or not.	with card payments . Can use money in hand without having to go to the bank or ATM to get money to take home As customer also would prefer to pay with cash because suppliers only use cash.	can be used to buy more business; cash can be used to buy items and for occasional deals would be missed it the money was at the bank. As a customer prefer to pay with cash because she can get discounts if she pays with cash.
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			pocket.		order.			
3. How do informal traders view cash and alternative payment methods?								
3.1. What do you think are the advantages and disadvantages of cash? Why?	Cash is more useful than other payment methods because it can be used everywhere. The downside if cash is that when it is lost then it is gone, unlike the card that you can lose but not lose the money.	The disadvantage of cash is that large volumes call attention and you can get robbed. The advantage of cash is that its free, cash gives you more control and when you pay with cash you can get discounts.	The advantage of cash is that you can control better how much you are spending. The disadvantage is that cash can be lost or stolen and its dangerous to carry in elevated amounts	The disadvantage of cash is that money in hand can be spent easily and it is hard to track expenses. The advantages is that it can be used everywhere	The disadvantage of cash is that is not easy to carry in large amounts, also cash can be lost easily. The advantage of cash is that it can be used everywhere and that cash in hand can be used to re-invest in the business.	Cash in your hands, is more advantageous because you have control over it, you can use when and how you want it; the bad thing about it is that is that can be stolen so it's safer at the bank but not very useful.	Cash is good because it is free, easy to use also cash can be used everywhere. The disadvantage of cash is that it can be lost or stolen, cards are safer.	The advantage of cash is that you can use it everywhere and get discounts when you pay with cash. The disadvantage is that is not safe to keep at home because it can be stolen; cash at home can also lose value because the government sometimes discontinue

								s notes of some denomination, causing panic and making the money lose value
3.2. What do you think motivates or stops informal traders from using other payment methods?	What is stopping some traders from getting card machines are the costs, and also card are still quite new and many traders are not used to it yet; other reason is that because traders need easy access to their funds.	What would motivate traders to use other payment methods is that cards are safer than cash but right now cards are not being used much because they are not cheap or easy to get	What is stopping traders to get card machines is that it is not easy to get. Also because many traders run very small business. More people would be using it if more information was available and it did not have so many	More traders would be willing to use alternative payments if they were cheaper or at least had a flat fee. Bank charges and unreliable banking services are the reasons stopping many traders from adopting alternative payment methods	If the requirements to get a card machine were reduced and banks were more reliable more traders would be using alternative payments. The reasons stopping traders from adopting alternative payments are bank charges	Alternative payment methods would be more popular if they were easy to get and were free. The reasons stopping traders from adopting it are bank charges, and that traders need their money in hand to conduct business, another	One of the things stopping traders from using other payment methods is the costs but also because many of the traders do not know how it works. If it was promoted properly more traders would be	Cards are safer than cash and would attract more traders if it was cheaper; other thing stopping traders from using other payments is that people are not well educated about them and feel intimidated

	More traders would be willing to use alternative payment methods if they were free.		requirements.		and banks are unreliable	issue is that banks are not serious about getting new clients.	willing to use it	
3.3. How or where do you save the money from your business and why? What do you think about banking?	Save money at home.	Stokvel, at home and at the bank. Makes easier to save	At the bank. At the bank, has lost money on at home due to fire	At home and at the bank. Money for long term plans is kept in the bank	At home and stokvels	Bank and stockvels. Only money without immediate plans is kept at the bank.	Stokvel, at home Don't have a bank account Makes easier to save	Save money at home, stokvel

Appendix C.5 Bank Consultants (Luanda)

