

**Impediments to the Provision of Payment Aggregator Services by  
Financial Technology Companies.**

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A research project submitted to the Gordon Institute of Business Science, University of Pretoria, in partial fulfilment of the requirements for the degree of Master of Business Administration.

11 November 2019

## **ABSTRACT**

The term “fintech” reference to innovative financial technology companies and their associated service offerings which incite payment services as a non-bank entity. Financial technology firms (fintechs) are often referred to as payment service providers (PSP) who, as part of their service offerings provide payment aggregation services. This includes the facilitation and collection of large volumes of transactions on behalf of customers (either merchants or consumers) and settle the payments on behalf of the customer through a sponsoring bank. The study contributed to the necessary research for understanding the value of payment aggregators and their inhibiting factors in addressing the unbanked market. By enabling the 11 million unbanked market in South Africa to engage in financial services, fintechs would inadvertently be improving their socio-economic environment and the South African economy, thus creating a shared value model.

The study was done using qualitative research methods to explore the impediments in the provision of payment aggregator services by financial technology companies. The researcher was interested in understanding the impact of these factors on the unbanked market of South Africa. 17 participants were interviewed using semi-structured, in-depth, face-to-face interviews. The participants consisted of highly experienced experts in the payment landscape working at the banks and fintechs. A thematic analysis approach was used to analyse the findings of the interviews.

The main factors that emerged were the costs associated with the distribution network necessary to facilitate payments, the interoperable payment technology required to foster the partnerships required across the banks, retailers and mobile network operators. The third factor showed that regulation had a significant influence in the enablement of the payment aggregator services. Fourthly, the need for partnership across all entities in the payment process underpinned the study as a criterion to the sustainability of the payment aggregator in creating shared value. Finally, the fifth factor revealed the challenge associated with the sentiment of the unbanked market of formal financial institutions.

## **KEYWORDS**

Creating Shared Value, Payment Aggregator, Interoperable Technology,  
Regulations, Partnerships.

## DECLARATION

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

Name: Charna Felet

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Date: 11 November 2019

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## **Chapter 1**

### **1. Introduction to Research Problem**

#### **1.1 The Problem**

The study was chosen to understand what factors inhibit financial technology firms (fintechs) from providing payment aggregation services to the South African unbanked population. Fintechs, are often referred to as payment service providers (PSP)s. PSPs offers payment services on behalf of the payer. This payer could be a merchant or a person who through the payment process embedded in the transaction sends the payment receipts via a PSP to the banks who then collect and settle the funds (The South African Reserve Bank, 2008). They are greatly invested in developing and creating innovative payment technology services as there are profitable opportunities for providing financial services to those who are unable to participate in “traditional payment channels”. (Anderson & Billou, 2007).

The service of payment aggregations is provided by a PSP and described by the McKay and Pillai (2016) stating that they “ensure the seamless flow of payments between payers and payees across multiple payment instrument providers. Irrespective of which payment instrument a customer decides to use to conduct a transaction (a mobile wallet on any network or a mobile banking app), the payee is able to receive funds” (McKay & Pillai, 2016).

Enabling the 11 million unbanked people in South Africa to engage in financial services, fintechs would inadvertently be improving their socio-economic environment and the South African economy, thus creating a shared value model (Porter & Kramer, 2011).

There are several payment aggregators currently operating in South Africa. However, their services are mainly focused on providing payment services to merchants. These merchants are considered the “low hanging fruit” of payments since there are less challenging to service than the unbanked population and the former are more financially viable, and accordingly, less risky to serve (Gomber, Kauffman, Parker, & Weber, 2018). This research investigates what factors have prohibited the provision of these services as means to addressing the unbanked population of South Africa.

In understanding the problem, both demand and supply side challenges for financial inclusivity will be unpacked to determine the factors that make it challenging for fintechs in the capacity of payment aggregators.

This study is undertaken through the lens of shared value theory. It is argued that by addressing the needs and challenges of society, economic value is created in a way that is sustainable for all parties involved (Porter & Kramer, 2011). Applying the shared value theory to payment aggregator services, financial inclusion could be achieved across all parties in the payment model, being the unbanked customers, merchants, banks and the fintechs. Thus, payment aggregation services can provide significant socio-economic benefits and promote economic growth.

## **1.2 Purpose of the Research**

During the apartheid era, indigent households in South Africa were excluded from financial and transactional services that were predominantly available to the non-black population (Meagher et al., 2002). There is a large body of research that suggests that a shared value model can promote financial inclusion, reduce poverty and generate profitable opportunities for businesses (Burns, 2018). Thus, the importance of efficient financial systems, the necessity of financial outreach and inclusion has become a significant focus area in South Africa (Kostov, Arun, & Annim, 2014).

Financial inclusion deals with “how an economy’s financial services incorporate the vulnerable and low-income earners in such way that they are not marginalised from gaining access to financial products and services” (Anarfo, Abor, Osei, & Gyeke-Dako, 2019. p. 444).

South Africa’s population of 57 million citizens is seen to have high levels of financial inclusion where approximately 70% of the population are classified as banked (Price Water House Cooper, 2019). This is because the definition of banked customers incorporates the large proportion of social welfare recipients who receive monthly grants into their South African Social Security Agency (SASSA) account (FinMark Trust, 2017; Price Water House Cooper, 2019). However, shortly after receiving welfare payments, many of the SASSA recipients withdraw all the money from their account and use cash to make payments (Price Water House Cooper, 2019).

As grant recipient typically withdraw all their funds, it is questionable whether they are considered banked and financially included if universal financial access is seen to include ownership of an account that supports access to financial services (FinMark Trust, 2017). Such an account would provide a store of value and enable transaction services to send and receive payments (FinMark Trust, 2017).

There are approximately 11 million unbanked citizens in South Africa who are characterised as having low income per capita due to unemployment, and are predisposed to less choice of goods and services (Wentzel, Yadavalli, & Sundar, 2013). Without access to transactional services, the unbanked typically pay higher prices for goods and services relative to the banked population, exacerbating income inequality (Wentzel, Yadavalli, et al., 2013). The unbanked population and welfare recipients display similar characteristics being, the propensity to make cash payments and lack of fully engaging in financial service offerings (FinMark Trust, 2017).

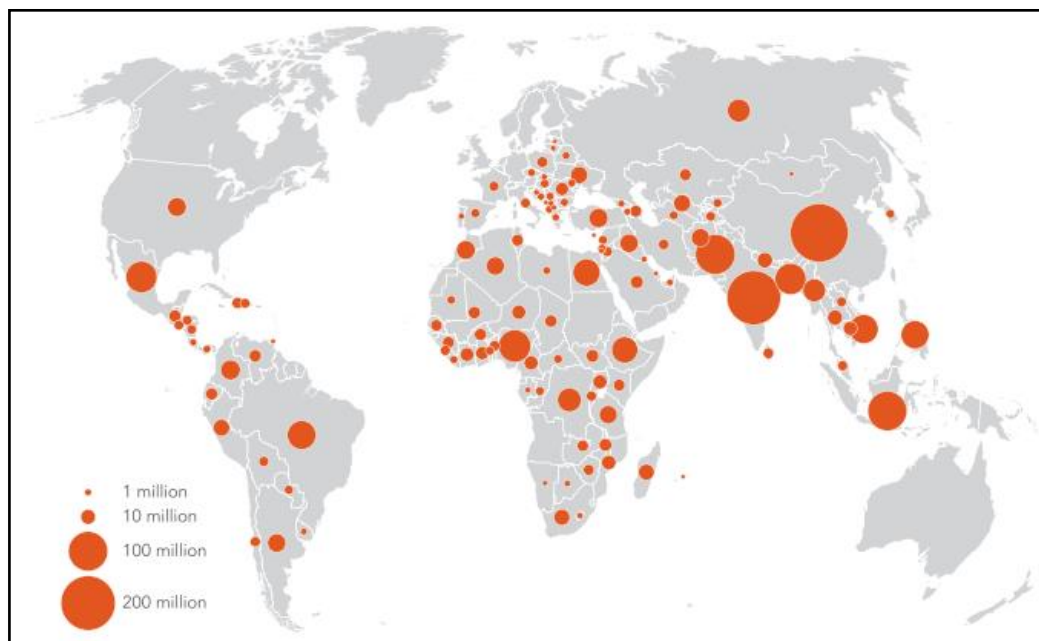
Given the importance of promoting access to transactional services for the unbanked, this study contributes to the necessary academic research for understanding the value of payment aggregators and the factors that inhibit their use for servicing the unbanked (Gomber et al., 2018). The objectives of the paper are as follows:

- Understanding why there are limited payment aggregators servicing the unbanked market
- Uncovering the factors that inhibit the provision of payment aggregator services by financial technology companies
- Establishing how shared value creation promotes the viability of payment aggregation services for all parties involved

### 1.3 The Evidence Identifying the Problem

Globally, there are approximately 1.7 billion adults who are unbanked and many of these individuals live in the developing world (Demirguc-Kunt, Klapper, Singer, Ansar, & Hess, 2018). South Africa accounts for eleven million unbanked adults or 20% of the overall population of its 57 million citizens. In comparison to global data, this is not significantly lower than the rest of the world as is seen in Figure 1 (Demirguc-Kunt et al., 2018).

The 20% of unbanked customers could be seen as non-consumers as described by Christensen (2017) who proposed that these “...consumers lack a solution that will allow them to meet an important need in an affordable, accessible manner” (Christensen, Ojomo, & Van Bever, 2017. p. 135). It is further concurred by Christensen et al (2017), that developing and emerging markets provide prime opportunities for tapping into the non-consumption economies. It is with this in mind that creative solutions can be fostered in accomplishing goals (Christensen et al., 2017).



*Figure 1: Global unbanked data*

*Source 1: Global Findex database (2017)*

The extent of bank account ownership in South Africa has largely remained unchanged since 2014 to date. However, the uptake and adoption of mobile money

financial services has rapidly increased suggesting that there is increased demand for the type of financial services. (Demirguc-Kunt et al., 2018). This increased demand is consistent with the prohibiting factors that prevent unbanked citizens from opening an account.

These prohibiting factors in opening a bank account include lack of funds required to maintain the account or even open the account, the lack of necessity to own an account due to the large cash economy in South Africa, distance to the nearest bank branch or ATM, accessibility, regulatory requirements and mistrust in financial institutions (ver Loren van Themaat, Schutte, Lutters, & Kennon, 2013). The prohibiting factors have been described as the four-A approach, namely availability, affordability, acceptability and awareness which will be further expanded upon in understanding the demand side of payment services. (Anderson & Billou, 2007).

On the supply side, payment regulations in South Africa have created many layers of protection to secure the integrity of the national payments system. The resulting impact has led to several challenges for the inclusion of enabling parties such as payment aggregators, ultimately resulting in the exclusion of the unbanked (Gomber et al., 2018)

Gomber et al (2018) confirmed that there is great need to explore and research the potential for payment aggregators stating that there is "...high potential for academic research that contributes to sophisticated fintech aggregations that include innovative and complex financial strategies designed for multiple customer age and wealth groups. These include less affluent customers, as well as those other than millennials who lack experience with mobile devices" (Gomber et al., 2018. p. 253).

#### **1.4 The Relevance of the Problem**

Access to financial and transactional services can have significant implication on the economic wellbeing of citizens. For example, Wale & Makina (2017), propose that access to finance can have an impact on occupation choices. If an individual was financially included they may not choose to be, for example, a laborer who would be predisposed to not having the adequate requirements for bank account ownership (Wale & Makina, 2017).

Banking services are expensive for lower income customers (Wang, 2010). The fees associated to transacting such as interchange fees on ATM withdrawals alone are relatively costly (Wang, 2010). Card transaction costs comprise of issuance fees and interchange fees determined by the card associations (Wang, 2010). Globally, the two predominant card associations comprise of Visa and MasterCard who both set their interchange fees for financial institutions that issue and market their cards (Wang, 2010).

The point at which interchange fees are applied in the payment process is described in Appendix A. The cost to transact impacts the merchants and customers negatively and some merchants are forced to increase their prices to offset the charges they incur on interchange fees. Consequentially, low income customers are more likely to choose cash as a means of payment which is seen to have no fees associated with the transaction (Shy, Oz; Wang, 2011; Wright, 2012). This is further confirmed by Frankel and Shampine (2005) who assert that “merchant fees are often explicitly formulated on an interchange-plus basis” which has an economic impact on consumer decisions to purchase goods and service (Frankel & Shampine, 2005, p. 632).

Therein lies a distinct research need to determine the impediments the financial technology companies face in the provision of payment aggregator services to the unbanked market as a means to discourage cash (Gomber et al., 2018).

Previous studies have been undertaken in respect of options available to the unbanked population in South Africa, however it is not clear whether digital transactional payment services through a payment aggregator, have been viewed as an opportunity to address the unbanked.

### **1.5 Scope of the Research**

The research will focus on the investigation what factors impede the provision of payment aggregator services to the unbanked population of South Africa. This will require some insights into the market environment, the institutional environment, and

end user environment to understand what prohibits the engagement and fulfilment of this service (Bilodeau, Hoffman, & Nikkelen, 2011)

## **Chapter 2**

### **2. Theory and Literature review**

The financial payments industry has undergone great transformation in recent years with new technologies making it possible for financial technology firms (fintechs) to emerge, subsequently creating significant fintech innovations (Gomber et al., 2018). The common goals across the fintechs is to provide new ways of enabling payment services, ultimately improving customer experience. (Gomber et al., 2018).

The exponential growth of fintechs across the globe has been evidenced in the volumes of capital funding activities of the fintech start-ups (Gomber et al., 2018). Gomber et al., (2018) recognised this growth as demonstrating a “fintech revolution” with the greatest growth in fintech entrepreneurship seen to date (Gomber et al., 2018. p. 223). He also proposed that three reasons existed for this.

Firstly, the availability of capital which venture capitalists have been willing to invest in the fintech to provide innovative products and services for the financial institutions. It was stated that the fintech landscape is a “highly fertile area of the global economy”. (Gomber et al., 2018. p. 224).

Secondly, the nature of fintechs mean that they are privy to dynamic and innovative technology, which has predisposed their ability to supply innovative services where financial institutions have been unable through their own systems to offer these valuable services (Gomber et al., 2018).

Thirdly, due to the fintech’s innovative technologies, they have distended the traditional payment services distribution and business models. This has resulted in creating different demands from evolving, intelligent customers which they subsequently can serve (Gomber et al., 2018).

Studies have shown that the emergence of new fintechs was also propelled by the reduction in technology costs due to open source software and cloud based infrastructure (Moore, Seedat, & Yu-Jen Chen, 2017). The resultant effects have been that the new fintechs could tap into specific needs of customer segments where



larger, less agile financial institutions have been unable to do so (Gomber et al., 2018).