Interview Question	Participants		
	LDBC001	LDBC002	LDBC003
Demographics	Male (26-35)	Female (26-35)	Male (36-45)
Institution (Bank)	BIC	Economic Bank	BFA
Experience	6 years	2 years	13 years
Which payment solutions the do banks have available for informal traders?	Banks do not have any solutions aimed for informal traders, but informal traders can have access to card machines	All the banking products are available for everybody. Informal traders can use what they think is suitable	Only merchant solution available is cards.
What are the requirements for informal traders' to use banking products?	<p>To acquire card machine trader must have a registered business and a merchant bank account. Non registered business must motivate request and approval depends on upper management.</p> <p>Merchants with non-registered business represent a higher risk to banks.</p> <p>Requirements to have a bank account are: 1 photo, ID Card, Taxpayer card, 20.000Akz.</p> <p>Costs to acquire card machine include card machine rental fees of 2.000Akz and transactional fees of 0.3%, machines must be returned to the bank on termination of contract.</p>	<p>To acquire card machine trader must have a registered business and a merchant bank account.</p> <p>Merchants with only personal bank accounts but registered business can still apply</p> <p>Requirements to have a bank account are: 1 photo, ID Card, Taxpayer card, 20.000Akz.</p> <p>Costs to acquire card machine include card machine rental fees of 2.000Akz and transactional fees of 0.2%, machines must be returned to the bank on termination of contract.</p>	<p>To acquire card machine trader must have a registered business and a merchant bank account.</p> <p>Requirements to have a bank account are: 1 photo, ID Card, Taxpayer card, 20.000Akz.</p> <p>Costs to acquire card machine include card machine rental fees of 2.000Akz and transactional fees of 0.5%, 4.000Akz installation fees, machines must be returned to the bank on termination of contract.</p> <p>Bank charges can be negotiated according to the capabilities of the traders.</p>

<p>What are the requirements to obtain a loan?</p>	<p>Most traders do not qualify for loans because most of them are unemployed or lack formal employment status.</p> <p>Banks do not offer micro-loans, the smaller the loan and the higher the interest.</p> <p>Minimum loan amount 500.000Akz</p>	<p>Customers must obtain loan from banks where they salary is paid to, must earn a certain amount depending on the amount requested and repayment period, and must have a backer who will be responsible for the repayment in case the original borrower fails to do so ; the backer must earn the same or more than the borrower.</p> <p>Minimum Loan amount 100.000Akz</p>	<p>To qualify for a loan you must have a sustainable business plan, many traders have ideas but do not present feasible execution plans, and have no notion of running costs of businesses. Minimum amount depends on the type of loan but for small business is 300.00AKz</p>
<p>How do banks deliver information about the banking products to informal traders?</p>	<p>Information about available banking products and how to acquire them is passed via advertisement on TV and radio, flyers and booklets at the bank branches.</p> <p>Information on how to use banking products is also present on flyers and booklets at the bank branches but users also get some basic training for from bank staff for products such as card machines</p>	<p>Information about available products is passed via Ads on tv and informative booklets at the bank.</p> <p>Information about the usage of banking products is transmitted directly by the banking staff and is also available on the booklets.</p> <p>Customers do not read the booklets and are limited to the information they obtain from bank staff.</p>	<p>Banks advertises its products TV, radio, flyers and booklets at the bank branches.</p> <p>Banking staff train and educate customers that obtain products such as card machine. Bank also has a 24 hours support lime for merchants. And the products also come with user manual</p>

<p>What do you think affects informal traders choice of payment method?</p>	<p>Many traders avoid card machines because of costs. Habits , traders have a preference for cash, even at petrol stations attendants pretend that card machines is not working to be paid. Lack of commercial and financial education, traders will be attracted to card machines one they understand the benefits Machines are not complicated to use, traders receive training after installation.</p>	<p>Card machines still in an introductory stage and traders still not aware of its benefits. Traders see card machines as expensive. Traders like money in hand and money from card sales is only available 24h after the closing. Cash is risk , card machines are safer, and are easy to use, traders only have to perform 2-3 functions</p>	<p>Many traders cannot afford the costs; some traders have low profits and for them is not beneficial to sustain the costs of card payments. Traders have an unstable income and usually avoid this kind of financial commitment. The Informality of their business makes them avoid electronic payments. Non registered business must justify to the bank why you need a card machine; some traders use unofficial channels to obtain their goods and are not willing to discuss about that</p>
<p>Is your bank doing anything in specific to attract more informal traders?</p>	<p>Targeting registered small shops but not informal traders, regulations do not allow to anyone just get a card machine. Informal traders represent a high risk to the banks because they are not guaranteed to follow operational procedures. Banks are targeting registered small shops but some clients give up on the product but do not cancel their contracts, many</p>	<p>Bank has a general plan to attract more customer but not informal traders in particular. But target registered small shops but they are also problematic. Card machines are used in multiple places besides the one it was issued, as results very small shops end up with transaction volumes and revenues out of the ordinary and up to 10 times its initial revenue.</p>	<p>No. Most of the traders do not have bank accounts. Of the traders that have bank accounts very few deposit their earnings at the bank. Informal traders give up on the products because of the costs but do not cancel the contracts or return the card machine and end up incurring debt.</p>

	customers end in debt because they are still being billed monthly for something they are not using. Banks have to suspend some accounts as a preventive measure to avoid further debt.		
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