Ultimately, the financial technology revolution has given rise to fintechs being known in the payment industry as payment service providers (PSP) who offer convenient payment services to customers and merchants on behalf of the financial institutions.

## **2.1 Payment Service Providers**

A payment service provider (PSP) is defined by the South African Reserve Bank (SARB) as “ a person who accepts money or the proceeds of payment instructions, as a regular feature of that person’s business, from a payer to make payments on behalf of that payer to multiple beneficiaries” (The South African Reserve Bank, 2008. p24).

To provide a store of value for customers, PSPs face the choice of either applying for a bank license or partner with an existing bank, wherein the latter is often the preferred choice (Bilodeau et al., 2011). This choice is driven by the stringent requirements to be a registered bank and to participate in the National Payment System (NPS). One of the many requirements include the capital and liquidity amounts of at least 250 million rand in reserve funds (Coetzer & Naicker, 2019).

However, the need to partner with a bank is shown to have constrained the agility often associated with a fintech, thus reducing innovation and discouraging a healthy level of competition with similar fintechs and traditional banks (FinMark Trust, 2017). The obligatory relationship with the bank has also constrained the PSP’s product line as the banks are concerned with cannibalising their own products in promoting the PSP’s products and services (FinMark Trust, 2017)

One such service offering provided by the PSP is a payment aggregator service which collects and processes the transactions on behalf of its customers (either merchants or consumer) for and on behalf of a sponsoring bank.

For the PSP who provides payment aggregators services, its value proposition is in fast payment services which have been shown to stimulate economies as a result of



reduction of cash usage and card usage, making payment services inclusive to all (Deloitte, 2019). The positioning of the payment aggregator in the payment process flow is illustrated in Figure 2.

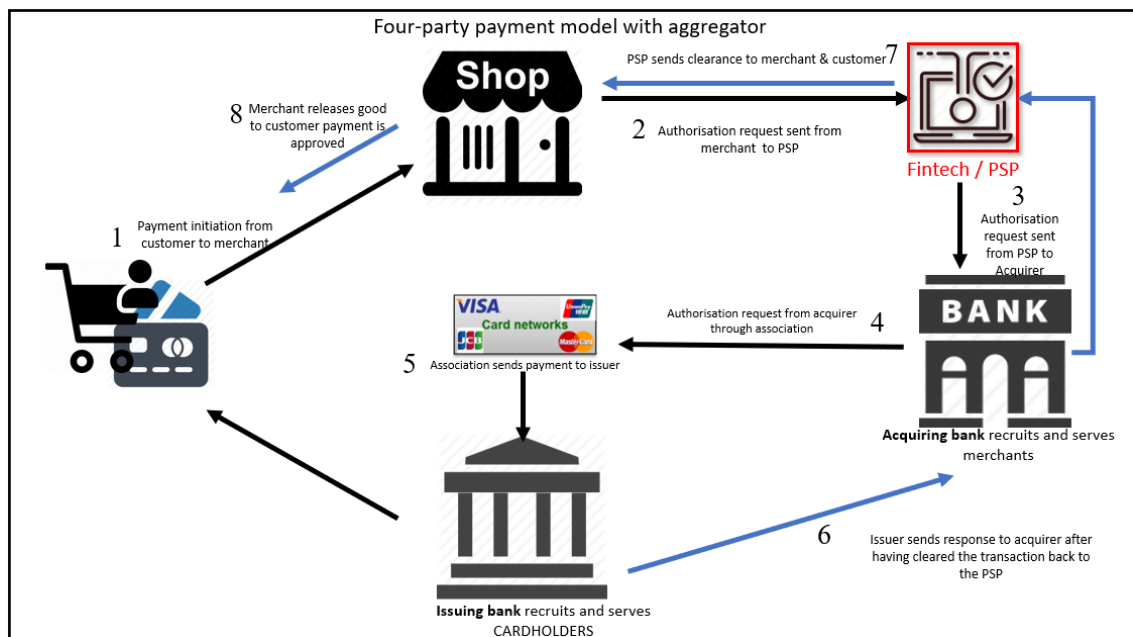


Figure 2: PSP/ Aggregator illustrated in payment process

Source 2: Author's own illustration

Payment aggregators are defined as “ the glue that helps entities like businesses, governments and donors easily connect with a variety of payment platforms-like mobile money services or banks—and the customers who pay via those services” (Pillai, 2016).

The value in the payment aggregator is two-fold, namely; it specialises in Integrations and Value-Added Services (VAS) (McKay & Pillai, 2016). Integrations involve the payment aggregator enabling the connection of the various systems involved with the payment provider to third party schemes (such as a utility company) where the following entities are involved:

- The end customer (payer) who wishes to make a utility payment or wanting to send a variety of payments to various recipients (such as remittance, e wallet payments etc...)
- The recipient of the payment (the payee)
- The payment instrument providers being a Mobile Network Operator or a bank (McKay & Pillai, 2016)

The aggregator's value proposition lies in the fact that its technology and agility being associated with being a fintech, reduces the cost and time involved with the integrations and facilitates bulk collections and disbursements of payments (McKay & Pillai, 2016).

Additionally, it is evidenced that payment aggregators tend to provide services for the facilitation of transactions and are often unbeknown to the end customer as they are in the back end of transactions (Pillai, 2016). However, payment aggregators have in recent years become more visible in the front-end payment process as they want to establish their own brands and customer facing interfaces such as "phone apps, aggregator ATMS or aggregator agents" as illustrated in Figure 3

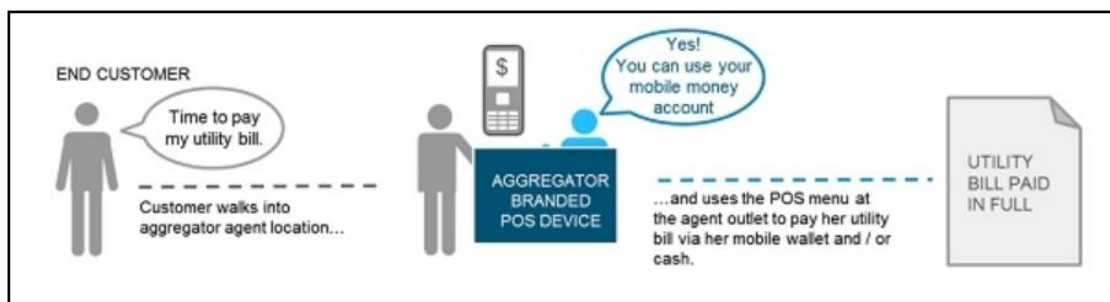


Figure 3: Front end payment aggregators

Source 3: (Pillai, 2016)

Notably, it is evidenced that aggregators do not ordinarily engage directly with the end customers and have traditionally focused on the merchant aggregation business which involves aggregating payments on behalf of the merchant to the financial institutions such as the bank (Pillai, 2016).

## 2.2 Costs Associated with Providing Payment Aggregator Services

There are several costs associated with processing a payment which are predominantly fixed. These fixed costs include the requirement to build and maintain payment network infrastructure as well as the costs associated with the administration of the payment network. These infrastructural costs include "basic computer and software application infrastructure, broadband connectivity, financial agents to carry out transactions, and an identity authentication infrastructure" (Rotman Parker, 2011).

Fields (2010), claimed in her patent that the costs associated with the transmission, storage and reporting of the transaction are included in these fixed costs and it is noted that it does not “vary with the size of an electronic transaction. The fixed cost to execute 1000 transactions for a dollar each are 1000 times the cost of executing a single transaction for a thousand dollars” (Fields, 2010).

Therefore, the commercial viability of a business could be under question where the payment aggregator primarily processes large numbers of small transactions. As such it is posed that “banks and other financial service providers should consider actively developing products suited to the average rural and poor households, and distribute these products over the e-payment infrastructure” (Rotman Parker, 2011).

It has been suggested that instant payments provided by PSPs takes place through different “payment rails” negating the need for a card and a bank, making the process of transacting a cheaper alternative for both the customer and merchant while remaining open loop and interoperable as will be discussed (Deloitte, 2019).

### **2.3 The Regulatory Challenges in Serving the Unbanked Market**

Three main areas constrain the ability of the banks to penetrate the unbanked market namely, market environment, the institutional environment, and end user environment (Bilodeau et al., 2011; FinMark Trust, 2017) . The relevance of these areas is significant in understanding the associated challenges for the payment aggregator model in addressing the unbanked market.

#### **2.3.1 Market Environment**

This section focuses on the payment environment and the competitiveness of the private sector participants. In understanding the environment, it was important to understand “the degree of innovation, and presence of catalysts for development of other payment service providers” were considered (Bilodeau et al., 2011).

Total assets were considered when selecting the top five banks in South Africa being, Absa Bank Limited, FirstRand Bank Limited, Investec Bank Limited, Nedbank Limited and The Standard Bank of South Africa Limited (Coetzer & Naicker, 2019).

The business of being a bank is defined by WG Schulze (2006) through five principles as;

- an entity that accepts deposits from the general public
- advertises these deposit services
- offers interest or other income earned from these deposits such a loans or access to credit
- conducts “floor-plan” agreements where the “seller undertakes to purchase from the buyer at a future date the asset so sold or any other asset”
- Any other activities considered as a banking service by the SARB  
(Robinson, Weston, Gane, Farwell, & Boehmler, 2006)

If the entity is engaging in any of these activities, they are required to register as a bank as stated by the Banks Act. By registering as a bank, the prudential and other requirements imposed on the bank ensures the liquidity of the bank is well managed (Price Water House Cooper, 2018). The banks are thus primarily concerned with meeting the obligatory regulations imposed on them and may consider engagement with the unbanked market as high risk (Cooper et al., 2018).

These financial institutions face their own set of constraints in being able to service the unbanked because of the perceived risks involved resultant from the characteristics associated with the unbanked, being low unemployment levels and poor credit history (Bilodeau et al., 2011). Therefore, shared value creation may be constrained, considering the imposed obligations (Porter & Kramer, 2011).

(Price Water House Cooper, 2017) argued that the banks face additional constraints due to legacy infrastructure which is difficult and costly to change (Price Water House Cooper, 2018). Banks are further constrained by the lack of entrepreneurial skills evidenced in the poorer communities which would typically be associated with a degree of financial acumen (Schoombee, 2004). These requirements are all underpinned by the need to reduce the risk for the banks which is regulated and legislated.

### **Mobile money services**

One of the most successful payment initiatives undertaken is mobile money (Ohene-afuakwa & Nyanhongo, 2017). The use of a cellphone has been seen as “an

important technology in expanding the provision of financial services to the ‘unbanked’ population” (Berndt, Saunders, & Petzer, 2010. p. 48)

Whereas in developed countries mobile banking services is seen as an added service of banking, developing countries view it as a mechanism that could incite financial inclusion benefits through the extension of full financial services (Tobbin, 2012). However, the adoption rate of these services is still problematic, mainly as it requires the individual to own a mobile phone, to have credit on the mobile phone and to have network signal on the mobile phone (Tobbin, 2012). Additionally, as part of the regulatory requirements the mobile banking initiatives are required to operate through the banks (Anong & Kunovskaya, 2013).

From the study undertaken by the FinMark Trust (2017), it is suggested that the prioritisation of risk factors by the banks was foremost, “risk of institutional failure, followed by ensuring efficiency, integrity and transparency and improving financial inclusion” (FinMark Trust, 2017). It is also proposed that the market expressed frustration on having to navigate the obligatory sponsoring bank layer in the payment system in order to provide a valuable service to customers (FinMark Trust, 2017). It could be argued that by removing this layer, the PSPs could innovate quicker, provide greater product offerings to meet different customer demands, initiate greater adoption of these services and promote greater competition. All these factors would greatly benefit the full payment ecosystem and incite shared value creation through the inclusion of customers from all income levels and stimulate economic growth (Porter & Kramer, 2011).

### **2.3.2 The Institutional Environment**

#### *Financial sector regulations*

The legal and regulatory framework for financial services in South Africa comprises the:

- National Payment System Act (Act 78 of 1998) (NPS);
- South African Reserve Bank Act (Act 89 of 1990);
- Banks Act (Act 90 of 1994);

- Exchange Control Regulations (if cross-border);
- Financial Intelligence Centre Amendment Act, 2017 (Act No. 1 of 2017) (FICA) and
- South African Reserve Bank Position Paper on Electronic Money (Lawack, 2013)

Underpinning all these regulations is the national payment system risk mitigation factors which span across all the regulations and is concerned with maintaining the integrity of the payment systems in order to ensure operations are in place to address society (Cooper et al., 2018). These risk factors are also related to the constraints that the fintechs and associated payment service providers would face in providing payment aggregator services.

In order to maintain the integrity of the payment system, the NPS (Act 78 of 1998) seeks to mitigate risk across the following factors:

- Operational risk

This is primarily concerned with the core functionality of the payment participant; such as a bank or payment service provider (PSP); being compliant with systems, networks, governance and infrastructural requirements “in order to meet its obligations under a payment agreement” (Cooper et al., 2018, p. 10). Payment service providers can also offer payment aggregator services as they enable the payment process on behalf of a licensed financial institution (FinMark Trust, 2017). PSPs mainly focus on onboarding merchants, providing them with payment products to enhance their business and settle the payments through a bank.

However, the national payment system enforces hefty cost implications for non-bank entities to engage in clearing services which creates significant barriers for PSPs (FinMark Trust, 2017).

- Credit and liquidity risk

The banks are required to review the capital structure of the individual in consideration of lending as per the National Credit Act (35 of 2005) (NCA), in order to ensure they are not put at risk with the financial obligations imposed on them with the NPS (Cooper et al., 2018). Liquidity shortages would negatively impact the ability

to clear and settle payment between parties involved. These stringent rules prevent flexibility required by the banks to engage with the unbanked markets as many of the unbanked do not have property rights and cannot provide acceptable collateral (Moloi, 2009).

The inability to engage in banking services for rural communities and poor citizens has led to the demand and supply of microfinance which suggested that there was and remains a need for loans in the informal economy (Anong & Kunovskaya, 2013). The need to transact has not been addressed by these micro financiers and thus, initiatives such as mobile banking were undertaken. However, there appears to be varying results about the reach of the banks in addressing the unbanked and what policies have been created to improve financial inclusivity (Wale & Makina, 2017). A PSP is unable to extend credit to a customer without the appropriate regulatory requirements of the NCA, further exacerbating the need for the PSP to be backed by a bank.

- Systemic risk

The NPS Act is concerned with protecting the systemic risk in the payment process to ensure a “stable and secure payment system” (Lawack, 2013). The NPS is governed by a legal framework set out by the South African Reserve Bank (SARB) in the governance of payment, settling, clearing and process. The recent Reserve Bank Payment System Vision 2015, acknowledges the non-bank entities, such as PSP’s in fintechs wanting to engage in the payment environment but asserts that these non-banks need to be affiliated and sponsored by a bank which has implications on the associated costs for fintechs (Lawack, 2013).

Considering the regulatory constraints imposed on the PSP, the costs to navigate the rules and regulations are cumbersome for the fintechs and may not be feasible. These impediments further exacerbate financial exclusion and contradicts the shared value considerations necessary for the unbanked and ultimately the economy. For the unbanked, this means that their ability to engage with an alternative payment choice which could address their constraints of affordability, accessibility and acceptability and negates the need to interact with a formal bank, could be further limited (Lawack, 2013).



- Financial integrity risk

Banks are regulated to ensure Financial Intelligence Centre Act (FICA) requirements such as payslips, proof of residence and formal identity documents for an individual are provided in order to open a bank account (Lawack, 2013). This is governed under the South African constitution and promulgated by GN No. R1595 in GG No. 24176. (Lawack, 2013). The hefty fines applied to the banks for not strictly following FICA section 21 rules could be imprisonment for 15 years or a fine of R100 million as per section 68 of Act 38 of 2017 (Lawack, 2013; The Financial Intelligence Centre, 2017). As such the onerous nature of onboarding an unbanked customer could disincentivise the banks to engage with the PSP in serving the unbanked.

FICA rules are problematic for those rural citizens who do not possess formal documents and may not be provided with payslips on a regular basis, due to lack of consistent employment. AS part of the Financial Intelligence Centre, the Money Laundering and Terrorist Financing Control Regulations (MLTFC ) was used as a consideration for the SARB which have introduced some exclusionary measures with the view to enable the bank to make a reasonable risk assessment of the undocumented customer (Lawack, 2013).

However, literature suggests that the banks have been risk adverse to the extent that the “reasonable” leverage given to them by the SARB is not undertaken for fear of the penalty fines associated to any breach in the rules (Lawack, 2013).

Thus, to reduce exclusion of the financial services landscape, Cooper et al (2018) suggested that financial service providers including the PSPs should engage in the tiered consumer due diligence (CDD) provided by the regulations which has the primary purpose to identify their customers to assist in detection and prevention of financial crimes (Cooper et al., 2018).

- Efficiency risk

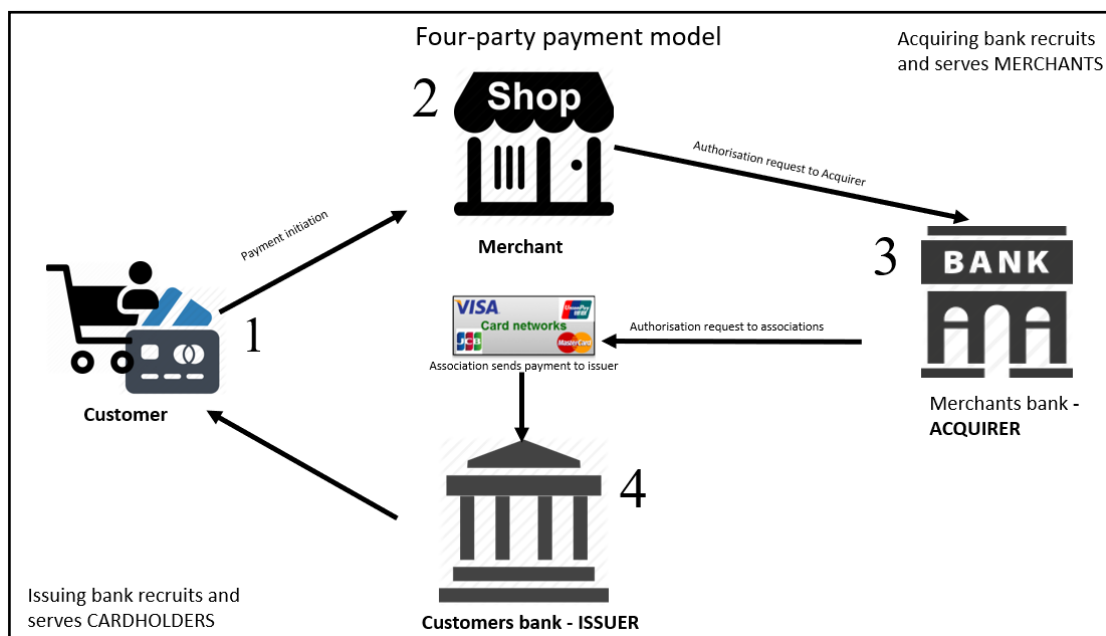
Due to the highly regulated environment of financial institutions, it is legislated that, “only registered banks that have a settlement account with the South African Reserve Bank (SARB), or are sponsored by another bank in settlement, may participate in the National Payment System” (Robinson, Weston, Gane, Farwell, & Boehmler, 2006, p.474).



Cooper et al. (2018) proposed that a more competitive payment ecosystem would enable less monopolistic pricing and encourage more participants in the field, inciting better innovation and more equitable costs associated with payment processing (Cooper et al., 2018). Notably, research conducted by the World Economic Forum (WEF) showed that when South Africa's financial services regulatory environment was compared to twenty other African countries, it was shown to be favourable in the mobile financial services environment (FinMark Trust, 2017).

Thus, a payment system which offers different bank licensing options to other non-banking organisations would imply an environment which is conducive to innovation and has lower barriers to entry in being able to serve the unbanked (Bilodeau et al., 2011). It may further enable greater shared value across all parties by addressing different socioeconomic needs across various segments of the population.

Gaining efficiency on the traditional payment model, named the "four party model" as legislated by the NPS and regulated by SARB, involves various participants. The four-party model is illustrated in Figure 4.



*Figure 4: Four party interoperable payment process*

*Source 4: Author's own*

The four-party model comprises the issuing bank, acquiring bank, the customer and the merchant. For the customer to engage in the payment infrastructure, they will have been provided with a payment method, being either a card, e-wallet or mobile application by an “Issuing” bank. The issuing bank will issue cards from “card scheme owners” or “associations” such as Visa, Mastercard, American Express and similar.

The payment method (such as a card, e wallet etc..) through which they transact is considered the “store of value” (SOV) (Competition Commission, 2003). An “acquiring” bank is the institution which has been engaged with by a merchant in order to accept the payment device used by the customer. It is not uncommon that the issuing bank and acquiring bank are the same institution and it is also common practice that these issuing and acquiring banks are different institutions (Competition Commission, 2003).

Payment service providers typically serve as a conduit between the merchant and acquiring bank by enabling a speedy transaction to occur through its software, otherwise known as a “gateway” or payment service provider (PSP).

This traditional payment model is also known as an open loop payment environment on the basis that it enables interoperability across all its infrastructure which is critical to being ubiquitous. This interoperability has been facilitated through associations such as Visa, Mastercard, Bancserv and are responsible for routing the transaction and enabling the clearing and settling process of the respective payment (Competition Commission, 2003).

There has been much emphasis on the need for interoperability as a necessity to enable greater payment service offerings such as digital payments which can be enabled across broad value chains to facilitate digital payments for services and accompanied digital payment devices (International Finance Corporation, 2018).

The three party model, also known as closed loop payment process is defined as “the card scheme owner is not only the issuer of the card but also the acquirer of the merchant’s transaction” (Competition Commission, 2003. p. 230). This model involves one financial institution such as the bank which enables the customer to make payments using a payment association such as Visa, Mastercard, American Express and also accepts payments on behalf of the merchant through the acquiring bank (Competition Commission, 2003. p.230). The three-party model is illustrated in Figure 5 below:

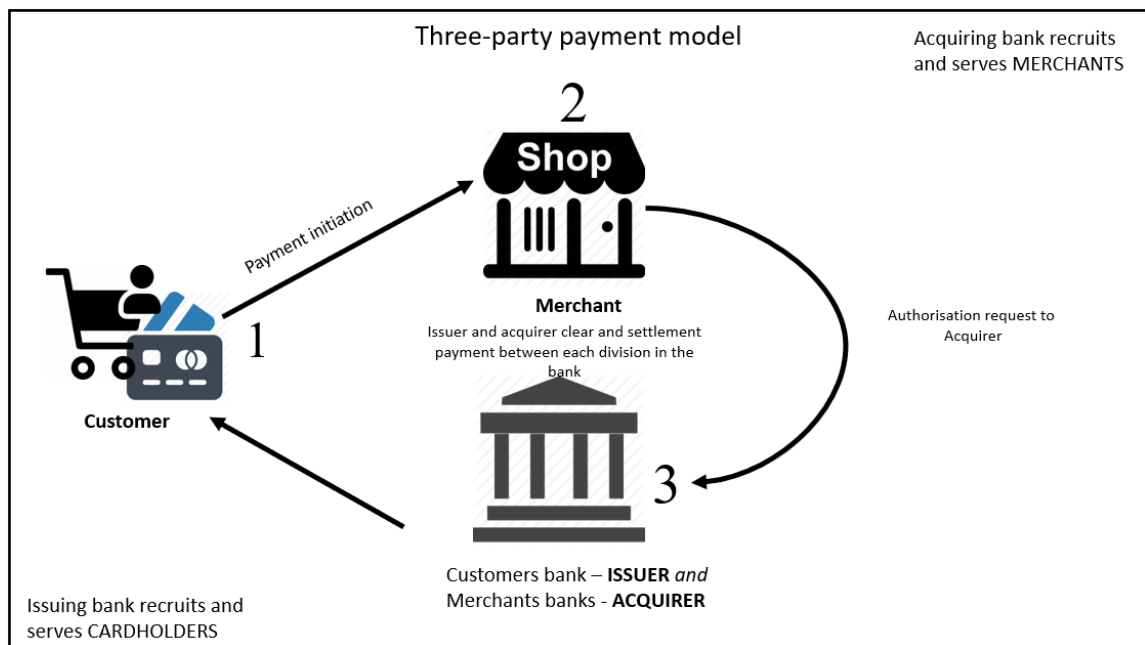


Figure 5: Three party payment model

Source 5: Authors own

However, studies undertaken by the FinMark Trust (2017), found that the institutional environment was profoundly limiting to what product offerings could be made available to customers. Given the punitive measures on the banks, the willingness of the banks to engage with financial technology partners in offering a host of different products for different customer requirements is limiting (FinMark Trust, 2017). Additionally, the ability to navigate the NPS in order to engage in alternate payment methods is also hindered (FinMark Trust, 2017).

It remains questionable whether the traditional payment model on both open loop and closed loop payment processes addresses the concerns of the unbanked and can serve their needs or if “monopolistic ownership of the market, or inadequate

infrastructure exists that is not able to support efficiency” (Cooper et al., 2018). A payment aggregator on the issuing side of the bank could provide a service direct to the customer with the sponsorship of the bank as illustrated in Figure 6 .

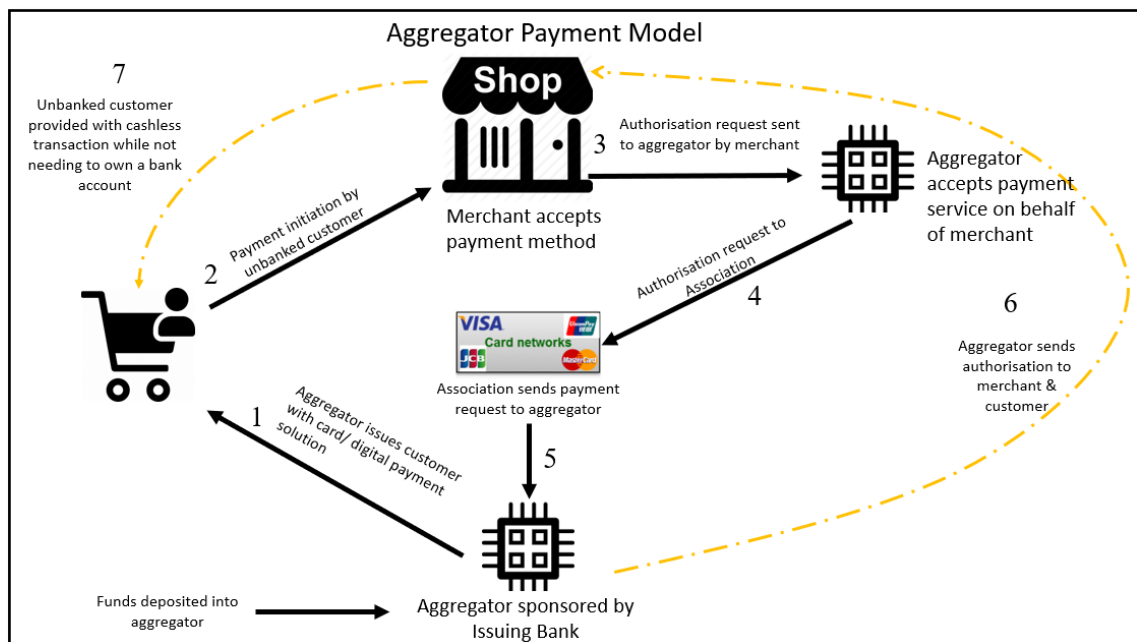


Figure 6: Aggregator payment service

Source 6: Author's own illustration

### 2.3.3 End User Environment and Nature of the Unbanked in South Africa

There exists a plethora of literature on the nature of the unbanked market in South Africa. The existing themes that are conveyed in describing the unbanked all agree that the defining characteristics of the unbanked market of South Africa “do not have any form of transactional account, tend to be less well educated, reside in informal (rural) areas and townships, and lack a steady cash flow” (Coetzee, 2009, p. 450). It is suggested that these individuals would constitute the “bottom of the pyramid” as they typically have earnings of around \$1500 per year, the minimum required to sustain decent living (Anderson & Billou, 2007).

Additionally, there are large volumes of literature which point to the relationship between the lack of financial inclusion and the inability to grow both personally and equitably. The culmination of these factors and the long term effects of financial exclusion, reinforces and escalates the income inequality experienced in a country such as South Africa (Beck & Demirguc-Kunt, 2008).

One of the factors that could assist in the growth of the economy and subsequently reduce the income inequality is financial inclusion. Embedded in financial inclusion is shared value theory which suggests that by enabling all parties to engage in the financial payment sector, every party would benefit and become more profitable (Porter & Kramer, 2011). This is corroborated by the fact that many studies have shown the benefits of being financially included; specifically having a bank account facilitates the ability to save, empowerment of women and better engagement of entrepreneurs (Allen, Demirguc-Kunt, Klapper, Soledad, & Peria, 2016).

The engagement of financial services by the unbanked market would facilitate investments, savings and financial management which would have long term effects on future generations (Allen et al., 2016). Creating financial inclusivity for the unbanked market in South Africa, epitomizes shared value across a spectrum of entities, being consumers, merchants, the financial institutions and finally the economy. It is suggested that in order to effectively address the bottom of the pyramid market and engage in shared value creation, it is necessary to address the constraints they experience through understanding the 4A's proposed by Anderson and Billou (Anderson & Billou, 2007).

#### **2.4 The Market Failures Precluding the Unbanked Market in South Africa**

Market failures have precluded those individuals who are predisposed to more socio economic challenges (Wale & Makina, 2017). These market failures typically include erroneous information, monopolies and limited infrastructure available (Wale & Makina, 2017). Additionally, market imperfections are further proposed to have negatively predisposed individuals to lower education levels and self-development ultimately impacting their career choices and earning capacity (Wale & Makina, 2017). In applying the four A's proposed by Anderson and Billou (2007), the constraints experienced by such market failures is evident.

*Availability* to acquire financial services or products is challenging for the bottom of the pyramid. Most of the unbanked market do not have credit history and lack financial education (Coetzee, 2009). As they have limited credit history, they are unable to obtain loans and are not capitalising on savings interest as the cost of

borrowing and owning a bank account is too high (Tobbin, 2012). They are not motivated to engage with banks and the associated product offerings of these banks as they consider bank account requirements too cumbersome (Tobbin, 2012).

Considering that *affordability* is a large constraint for the unbanked market, the perception of owning a bank account is that it is costly, which further exacerbates the predisposition to avoid a bank account. Low unemployment results in lack of funds which constrains the unbanked individual from engaging with a bank (Wale & Makina, 2017). Factors contributing to aversion of engaging with the banks consist of a lack of trust, the perceived expense related to account ownership, access to the banks, language barriers, poor customer service and the regulatory and documentary obligations imposed on them when opening a bank account (FinMark Trust, 2017; Kostov et al., 2014; Wentzel, Yadavalli, et al., 2013).

These perceptions are not unfounded considering there are costs associated with bank account ownership ranging from fees associated with deposits, withdrawals, monthly fees, remittance fees and unsuccessful debit order fees (Solidarity research institute, 2017).

The unbanked are further disincentivised to own a bank account because of the minimum balance required to keep the account active and being uncomfortable to share their personal financial information with an institution which they don't trust (Tchouassi, 2017). If the banks addressed the availability, affordability, acceptability and awareness constraints through shared value creation, it has been evidenced that the unbanked would consider financial services (Demirguc-Kunt et al., 2018).

These constraints also prohibit the *acceptability* levels of a bank account by the unbanked (Anderson & Billou, 2007). The acceptability levels are described as the willingness of customers to engage, consumer or distribute the product or service (Anderson & Billou, 2007). Lower income individuals have the least account ownership and tend to use the account less frequently than upper income segments (Wale & Makina, 2017). It is also suggested that education levels, age and gender are also considered predictors to the ownership, level of engagement and use of bank accounts (Wale & Makina, 2017).

The unbanked sentiment around financial services is subject to many levels of interpretation which in itself shows the level of complexity around the nature of the unbanked (Kostov et al., 2014). This could explain why the banks have not been able to penetrate the unbanked market as effectively as they would like. Additionally, the roots of shared value creation stems from a symbiotic relationship formed by the businesses and demands from the communities (Porter & Kramer, 2011). In order to offer its services or improve upon these services, the business requires a community who will naturally demand changes to the goods and services as they become more mature in using the services (Anarfo et al., 2019).

The inhibitors to information such as distance, education levels, unemployment, language play a large role to awareness of financial services offered by the banks. It was found that supermarkets and post offices had greater reach in the market due to the accessibility of these entities (Wentzel, Yadavalli, et al., 2013). Additionally, the lack of financial illiteracy noted in the unbanked market could predispose the unbanked to a lack *awareness* of banking products and services. This could also be associated to the lack of accessibility promoted within financial sector policies (Anarfo et al., 2019).

The inhibitors to information such as distance, education levels, unemployment and language play a large role in awareness of financial services offered by the banks (Wentzel, Yadavalli, et al., 2013). It was found that supermarkets and post offices had greater reach in the market due to the positioning of these entities (Wentzel, Yadavalli, et al., 2013). Additionally, awareness of financial services could be severely limited given that English is not always the first language for the unbanked market and it is perceived that English is the language used by the banks (Wentzel, Yadavalli, et al., 2013).

These constraints all culminate into a lack of wiliness to engage in the banks and it was evidenced that mistrust did not relate to the banks alone, but to all institutions who hold their money (Wentzel, Yadavalli, et al., 2013). Notably, there was a segment of the unbanked market who chose to remain unbanked, despite not experiencing these same constraints, as they simply did not wish to engage with the formal financial sector (Kostov et al., 2014). This raises the question of whether



benefits received from the banks are viewed as valuable to the unbanked person's economy and communities (Porter & Kramer, 2011).

The choice to remain unbanked has also been shown to stem from the fact that these individuals don't have financial savings which would initiate regular contact with the banks (Tchouassi, 2017). Therefore, receiving funds would occur mainly through cash (Tchouassi, 2017). The problems facing the unbanked is exacerbated by greater financial risks associated with choosing financial options which are not formally registered with the financial institutions, which eliminates the need for regulatory requirements (Shumba, 2016). However, the informal financial services available to the unbanked, results in higher costs associated with loans or other financial services (Ligthelm, 2004).

Therefore, the constraints faced by the unbanked inevitably lead to the decision to use cash as their means of transacting because it is interoperable and negates these constraints. The inability for the banks to utilise these constraints to their benefit may be because of a belief that costs would outweigh the benefits (Porter & Kramer, 2011). The argument could be countered through the view that the bank could make their profits *with* the bottom of the pyramid market and not *from* the bottom of the pyramid, providing a shared value framework across financial services (Christensen et al., 2017).

## **2.5 The Advantages and Disadvantages of Cash**

### **Advantages of cash**

Considering the unbanked face the constraints described, it was noted that South Africa has the highest levels of cash in use representing close to 60% of the country's Gross Domestic Product (GDP) (Pymnts, 2018). The demand for cash in South Africa remains tangibly high as it is suggested that despite an increase in banked customers from 63% in 2011 to 77% in 2015, cash transactions still dominate the total value of the transactions. This could be due to the interoperability of cash which is a large motivation for the unbanked consumer as it is convenient, immediately accessible and considered less costly than owning a bank account. Interoperability of cash relates to the fact that the individuals can cash in and cash out anywhere (International Finance Corporation, 2018).



In the payments industry, interoperability is enabled through the standardised and regulated payment schemes and facilitated by technology such as switching or gateway platforms (International Finance Corporation, 2018). In providing interoperability, it means that the customer can transact anywhere and seamlessly and the merchant can accept any means of payment (Allen et al., 2016). In addition, the benefit for a merchant only accepting cash is that they don't have to incur the upfront cost of payment accepting devices (Alhassan, Li, Reddy, & Duppati, 2019).

Using cash as a means for payment also negates the formal payment model and associated transaction fees included (Competition Commission, 2003). However, it could be argued that if the merchant were able to accept other means of payment, it could incite greater customer spending which underpins the value of Visa and Mastercard offerings.

These schemes enable the same level of interoperability experienced using cash, which is valuable to unbanked customers. The unbanked experience the freedom of interoperability using cash as they can make payments for goods and services to the merchants and individuals alike and this is an acceptable means of payment. Cash is used out of necessity for these individuals; thus, ATMs and bank branches are required for the individuals to gain access to cash. The necessity for cash stems from the facts that many of the merchants in the communities prefer to accept cash as a means of payment (International Finance Corporation, 2018).

They are also in favour of cash as it enables immediate payment while not having to disclose the cash to the tax authorities. Studies conducted on the cost of cash demonstrated that "low-income earners – 46% of whom are banked – tend to use cash as a result of very limited card acceptance at micro-merchants, particularly in rural and peri-urban communities where there is no alternative to cash" (Mastercard, 2017). Shared value is diminished in cash-based payments as the banks benefit from cash withdrawals due to fees associated with the withdrawals, while the low income customers who may consider the immediate access to cash beneficial, are disproportionately worse off in comparison to the high income earners (Mastercard, 2017).

Cash offers several benefits to people in that it is interoperable, immediately available, easy to use and there are no hidden fees in the transaction process in that it is free to exchange between person to person. Additionally, considering the characteristics of the unbanked, it may be considered easier to count and budget as there is no digital literacy required in the use of cash. It may also be considered cheaper and less cumbersome as it does not require cellular data or wireless connectivity to enable the transaction nor does it require the individual to become comfortable with the technology required to perform a digitized transaction.

Notably, one reason why the unbanked market prefer cash over digital payments is because they are concerned about fraud. It is also suggested that these individuals prefer face to face interaction when making payments as recourse to issues could be settled easier in person than via digital platforms (Ikdal, 2017). A deep sense of trust is embedded in the utility of cash, thus creating a significant challenge to overcome.

### **Disadvantages of cash**

Notwithstanding the benefits associated with cash, there are many problems associated with it such as the opportunity costs incurred from the time taken to withdraw the cash, (particularly for rural customers), insecurity of cash experienced due to theft, misappropriation of funds, control systems required to operate the cash as well as the transportation of cash and the distribution of cash.

Belief systems and financial education around ownership of cash could have a strong correlation to the lack of and or use of bank accounts in South Africa (Kostov et al., 2014). It is evidenced that cash usage in South Africa cost consumers R23 billions of GDP in 2015. This also equates to approximately 52% of South Africa's GDP (Deloitte, 2019). The low income earners are most affected by these costs and are often unaware of these costs (Mastercard, 2017).

"Low-income earners, forfeit four percent of their earnings to the costs of cash, compared to the national average of 1.1 percent" (Mastercard, 2017). These indirect costs further perpetuate the problem, arguably further exacerbating the financial exclusion of lower income customers who typically make up a large proportion of the

unbanked market. It has been shown that by negating the need for cash through electronic payments, the direct impact and thus direct cost to the unbanked is the impact of cash on the country's GDP and thus employment opportunities (Deloitte, 2019).

Despite the benefits of cash to the unbanked, the long-term implications result in less savings as the unbanked customer would not benefit from interest earned on their savings. It could be considered that the interest earned on the savings stimulates future generation wealth which is another reason why much attention is given to banking the unbanked. There is significant value creation by engaging with an institution which can provide a safe store of value where interest can be earned on savings, access to credit could be easier and thus the ability to spend more on basic requirements such as education, food and healthcare.

It is noted, that despite the efforts of financial technology interventions, cash usage is expected to increase in conjunction with Gross Domestic Product (GDP) in South Africa despite the projected reduction of cash share in South Africa (Pymnts, 2018). Thus the need for "cash out" infrastructure is still evident conceivably due to the low levels of trust in institutions by the unbanked and their experiences of customer service by these institutions (Wentzel, Yadavalli, et al., 2013).

## **2.6 Benefits of Payment Aggregation Services**

The distribution and empowerment of individuals to access and adopt financial technology payment services through a PSP plays a significant role. (Bilodeau et al., 2011). The payment landscape is also undergoing significant innovations brought about by non-bank competitors such as payment service providers, aggregators and other digital finance services. (Gomber et al., 2018). (Demirguc-Kunt et al., 2018) proposed that PSPs may be able to address the mistrust through providing products which address the needs of the unbanked in a manner that is convenient and cost effective while providing customer service which is congruent with the serviced market (Demirguc-Kunt et al., 2018).

Enabling a PSP to provide aggregation services direct to the customer as well as merchants, without the need to partner with a formal banking institution, could

empower the customer in giving them full control of their account detail and decrease the time taken with the uptake of new services. Digital payment services provide accessibility into formal financial systems, because it offers transparency around products and services (Berndt et al., 2010; Demircuc-Kunt et al., 2018). It is also encourages greater propensity to increase savings which further incites savings behaviour in customers (Berndt et al., 2010; Demircuc-Kunt et al., 2018)

However, financial technology is only valuable if the digital offerings are easy to use, attainable and affordable to the unbanked who are largely uneducated (Demircuc-Kunt et al., 2018). It was shown that the propensity to own a bank account would increase if governments made electronic payments of welfare grants and if employers made electronic payment of wages (Demircuc-Kunt et al., 2018). However, the experience of digital payment services has not been positive as citizens have found it cumbersome and difficult to use. Added to this is the lack of support services when needing assistance on digital payment services (Demircuc-Kunt et al., 2018).

The proposed benefits of engaging in financial technology offerings to the banks suggest that labor costs would reduce significantly and empower employees to upskill in other areas of interest (Berndt et al., 2010). Engaging financial technologies may also improve the organisations' reputation amongst customers, as customers expect organisations to embrace new technologies and provide a competitive advantage (Berndt et al., 2010).

Considering the constraints faced by the unbanked, the ability to onboard new customers can be facilitated through the use of financial technology, omitting the need to go into the branch (Gomber et al., 2018). Financial technology using open source software and its ability to scale easily, can be leveraged to enable this speedy onboarding process as well as provide new innovative ways of transacting (Gomber et al., 2018).

Counter arguments to financial technology proposes that frustration is experienced by users of technology based products and services and human interaction is desired (Berndt et al., 2010). Considering the level of education in the unbanked and underserved market, the willingness to engage in financial technology may be low.

Technological readiness is therefore paramount to the level of uptake and could be a hindrance for the financial technology firms acting as PSPs.

## **2.7 Shared Value Creation in Financial Inclusion**

Financial inclusion embodies shared value creation across all entities by suggesting that it would enable economic growth in a sustainable manner while creating social equality (Anarfo et al., 2019). Providing access to financial services would enhance economic development by alleviating poverty, giving rise to education, employment, entrepreneurial or other opportunities (Anarfo et al., 2019). Additionally, access to financial services would better enable the unbanked to navigate through economic shocks as well as provide them with opportunities to own assets (Anarfo et al., 2019; Wale & Makina, 2017)

In the wake of the financial inclusion movement in the 1980's, financial system paradigms were uncovered which uncovered the shared value model in financial inclusion (Anarfo et al., 2019). Studies proved the causal relationship of financial services specifically tailored to the unbanked, enabled significant growth in human capital, physical capital, the ability to navigate management of a business and boosted technological advancement, ultimately driving economic growth (Anarfo et al., 2019). While financial inclusion bolsters economic growth and the unbanked market, it facilitates social economic development and has a positive impact on social equality.

This is not to say that access to credit is the ultimate means to financial inclusion as the lenders can inadvertently create negative economic development through irresponsible lending which could exploit the unbanked via higher than normal interest rates (Anarfo et al., 2019). This could lead to overindebted individuals, who are not able to engage in savings and could result in a decrease in value of assets owned (Anarfo et al., 2019).

Porter and Kramer (2011) believe this represents a narrowed view of value creation as it is incited through a short-term view on performance, disregarding the benefits of addressing societal issues as the core of the businesses, eventually engaging in a long term value narrative which positively affects economic growth (Porter & Kramer, 2011).

Political stability, government initiatives, strong financial institutions and policy measures, otherwise described as “Financial architecture” are regarded as important in the process of extending financial services to the unbanked such that any volatility on these factors dissuades the uptake of financial inclusionary measures (Allen et al., 2016). As such, the choice to use cash instead of a bank account is precipitated by these factors.

Derivatives of the shared value theory have been seen in corporate social responsibility programmes which have become fragmented such that the essence of shared value has become lost and has obscured the business opportunities to benefit society (Porter & Kramer, 2009). It is asserted that if applied correctly, corporate social responsibility could become a valuable source to generate societal benefits as it can utilise its valuable resources without necessarily adding additional cost (Porter & Kramer, 2009).

However, businesses were also not clear on how to strategically position themselves to the corporate responsibility requirements and instead presented “cosmetically” as a function the demands put on them by society (Porter & Kramer, 2009).

## **2.8 Shared Value Creation Through Innovative Technology**

Porter and Kramer (2009) stated that shared value embodies the ability for a business to address “societal needs” while doing so profitably and elevates its competitive advantage significantly (Pfizer, Bockstette, & Stamp, 2013). Given the constraints experienced by the unbanked market, there is need for innovative technology to be built on the premise of serving their needs and not because of them (Accenture, 2017.p.10).

Recent literature proposed that the key to developing relevant and sustainable technology with the purpose of providing shared value would be based on the foundation of partnerships (Accenture, 2017). Such partnerships supersede the traditional hasty sales conversions into goal proliferations with the aim to assisting consumers on how to realise new goals. Consequently, it was suggested that a symbiotic relationship would be established between the customer and innovative businesses who assisted them with attaining their goals as trust would be achieved (Accenture, 2017).

The emphasis on building trust through partnerships was seen to be an effective means to empower the customer with every technological interaction (Moore et al., 2017). (Moore et al., 2017), further suggested that digital technology such as PSPs who enhance payment platforms would be able to provide valuable customer experience such that it may motivate the customer to change their relationship with technology (Moore et al., 2017).

A twelve-step framework was provided by the (International Finance Corporation, 2018) (IFC) and the Mastercard Foundation in respect to addressing appropriate digital platforms as illustrated in Figure 7 (International Finance Corporation, 2018).

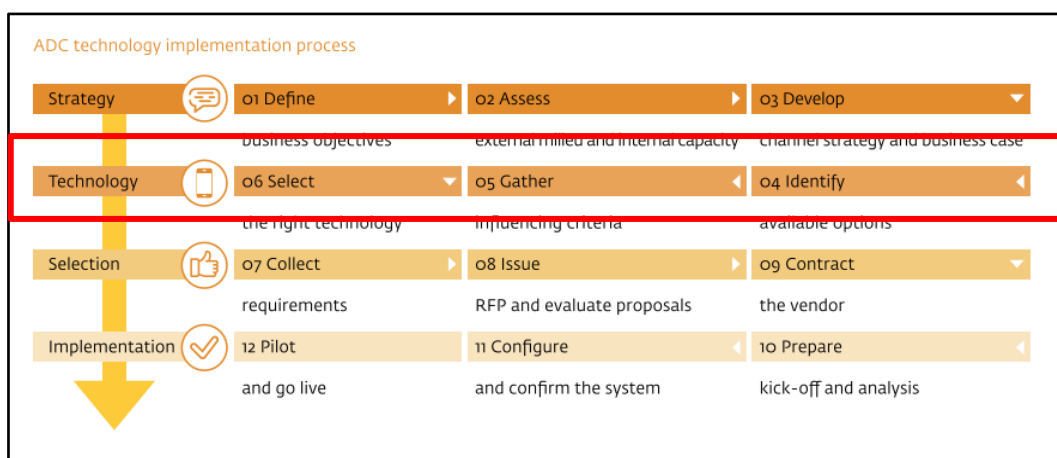


Figure 7: 12-step framework for building a

Source 7: (International Finance Corporation, 2018)

In considering appropriate technology solutions, the proposed framework from points 4-6 demonstrated that using existing platforms was a good approach. The business could thus engage in an ecosystem by leveraging off existing platforms which make it more affordable, quicker and beneficial to product cross selling opportunities (Moore et al., 2017).

The framework proposed that there would be requirement to re-evaluate business processes in assessing the criteria which may be needed to address the unbanked. While gathering this information, it was shown that stale or outdated technology could be uncovered which may negatively affect the ability to maximise impact of the platform service. The need to uncover the critical processes and technologies necessary to engage with the unbanked was proposed to influence the penetration of the payment aggregation service (International Finance Corporation, 2018).



The IFC (2018) proposed that the aggregator would naturally require partnerships with organisations such as the MNO's, third party processors and VAS partnerships (International Finance Corporation, 2018). (Wentzel et al., 2013), claimed that the unbanked have more affinity to the retailers and tangible services than technology-based services due to the lack of tangibility (Wentzel, Yadavalli, et al., 2013).

Consequently, the perceived risks of engaging with the unbanked market would need to be offset with the sustainability of the business model to ensure “competitive forces are aligned for the greater good of the partnership” (International Finance Corporation, 2018.p.89)

Moore et al (2017) further elaborated on the need for businesses to engage in shared value creation business ventures which are mutually beneficially to everyone (Moore et al., 2017). (Pfitzer et al., 2013) supported this position and advocated for businesses to create a deeply embedded culture of shared value as part of the core purpose of its work and purported by immersion and understanding of its customers (Pfitzer et al., 2013). In conjunction with the appropriate mindset, (Pfitzer et al., 2013) intimate that business should establish a measure on the impact of its shared value offerings. This would require the ability to measure the social change required to see the impact of the business.

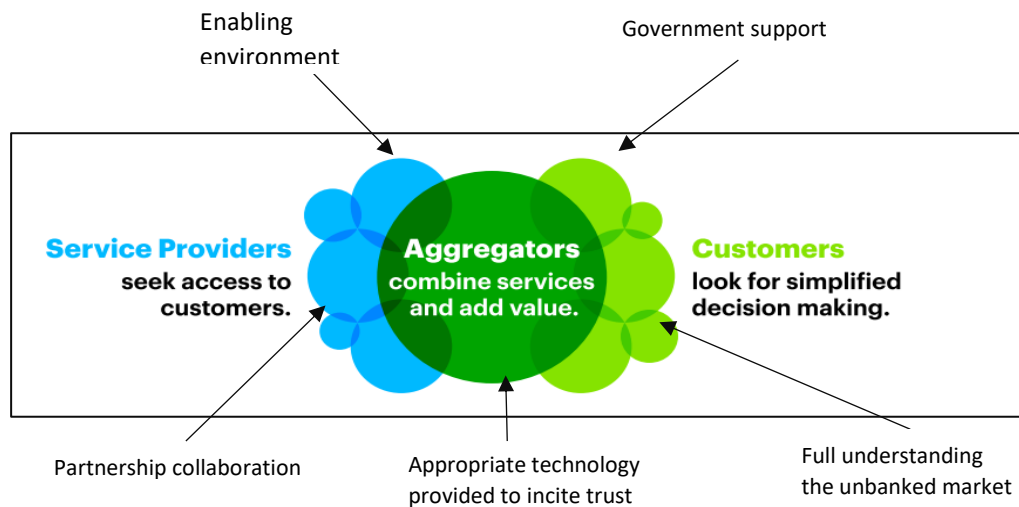
While the appropriate business mindset is important to the shared value in technology, the enabling environment was shown to underpin the success of it. In light of the proposed payment aggregator to the South African market, it was noted that South Africa ranked 14<sup>th</sup> out of 16 G20 countries on the Platform Readiness Index in a study performed by Accenture, and was not expected to move in its ranking by 2020 (Moore et al., 2017).

The index measured factors such as digital maturity, each country's technological infrastructure and propensity to collaborate on innovations through to regulations (Moore et al., 2017).

Government support was shown to be necessary in giving the fintech leverage to pivot and iterate its business model in a manner that would not threaten the livelihoods of those involved in the initiative (Pfitzer et al., 2013).



The shared value model for the proposed payment aggregator is illustrated in Figure 8.



*Figure 8: Aggregator creating shared value*

Source 8: (Accenture, 2017) & author's additions

Understanding the constraints faced by the unbanked, the costs associated with cash and the relevance to the technological innovation required to provide shared value is of great importance.

## Summary of literature review

Studies have shown that improving financial inclusion could incite a more enabling environment, resulting in better competition in the supply of banking products (Allen et al., 2016). Competition could lower banking costs, create better reach to the customer, ultimately resulting in better adoption of the banking products (Allen et al., 2016). There are several initiatives underway to address the regulatory environment which include finding a balance between protecting the integrity of the National Payment System and giving enough leverage to the PSPs to innovate. Further efforts are focused on the consideration of regulating the service and product rather than the institution in itself (FinMark Trust, 2017).

The banks face considerable regulatory requirements which constrain them from being able to penetrate the unbanked market. These constraints exacerbate the barriers experienced by the unbanked in considering a bank account. As proposed, the unbanked sentiment of financial institutions is negative. An opportunity exists for

financial technology payment providers to address these matters using innovative technology and operating as the aggregator of payments.

## **Chapter 3**

### **3. Research Questions**

The purpose of this chapter is to provide insights into the research questions addressed which fundamentally shaped the study. Due to the complexity of the payment landscape, specific terminology was used to address a single layer in the payment process. The research questions were designed to enable an exploratory study to the research question while providing a semi-structured approach to the interviews.

#### **3.1 Financial Institutions using Payment Aggregators.**

The research has shown a significant need for banking institutions to consider alternative means to address the unbanked to create better financial inclusion. Financial inclusion does not merely address the ownership of a bank account, it is the extent to which the customers are using the account, investing in financial wealth initiatives by leveraging the bank offerings and moving away from cash-based payments (Deloitte, 2019).

Evidence proposes that there is inadequacy in addressing the constraints described in the four-A model. Additionally, the institutional environment, market environment and user environment demonstrate the limitations in addressing both the demand and supply side of financial services.

Fintechs acting in the capacity of a payment aggregator have been considered and utilised successfully on the acquiring side of the banks mainly addressing merchants (Pillai, 2016). However, not all merchants can gain access to this aggregator service due to the complex nature of their unbanked customers.

Transparency and simplicity around communicating the costs associated with cash and banking products would enable customers to make an informed decision on whether to engage with a payment provider or remain unbanked (Alhassan et al., 2019). The research suggests that the benefits of using a payment provider and becoming financially included benefits all parties involved, from realising economic growth in the economy, subsequently stimulating employment opportunities and increasing socio economic development (International Finance Corporation, 2018). Thereby, creating a shared value business model (Porter & Kramer, 2009).

**Research Question 1:** Why aren't there more payment aggregators servicing the unbanked market of South Africa?

### 3.2 Challenges to Payment Aggregators in Servicing the Unbanked.

It is argued that the regulatory requirements imposed on the banks has slowed innovation at the banks in addressing the unbanked (Gomber et al., 2018). Concurrently, the banks are concerned with cannibalising their products using a PSP (Gomber et al., 2018).

As such, PSPs could be seen to be a threat to the banks, directly impacting on the ability to serve the unbanked in partnership. The four-party payment model facilitates interoperability and benefits the banks and the associations used to process the payment, consequently squeezing the margins for the PSP. Additionally, PSPs are well positioned to leverage their technology to scale operations. While the bank may consider this competition, it could also be viewed as an opportunity for partnership with the view to benefit both parties.

**Research Question 2:** What are the factors that impede the payment aggregator from servicing the unbanked market in South Africa

### 3.3 Technology Considerations

Utilising the technology provided by a financial technology company could improve the speed of transactions and security of transactions while also providing a platform to the unbanked which could simplify their financial service needs (Demirguc-Kunt et al., 2018).

Understanding the unbanked market in South Africa is fundamental to designing, creating and deploying the appropriate technology (International Finance Corporation, 2018). However, bearing in mind the dynamic constraints which the unbanked face, it is important to provide the appropriate technological levers used in products and services.

The unbanked market simply do not have funds to spend unnecessarily, therefore the product offering and associated technology must address a need and stimulate demand (Wentzel, Yadavalli, et al., 2013). Additionally, the lack of financial literacy associated with the unbanked market requires a product and service which is easy

to understand and helps customers feel empowered. Studies have shown that the unbanked market feel intimidated and alienated when engaging with the banks due to their lack of education. (Wentzel, Yadavalli, et al., 2013). At the same time, language barriers have created an additional challenge in consideration of appropriate technology to meet the requirements of the unbanked.

**Research Question 3:** What technology considerations need to be undertaken in using the proposed payment aggregator to reach the unbanked?

### 3.4 Adoption Challenges

In proving the most appropriate payment method, there is a need to consider education levels, ease of access and trust. The awareness of banking products remains low in South Africa which has been shown to be related to the accessibility of the products. (Wentzel et al., 2013) demonstrated that the positioning of the product and service in collaboration with appropriate channels which are already trusted would see a greater adoption rate (Wentzel, Diatha, & Yadavalli, 2013). While trusted partnerships would be critical, language barriers have also been shown to be a constraint to the success of banking products and services (Wentzel, Diatha, et al., 2013).

The culmination of all the constraints faced by the unbanked has resulted in a lack of trust which is not isolated to the banks alone, but to all institutions who hold their money (Wentzel, Diatha, et al., 2013). It was also demonstrated that the level of trust in channel partners such as supermarkets were higher than in banks (Wentzel, Yadavalli, et al., 2013). Given the fintech revolution, this researcher was interested in understanding what interface would be most appropriate for the payment aggregator to consider in order to reach the unbanked market.

**Research Question 4:** What are the appropriate user interfaces necessary to reach the unbanked?

## **Chapter 4**

### **4. Research Methodology and Design**

#### **4.1 Research Methodology**

The research conducted used qualitative research techniques which was considered most appropriate given the exploratory nature of this research project. It was proposed that the inquiry process undertaken was underpinned with “philosophical assumptions about the nature of reality (ontology), how they know what is known (epistemology), the inclusion of their values (axiology), the nature in which their research emerges (methodology), and their writing structures” (Creswell, Hanson, Clark Plano, & Morales, 2007.p.238). The immersion of the researcher into the data was necessary to allow new ideas and thoughts to emerge, which was closely linked to qualitative research design and analysis (Hsieh & Shannon, 2005).

The researcher undertook to understand the most common paradigms which emerged from the interpretive paradigm such as positivist, postpositivist, constructivist, critical and feminist post-structural and chose to align the research design with the constructivist paradigm in order to ensure the exploratory nature of the study could be leveraged (Creswell et al., 2007). The researcher remained cognisant of the interpretivist approach in its entirety, suggesting that the researcher’s beliefs and values are embedded in all phases of the research process. It was stated that “Truth is negotiated through dialogue” (Cohen & Crabtree, 2006).

In deciphering the appropriate qualitative design, the researcher chose to let the findings and claims of knowledge from participants emerge through the in-depth face-to-face semi-structured interviews (Cohen & Crabtree, 2006). Due to the complexity of the payment landscape, the researcher found significant value in discussing the differing and often conflicting interpretations of the research question. Therefore, the need to foster a dialogue between the researcher and the participant was crucial to gaining true insights into the subject matter.

This is particularly relevant to the interpretivist viewpoint that suggests “reality is socially constructed and fluid” (Cohen & Crabtree, 2006). Thus, the naturalistic method is heavily embedded in the interpretivist approach (Cohen & Crabtree, 2006).

To corroborate the findings a large number of participants were chosen and engaged to ensure that, in order to gain breadth of understanding and decipher an explanation through in-depth interviews undertaken (Creswell et al., 2007). Using the constructivist position, the data was collected from in-depth, face semi-structured interviews with experts in the field of financial technology as well as leading practitioners in the financial services institutions in South Africa (Saunders & Lewis, 2018).

The choice to use semi-structured interviews provided the researcher with the opportunity to guide the participant in the interview process, while providing the participant with leverage to unpack their answers (Creswell et al., 2007; Saunders & Lewis, 2018).

The questions were designed in such a manner to understand the depth of the problem, what solutions had already been considered, what had been done in the past and why it had not worked. The industry experts chosen were a combination of experts working in the banks of South Africa, as well as experts in the financial technology sector. It was necessary to understand why the interviewed participants had not engaged in more payment aggregator services to address the unbanked and what factors had made it challenging in doing so. As such, the qualitative research inquiry involved the collaboration of both the researcher and the participants.

The researcher undertook an exploratory study as it was considered the most appropriate means to understand the impeding factors that the financial technology companies face, in providing payment aggregator services to the unbanked market of South Africa. Exploratory studies are well suited to qualitative research as it necessitates the requirement to uncover something new, undiscovered and not yet well understood (Saunders & Lewis, 2018).

#### **4.2 Population and Sampling**

The profile of participants were experts in the field who had daily exposure to financial payment services. A mainly heterogeneous population was selected as previous studies have recommended a larger sample size for interviews compared to a more homogeneous population (for example, consumers only) in order to draw appropriate

conclusions from the research. In addition, the population chosen required participants who would be able to provide valuable insights into the research. As such, the population chosen consisted of those experts in the field working or having worked in the financial technology space as well as experts who were working or had worked in the payment space at the banks.

It is notable that while the population were mainly heterogenous, there was some degree of homogeneity within each of the groups as the respondents were all of a certain level of seniority in the payment side of banks and financial technology companies and may at some point in their careers moved between banks and financial technology companies. The expert population sample also had similar and shared networks and many of the respondents knew of each other and in some instances had worked together in the past.

The participants were selected on personal networks, referrals and snowballing while the remaining cognisant of the criteria being their experience in the payment industry. Two population groups were thus used to gather data off what factors would impede financial technology companies from serving the unbanked in the capacity as a payment aggregator. The participants were chosen in the context of the South African payment landscape to ensure relevance to the research problem.

#### **4.3 Unit of Analysis**

The unit of analysis was the select group of individuals who were chosen for interviews and who worked or had worked in senior and executive level roles in financial technology companies or in the payment section of the banks and who were well placed to answer the researcher's questions related to offering a non cash payment aggregator payment services to the unbanked market and the viability of this as a means to create financial inclusion. For the purposes of this research paper, the unit of analysis was:

1. The views of the experts on what factors make it challenging for the fintechs to provide payment aggregation services to the unbanked
2. The views of the experts on what could be done to work around these challenges.



The analysis of the research outcomes were specifically to understand why the financial technology companies have been unable to make better in strides to address financial inclusion in South Africa.

#### **4.4 Sampling Method and Size**

As stated by Guest et al (2006), the field oriented research undertaken was not statistical in nature as it used nonprobabilistic samples (Guest, Bunce & Johnson, 2006) which were relevant to the research design chosen for the research paper and was considered the best approach in qualitative research. The sampling method was purposive as the “participants were selected according to the criteria which was relevant to the research objective” (Guest et al., 2006 p. 61). Purposive sampling was most appropriate to the study as the need for the researcher to investigate, explore and understand the research was needed and the appropriate participants were chosen from which the researcher could learn the most (Merriam & Tisdell, 2016).

The criteria used to select the individuals, also known as “criterion-based selection” was specifically aligned to the key attributes of the study as demonstrated in Table 1.

The focussed sample selection was valuable to the researcher in being able to understand the research topic holistically and the researcher considered the samples to be best placed to provide the most valid and meaningful understanding and experience of the research topic (Merriam & Tisdell, 2016; Morse, Barrett, Mayan, Olson, & Spiers, 2002) . Notably, while the researcher applied criterion-based selections, convenience sampling and snowball sampling were engaged due to the niche industry of the payment landscape.

Literature suggested that in order to make a plausible argument and assert a plausible research question, an estimated number of samples would need to be determined in order to reach saturation. This is further supported by Guest et al (2016), who stated that that a “general yardstick is needed, to estimate the point at which saturation is likely to occur” (Guest et al., 2006, p. 61). Finding negative feedback to the research problem was important to ensure trustworthy and reliable

data by indicating aspects of the developing analysis that are initially less than obvious.

As stated by Morse, "...saturating data ensures replication in categories; replication verifies, and ensures comprehension and completeness" (Morse et al., 2002, p. 18). The researcher's decision to use the heterogeneous nonprobabilistic sample is fuelled by the need to understand the factors that impeded the fintechs from providing payment aggregator services to the unbanked population of South Africa.

The exploratory study required that the researcher considered all variables where financial technology strategies had been exploited for the needs of the unbanked as well as uncover those new technologies being developed to do so. Although it has been suggested that "fifteen is the smallest sample size", the researcher considered the risk of homogeneity biasing the research results and thus, interviewed seventeen individuals across financial technology companies and the payment section of the banks (G. Guest et al., 2006).

The individuals chosen comprised of senior executive levels who had been directly involved in the payment landscape, payment services available to customers as well as those involved in the payment regulatory environment.

*Table 1: Qualifying criteria for chosen participants*

Anonymity code	Interviewee Management Level	Fintech	Bank	Other with payment experience of 5yrs+
<b>AA</b>	<b>CEO</b>	√		
<b>AB</b>	<b>CEO</b>	√		
<b>AC</b>	<b>CEO</b>	√		
<b>AD</b>	<b>HOD</b>	√		
<b>AF</b>	<b>CEO</b>	√		
<b>AG</b>	<b>CEO</b>	√		

<b>AH</b>	<b>MD</b>	√		
<b>AI</b>	<b>CEO</b>	√		
<b>BA</b>	<b>CEO</b>		√	
<b>BB</b>	<b>HOD</b>		√	
<b>BC</b>	<b>HOD</b>		√	
<b>BD</b>	<b>HOD</b>		√	
<b>BE</b>	<b>HOD</b>		√	
<b>BF</b>	<b>HOD</b>			√
<b>BG</b>	<b>HOD</b>		√	
<b>BH</b>	<b>CEO</b>		√	
<b>CA</b>	<b>HOD</b>			√

#### 4.5 Measurement Instrument

In-depth, open ended and semi structure interviews were conducted on the participants working in Executive roles through to Senior Management roles across both issuing and acquiring parts of the banks. In addition, expert interviews were conducted on CEO's and Managing Directors of payment service providers and financial technology firms, some of which were operating as aggregator payment service providers. An interview guide was provided to each participant containing a list of questions. Due to the nature of the exploratory study, the questions were only used as a guideline to assist the participant with keeping in direction of the research paper. Additional questions were included as necessary where the participant was extremely knowledgeable about the payment landscape. The interview guide has been included and demonstrated in Appendix C: Interview Guide.

The researcher recorded all the information at the interviews captured through voice recordings which were subsequently transcribed by a professional transcriber. All interviews were arranged with the express agreement of all the participants agreeing to voice recordings based on full anonymity assurance. The voice recordings and transcriptions were used to assist the researcher's analysis, understanding and interpretation of the research study.

Validity and reliability remain a continuous challenge in determining the accuracy of data, thus appropriate strategies to ensure the accuracy were built into the qualitative research process. These strategies aligned to the literature proposed by (Morse et al., 2002) that suggested “methodological coherence, theoretical sampling and sampling adequacy, an active analytic stance, and saturation” are applied to the data (Morse et al., 2002. p.17 ).

#### **4.6 Data Validity**

In order to demonstrate validity of the researchers data, summaries and interpretation is valid, the researcher applied something of a “truth yardstick” through face validity (Guest, Macqueen, & Namey, 2012. p.7). Thus, significant effort was made to conduct the research interviews in person (Guest et al., 2012). Seventeen interviews were done in total, of which fifteen were done face-to-face. The remaining two interviews were conducted via web video conference where the researcher was able to gauge the participants’ reaction to questions.

Alongside the face validity technique, the researcher was aware that methodological coherence, efficiency in sampling, data collection and analysis of the data and theory development was necessary to use as part of the “truth yardstick”.

The research requires that the “questions match the method” (Morse et al., 2002, p. 18). Therefore, given the explorative nature of the study the researcher was of opinion that non-probabilistic sampling would be best used to reach saturation (Morse et al., 2002).

The seventeen participants in the study were selected based on the criterion-based selection process to ensure saturation was achieved. In defining saturation as “replication in categories” the researcher was able to leverage the replication as a representation of validity which in turn enabled a greater understanding of the research topic (Morse et al., 2002).

Underpinning the research process was the theory chosen. The researcher was cognisant that a connection exists between the theory, design of the research and

data analysis to the way the data was collected as this would directly influence how it would be analysed (G. Guest et al., 2006). While the researcher was collecting data through research interviews, it became apparent that the research became non-linear such that the research question was changed. In undertaking the methodological coherence as part of the validity strategies, the researcher conducted an extensive literature review to corroborate the choice of research questions (Morse et al., 2002).

#### **4.7 Data Reliability**

A plethora of literature exists in describing reliability, however, as stated by Guest et al (2012), “conceptual thread throughout the traditional definitions above is consistency when repeating or comparing assessments within a study” (B. G. Guest et al., 2012b. p.4). It was noted that validity of the data has greater emphasis in this study because properties in the study could change in the future, such as permissance of new payment processes made available to payment aggregators which could negatively affect the reliability of the data in this study (B. G. Guest et al., 2012). The essence of the reliability testing of this study would be evidenced in producing the same results if the same data to a population with the same selection criteria and qualifying criteria were applied (B. G. Guest et al., 2012).

Taking account of the complexity of the payment landscape, the researcher was able to find consistency in the results of the interviews. However, it was noted that the terminology used by the participants for various aspects of the payment process was inconsistent. The exploratory nature of the research enabled the researcher to probe the participants for more information on questions where the answers were not transparent, thus ensuring the researcher could interpret and analyse the results appropriately.

#### **4.8 Ethical Considerations**

Merriam and Tisdell (2016) proposed that the researcher’s ethical predispositions largely affects the validity and reliability of the study (Merriam & Tisdell, 2016). In order to effectively ensure credibility of the study, the researcher engaged in the methodological rigour required to evaluate the qualitative research study (Merriam & Tisdell, 2016). To validate the ethical considerations taken by the researcher, an

ethical clearance process was applied for through an ethics committee at the University of Pretoria as evidenced in Appendix E: Ethical Clearance Approvals . To further evidence the ethical thinking of the researcher, every participant was required to complete an interview consent form as shown in Appendix D: Interview Consent Form which not only ensured their anonymity but also provided them with peace of mind that the transcriber employed by the researcher would abide by the confidentiality requirements of the research process.

#### **4.9 Data Collection Process**

By using semi-structured interviews, the researcher was able to elaborate on questions to enable exploration of the topic and gain understanding of the research problem. Sub questions were included to ensure that the researcher was able to address the initial questions in alternate ways given that the payment landscape is complex and the occurrence for interchangeability of payment terms exists across financial technology firms and banks (Guest et al., 2006).

Data was collected through the process of understanding what is known and what is still unknown to the researcher, thus it was considered necessary to have a certain level of structure in the interviews, to provide the respective participants with consistent questions to ensure that saturation was in fact achieved and not a constant “moving target” (Guest et al., 2006). However, it is acknowledged that although all the participants were asked the same questions, the researcher did adopt some level of flexibility in the formulation of the interview.

Although, fundamentally the same questions were asked across all the participants. The researcher committed to mainly face-to-face interviews across seventeen interviews with two interviews done telephonically due to the location of these participants. It was observed that the face-to-face interviews were more in depth because the researcher was able to probe the participant answers further based observation that it would be agreeable. Telephonic interviews were more structured and followed the format of the interview guideline coherently.

While all the interviews were recorded, the services of a transcriber were engaged. The transcriber was required to sign a confidentiality agreement as evidenced in

Appendix F: Confidentiality Agreement with Transcriber to ensure all recordings would be destroyed once transcriptions were completed.

#### 4.10 Analysis Approach

The analysis of the data involved making sense of the data by combining the observations throughout the research process, the knowledge gained, and the answers provided by the participants, all culminated in providing answers from the themes which emerged. Simply put, "Research using qualitative content analysis focuses on the characteristics of language as communication with attention to the content or contextual meaning of the text" (Hsieh & Shannon, 2005. p.1278). The matrix of responses was used to assist in the analysis of the data which comprised of categorised responses. As proposed by Merriam (2016), the objective behind data analysis is to find emergent answers to the research questions proposed (Merriam & Tisdell, 2016).

The researcher conducted axial coding, otherwise known as analytical coding which refers to the grouping of open codes through the process of interpretation (Merriam & Tisdell, 2016). Three approaches exist in the analysis of the research content, namely conventional, directed, and summative and these approaches are undertaken through the interpretation of text data (Hsieh & Shannon, 2005).

A computer assisted qualitative data analysis software (CAQDAS) called Atlas ti was engaged to provide ease of analysis of trends and themes in the data. Themes have been identified in literature as the denotation of the data and represent a link between constructs and expressions found in the text (Guest, Macqueen, & Namey, 2012; Guest et al., 2006). The discovery and extrapolation of themes from the coded text was applied using guidelines provided by Guest et al (2012) and described below (Guest et al., 2012). A combination of the suggested approaches to thematic analysis was used.

- **Repetition.** The researcher used reoccurrence of codes built from the transcripts as a prompt for theme recognition.
- **Indigenous categories/typologies.** The researcher was aware of idiomatic language which would be specifically used in the payment landscape. Where vernacular language was unrecognizable to the researcher, this was also considered a prompt for theme recognition.

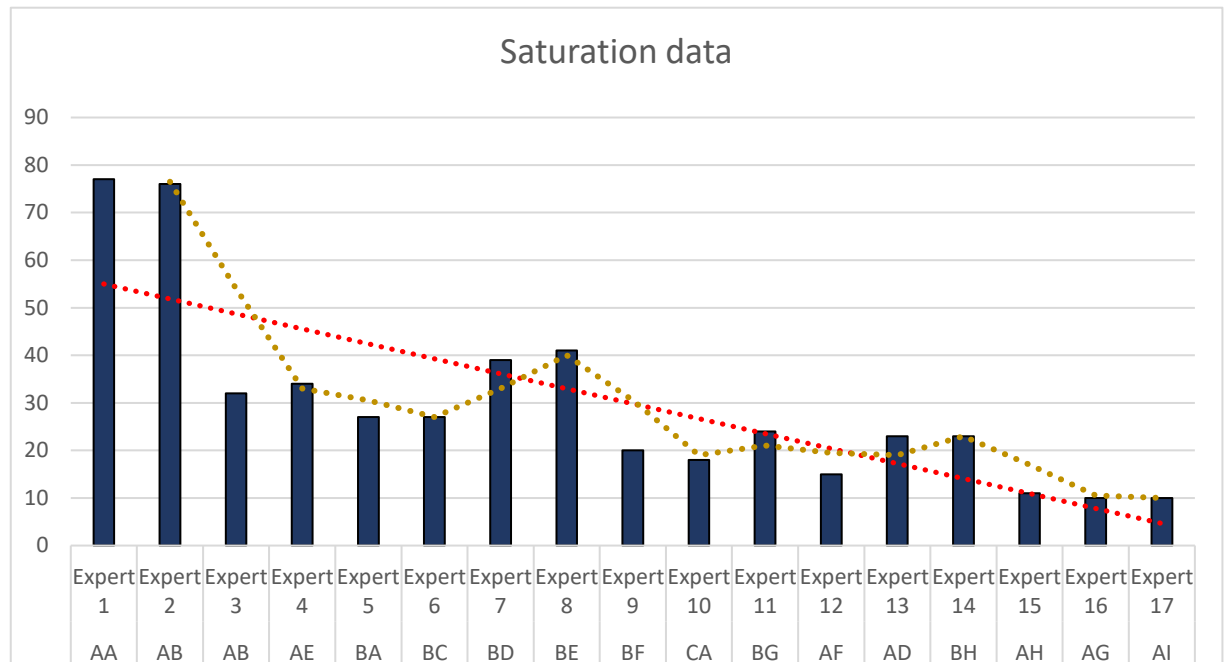
- **Metaphors and analogies.** Where metaphors were used in the research interviews, the researcher was mindful to note these in the coding process and considered the need for them as an emergent theme.
- **Transitions.** An additional prompt for theme recognition employed by the researcher was in instances of “naturally occurring shifts in content” by the participants and during a research question.  
(Guest et al., 2012)

The researcher found repetition and typologies to be most relevant to the nature of the research study while an iterative approach was undertaken to analyse the data as suggested by Guest et al. (2012) as follows:

- Becoming well informed with the data by reading and transcribing
- Developing codes with a well-defined definition of the code
- Demarcate coding memos to reflect the researchers understanding of the themes
- Developing themes and categories from the codes
- Coding a sample twice for comparative reasoning
- Apply periodic re-checks on the codes

The researcher created codes for sentences and paragraphs from the transcriptions with 372 number of codes generated as evidenced in Appendix G: Code Table. The researcher was able to demonstrate saturation point by mapping the number of codes generated at commencement of analysis against the latter part of analysis as shown in Figure 9.





*Figure 9: Saturation table*

*Source 9: Author's own data*

#### 4.11 Limitations

Certain limitations were identified. The first limitation was that of time available for the study to include more recipients from the payment landscape. The second limitation was bias of the participants which may have been as a result of existing traditional payment models and regulatory frameworks. The third limitation was the potential that the participants lack a full understanding of the unbanked market and the culture deeply embedded in the communities to which they belong.

## **Chapter 5**

### **5. Results**

The researcher conducted a total of 17 interviews across leading financial technology companies and large financial institutions in South Africa. All the organisations chosen were able to provide valuable information about whether shared value could be applied by addressing the unbanked market in South Africa through a payment service provider in the capacity of a payment aggregator.

Eight interviews were conducted with senior level employees who were or had worked at the banks for at least five years in the payment space, eight interviews were conducted with financial technology companies and one interview conducted with a consulting business who specialise in the payment landscape and conduct regular research reports for banks and payment associations.

By posing the research question to these various organisations, all in the payment industry, the researcher was able to gain great insights into the complexity of the unbanked market as well as gain an understanding of what factors have impeded the fintechs from providing payment aggregation services to the unbanked to date. The findings of these interviews were analysed using qualitative research methods across four key questions.

#### **The traditional payment landscape and possibilities to provide alternate payment services to provide shared value.**

The researcher proposed specific questions to the organisations to establish why the organisations had not considered using more payment aggregator services to provide noncash payment transactions to the unbanked market. The research question was posed to the organisations by expanding on the payment aggregators currently used for merchant payments at the acquiring banks which could be replicated at the issuing banks with the purpose of serving the unbanked market. The researcher proposed that this payment model could provide shared value to all parties involved in the payment process, being the customer, the merchant, the acquiring banks, the issuing banks and the payment aggregator.

### **The factors impeding payment aggregator services in creating shared value.**

In this section, the researcher undertook to enquire what factors had impeded the fintechs from providing payment aggregation services to the unbanked market in South Africa. The researcher was interested in understanding what challenges had been experienced in creating a sustainable model both in profitability and shared value creation.

### **The appropriate technology offerings to enable shared value creation.**

This section was primarily focused on establishing what technology offerings are most appropriate for the unbanked market to enhance user adoption and enable shared value. Considering the costs of cash as previously described, the researcher sought to understand whether there are alternate means to incentivise the unbanked to adopt payment technologies.

### **The user experience across the value chain of payment services offered to enable shared value creation.**

The researcher was concerned with gathering insights into what user interfaces across the full value chain of payment services would be most trustworthy for the unbanked market. The researcher's goal was to establish whether a combination of partnerships could incite trust with the aggregator technology embedded in the offering. Using innovative technology as a shared value offering to all parties in the payment landscape was of interest to the researcher.

## **5.1 Selected Participants for the Research**

The chosen individuals in each organisation ranged from executives to heads of departments, all of whom have great knowledge of the payment landscape and were well placed to understand whether there was commercial viability in the research question. A summary of the chosen organisations is illustrated below in Table 2 to demonstrate the experience and calibre of the participants, whether products had been created with the unbanked in mind and whether shared value could be achieved in the payment landscape reach the unbanked. This table attempts to show the reliability and credibility of the information received from the participants. Most of the

interviews ranged between 45 minutes to 2 hours. As the interviews were semi-structured and mostly conducted face-to-face, the participants were given the freedom to delve deeply into the complexity of the research topic as this enabled the researcher to gain greater insights into the topic. The researcher related the codes to questions asked and how many times the participants mentioned the same things.

The table below shows the organisation that were used for the qualitative study using cross sectional horizons. Each organisation was coded for the purposes of assuring anonymity.

*Table 2: Organisation details for interviews*

Organisation name	Code	Position	Payment landscape experience	Top 5 bank experience (10 yrs)	Fintech experience (10 years +)	Consulting payment experience (5yrs+)	Products created for unbanked	Shared value possible in payment landscape?
Organisation 1	AA	CEO	Yes		Yes		No	Yes
Organisation 2	AB	CEO	Yes		Yes		Yes	No
Organisation 2	AC	COO	Yes		Yes		Yes	No
Organisation 3	AD	HOD	Yes		Yes		No	Yes
Organisation 4	AE	CEO	Yes		Yes		No	Yes
Organisation 5	AF	CEO	Yes		Yes		No	No
Organisation 6	AG	CEO	Yes		Yes		Yes	Yes
Organisation 7	AH	MD	Yes		Yes		No	Yes
Organisation 8	AI	CEO	Yes		Yes		No	No
Organisation 9	BA	CEO	Yes	Yes			Yes	Yes
Organisation 10	BB	HOD	Yes	Yes			Yes	No
Organisation 11	BC	HOD	Yes	Yes			Yes	Yes
Organisation 12	BD	HOD	Yes	Yes			Yes	Yes
Organisation 13	BE	HOD	Yes	Yes			Yes	Yes
Organisation 14	BF	HOD	Yes	Yes			Yes	Yes
Organisation 15	BG	HOD	Yes	Yes			Yes	Yes
Organisation 16	BH	CEO	Yes	Yes			Yes	Yes
Organisation 17	CA	HOD	Yes			Yes	No	Yes

## 5.2 Research Question Findings

### 5.2.1 Research Finding One

Research question one was carefully worded to allow for the researcher to deduce why there aren't more payment aggregators servicing the unbanked market of South Africa to enable shared value. In analysing the findings, the researcher used the categories that emerged from the coding process to form themes which became apparent. The researcher found that the same themes emerged throughout each question but that they were evidently ordered differently according to the research question asked.

#### Question 1:

Three main themes emerged being the nature of fintechs, the costs involved and the regulations required as demonstrated in Figure 10.

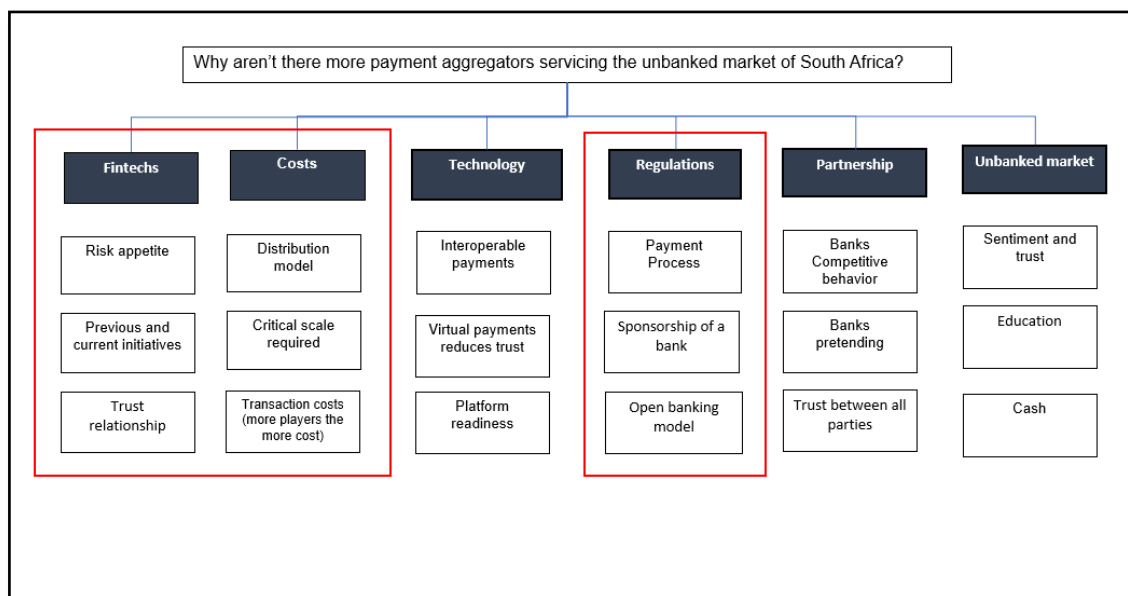


Figure 10: Question one findings illustrated

Source 10: Author's own data

The 17 participants believed that shared value creation had been limited due to a lack of partnership across all the parties involved in the payment landscape. The suggested partnership required has been prohibited for reasons discussed in the findings of the second question. For the purposes of clarity, the experts referred to the fintech as the payment aggregator.

### **5.2.1.1 Theme: Nature of a Fintech.**

Risk appetite was a clear construct that emerged in discussing fintechs, to address the unbanked market using an aggregator model. It is suggested that the fintechs risk appetite is greater in comparison to the bank because of the regulatory constraints posed on the banks. However, it became apparent throughout the interview process that the fintech is also concerned with the risk associated with targeting the unbanked market as described by Expert 7.

*“Does the board have the appetite for the risk that comes with it? So you’ve got a banking licence, you are solely responsible for the finances behind it, all the fraud, all the charge backs, all the risks that come with that. How you partner with the fintechs is key”.*

Expert 1 corroborates this by stating that, *“The banks want you [fintech] then to make sure that you have an ability to cover that risk, in the sense that, is your balance sheet big enough, because if you cannot pay the merchants because the bank settles you, you aren’t settled with whomever. So if you cannot settle, the bank needs to settle, and the bank is going to try and recover the money from you”.*

Concurrently, it was also suggested by the participants that the fintechs are more able to innovate because they don’t have to concern themselves with the stringent measures imposed by the payment regulatory bodies. Therefore, they have agility around about making decisions. However, this poses significant risk for the banks curbing the enthusiasm around the consideration of using a payment aggregator model to reach the unbanked. This is described below by Expert 6.

*The fintech doesn’t have to worry about the bigger picture– they can make decisions a lot easier, they are there for a specific transaction model, segment etc. So they are liked, they are up to date, as with banks etc. but you can’t say there’s no fintechs that are going to play around. They are going to play a bigger and bigger role all the time”.*

The value and risks of using a fintech was suggested to conflict with one another as described by experts 1 and 9. *Fintechs are faster, so they’re going to come up with a whole bunch of new transactional platforms using the bank’s rails”*

*“...if the fintech goes under, the bank has to stand in. If there is, let’s say a data breach, the bank has to stand in. Clearing and settlement, the bank has to stand in. So the all the risk sits with the bank, yet all reward sits with the fintech”.*

Taking account of the fintechs requirements for bank sponsorship, it was suggested that the unbanked need credit as a “kick start”. Expert 12 suggested that *“the payment aggregator would be a better model if it could advance credit but because of the regulatory environment, this would be a significant regulatory burden and cost”*.

### **Previous and current initiatives**

All parties in the payment landscape are aware of the opportunity for shared value creation in serving the unbanked market and have undertaken to develop products and services for this segment of the market. As such the researcher uncovered that there are a few payment aggregator models currently being used in South Africa.

Expert 2 confirmed this by stating that *“...there are a number of issuing models. So if you take a company that does bulk issuing, like Thuthuka on prepaid cards, there’s a company called Thuthuka”*.*.....they do aggregation on the issuing side. There’s a couple of companies that do that and mainly to prepaid cards. The bank cards and bank issuing is a direct relationship with the bank. So the keys, the pins, the cards, that type of thing has to be held by the issuer. But there are people who are doing it on behalf of issuers but they have a very tight relationship with that issuing bank”*.

The SARB created an exception service for the banks called “Exemption 17” to give the banks more leverage in addressing the unbanked market.

*“It allows people to open a bank account with much less paperwork, because you’ve got limits that says I’m allowed a maximum balance in my account of R25 000 and a maximum daily transaction limit of R5 000, which for this segment of the market is absolutely ideal. What do I need? I need a copy of my ID”*.

The level of uptake in the banks using exemption 17 accounts has been low which has been associated to the high risks of onboarding the unbanked market. While this may have been an impediment to the bank in the past, it is suggested that the banks are becoming more aware of the opportunities to provide an aggregation service on the issuing side of the bank.



Prefunded wallets have been engaged by third party processors (otherwise known as payment service providers), who prefund their account with the banks through the means of a deposit in order to offer aggregator services to customers. These payment service providers do exist as described by Expert 8.

*"We do it today in some shape or form. It may not be to this level, but where we use third party providers, the deposit necessarily held with us, but that's in a prefunded wallet that's managed by a third party payment provider....But the banks, you will get some banks that want to play in this, and some banks won't, but that's a strategic decision that banks would have to make, and I think that's where fintechs are coming about, because now the banks are astute to that opportunity".*

Mobile network operators are very topical in the rest of Africa, however in the context of South Africa it has not been as much of a success. One of the experts believed that M-Pesa only worked in Kenya because in South Africa there are three major mobile network operators, of whom have their own distribution network and are competitors to each other as elaborated on by Expert 4.

*"...there's no dominant player, that's why it only worked in Kenya....So you're with Vodacom, I'm with MTN, and you're with Cell C.... So, what, I must have four SIMs?...“MTN and Vodacom are about to re-launch their wallet for the third time. Interesting. The question is are you a bank, or do you get a bank licence, or you get a bank behind you”.*

To tap into this market, the banks have invested a lot of time and effort into their own phone applications. Expert 2 describes the level of investment the banks have put into their phone applications.

*"A lot of banks have the view that they're going to move towards their app, they've spent a lot of money on it, they've got departments with up to 200 people doing app development. They are very invested in and they are going to use it. And here's the reality, not everyone can download the apps that they have. You have to have a pretty high end device to be able to absorb some of those bank apps at the moment because they've become really bloated and really large.*

*"...if you look at the other banks, take ABSA, take FNB, they are all the same, I will guarantee you that on their app they've got one app for every segment of the market..."*

Expert 1: *“... you have FNB e-wallet, and you have Nedbank’s wallet, and the wallet was really an attempt by FNB and Nedbank to move away from the traditional bank account. And then you have TymeBank that allows you to in Pick n Pay open a bank account in under 5 minutes, but I’m not sure - ultimately in a bank there’s lots of internal cost structures which is attached to either per bank account, per EFT, per ATM withdrawal, per purchase, and these types of models usually break all those. Because like you said earlier, what typically happens, you launch this thing, but then the wealthy ones take it over because they want to pay less bank fees”.*

#### **5.2.1.2 Theme: Costs**

The proposed aggregator payment model has been considered in respect to the costs associated with implementing the solution. Specifically, for the banks the cost of the infrastructure required using a traditional payment model is simply unfeasible.

Expert 8 who works at one of the banks mentioned this concern. *“Our current traditional ways of doing it doesn't solve for it, it just costs us way too much, hence it's always been neglected, and I think that's a fintech”.*

Concurrently, for the bank to sponsor and financially back a fintech to provide the payment aggregator model becomes precarious as the upfront costs for the fintech involves creating an eco-system which enables the transaction. Thus, a distribution network is necessary, and the technology required to support this network is complex and costly.

Expert 1 also proposed that the fintech should consider how it positions itself in gaining traction. *“So, the banks consider two transactions a month primary banked. One credit, two debits, primary banked. So, I'm saying if you want to be realistic as a fintech, you need to say at what point do I start making inroads? Maybe it's one transaction a day, because it's eco system that needs to evolve, it's a new behaviour type”.*

Expert 3 went on to describe how the distribution network affects the payment aggregator. *“...if you think of a distribution network, it requires a lot of capital to do, and also requires a lot of technology too”. “...cost of service delivery must be lesser*

*than the value you are extracting from the customer. If you can't achieve that, then it's not worth it".*

This same expert was particularly concerned with how to build an acceptance infrastructure to allow for the merchants to accept the payment method presented.

*"The investment to offset the cost to bring in the masses is very large, because you have to create a massive acceptance infrastructure to allow that to occur".*

*"Running it on a traditional bank platform is expensive, you have to create a new platform so that the bank can't charge you for that service. They are running at a value per account that exceeds what you would be able to do in the unbanked market. You would have to depend on their regulatory space which is already expensive, but it's not as expensive as their IT infrastructure."*

Added to these costs are the merchant acceptance of the aggregator payment service. For the merchant to allow the customer to use the aggregator payment service, the merchant needs to integrate their systems to the aggregator platform. This cost is described by expert 3 who has worked at the banks in the payment landscape for many years and is now working at a fintech.

The cost for the payment aggregator include *"...the infrastructure in the merchant space, so the merchant aggregation model, and there are ways to limit that but you still need to get – even if you have no cost of infrastructure you still need to get the payment acceptance critical mass going. And that takes a lot of marketing..."*

Added to these infrastructural costs Expert 2 who owns a Fintech, believes that it would be necessary for the payment aggregator to create their own infrastructure through creating their own association scheme. *"You have to create your own infrastructure. To create your own infrastructure, you've got to duplicate a MasterCard or Visa in country. If you duplicate that you're going to have massive cost"*.

Other experts believe that positioning the costing model appropriately will determine the sustainability of the business. In light of the costs associated with the aggregator

model, Expert 10 believes that *“..how you bill your customer determines whether it's a good cost saving product to the market or not”*.

Despite the need to gain critical mass, the payment aggregator would also need to consider the value of the transactions which have been identified as low transactions.

The four-party payment model enables an interoperable payment solution, however, the more institutions involved in the payment process, the more costly it becomes for the payment aggregator. Considering the low value transactions, the aggregator would struggle to provide a shared value creation model if the business model is unsustainable.

### **Distribution model**

A full distribution network and value chain is required to support the viability of the payment aggregator model. In querying whether the payment service organisations have considered the payment aggregator model, the payment process theme was continuously referred to. The researcher proposed a three-party payment model with the ability to remain interoperable, however all the experts pointed out that the four-party payment model would remain intact even though in appearance it looks like there are only three physical entities.

This finding was poignant to the relevance of cost saving model to the unbanked through a payment aggregator as described by expert 10, *“...physically it's [the proposed aggregator payment model] a three party model, traditionally it's a four party model, so your interchange, if you're going to be switching through Visa or MasterCard or any of the schemes, you still have a net value of the interchange, even though you're aggregating, unless you're doing a fully aggregated model, where if you are acquiring through the aggregator and issuing through the same process or aggregator, and you don't route to Visa, there might be a bit of savings, but you still pay for that transaction to Visa or MasterCard”*.

The distribution model was described as critical to the payment process as, *“The biggest thing on the issuing side is you need a distribution model, and from an issuing side, the distribution model is acquiring, which means you need a payment*

*acceptance device to accept these cards. For them to accept those cards you have to be compliant within the standards set out by the regulatory bodies, Visa and MasterCard”.*

Addressing the unbanked market through the proposed payment aggregator, received many views from the experts. One expert suggested that “.....*my personal opinion, we need to be able to have distribution centres and get them to the people*”.

Other experts believed that it is not necessary to be a traditional bank with bricks and mortar and instead to provide accessibility via technology as described by Expert 9.

*“We don't want to be a traditional bank, we don't want to be putting up branches, we don't want to be having infrastructure where you're reliant on hardware to be able to get something done”.*

It was described that by addressing the unbanked market, *“digital is definitely the way to do it, it's the way to go”.*

Other experts believed that the unbanked *“...are nowhere near digital. They want to go in and talk to somebody when something goes wrong”.*

The conflicting opinions on how to address the unbanked speaks to the complexity of the unbanked market. The prevalence of this finding permeated through the interviews and embedded the research question of whether the aggregator payment service has been considered in addressing the unbanked.

#### **5.2.1.3 Theme: Regulations**

The theme of regulation was a common point discussed across all the interviews. It is the largest theme with the most codes included as there were many opinions about the regulatory bodies and the national payment system. When experts were asked whether the payment aggregator model has been considered to address the unbanked, the regulations were addressed in three main area, specifically, the national payment system, the bank sponsorship requirements and the trust provided to all parties.

The integrity of the national payment system was viewed as a concern in using a payment aggregator model. As such experts identified that the banks would consider the payment aggregator if the integrity of the national payment system was upheld in the rewriting of the regulations.

Expert 9: *"If the Reserve Bank and government have a view that says this is what we want to do, we want to focus on financial inclusion, what regulation do you need to enable that? And today we don't have it. But in fairness I think the regulator is absolutely looking at it, and that's why rapid payment is such a big piece as well of rewriting components of the NPS".*

*"So I think from a regulatory environment they need a lot more enabling regulation, but at the same time it mustn't be reckless in terms of comprising the integrity of the payment system..."*

*"You will get all these other players that's coming and trying to make a quick buck, and that will compromise that, and that's going to defeat it..."*

The banks are concerned with the integrity of the national payment system because the current regulations require the fintechs to get sponsorship from a bank. The requirement for bank sponsorship is considered critical to the consideration of using a payment aggregator which is aligned to the issuing bank in serving the unbanked market. This is significant because the banks are concerned with the level of risk that would be imposed on them. The banks can be held liable for a fine of up to R10 million- or ten-years imprisonment. This hefty fine requires the banks to tread carefully in their business practice.

This was evidenced by expert 2 who stated that ".....you have to run the wallets in terms of the position paper issued by the Reserve Bank on holding of funds within wallets. So that means you need a trust account sitting within an issuing bank that will allow you to do bulk issue of wallets and an integration into wallets space. But because you've got the trust account sitting in the issuing bank all the transactions need to run through that trust account".

Expert 3 concurred by stating that, "... [the bank] could be responsible for a fine of up to R10 million or 10 years in jail if you are negligent in carrying out your duties"

The participants at the banks are of the opinion that the regulations provide a safety net and a sense of comfort for all parties in the payment landscape which is relevant to whether the parties have considered using a payment aggregator. The findings suggest that the banks take comfort from the regulations even though it curbs their ability to reach greater innovation possibilities.

Expert 8 described his view of the national payment system “....PASA, payment association...They had the mandate to say who would get in, and you had to be sponsored in, whereas I think here the reserve bank is saying, you guys will no longer do that, we will now do that. And we’re saying we don’t have an issue with that, as long you maintain the integrity of the payment system. Because what you cannot let happen, for example, is that people come and play in the national payment system, but the integrity of the system is challenged, like debit order abuse.”

#### **5.2.2 Research Question Two Findings.**

The research question posed to the 17 participants was, “What are the factors that impede the payment aggregator from servicing the unbanked market in South Africa”.

The choice of research question was based on the evidence suggesting that not many organisations have embarked on this model, despite recognising the opportunity. However, once the commercial viability of the business model had been explored, the organisations were able to foresee some challenges. These are discussed through six main themes that emerged with shared value possibilities identified in red and illustrated in Figure 11.



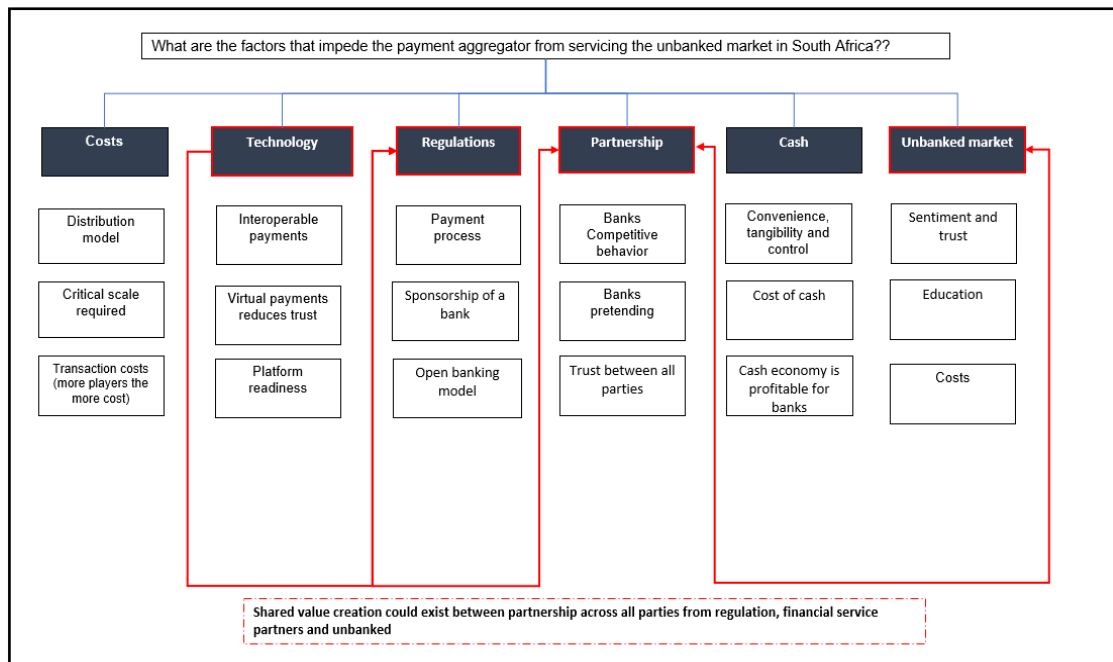


Figure 11: Research question two themes

Source 11: Author's own data

### 5.2.2.1 Theme: Costs

#### Distribution model

One of the biggest challenges for the aggregator model was the costs associated with the distribution model. In particular, the aggregator model would be serving the unbanked market from the issuing side of the bank. In addition, in order to provide shared value creation for all parties involved, the aggregator model would have to enable merchant aggregation simultaneously. This payment process could either be open loop or closed loop depending on whether the aggregator chooses to make the payment service interoperable.

Expert 7 works at a bank and was of the opinion that in order to make the payment distribution model viable, the biggest challenge would be creating an “acceptance” model. *“...on the issuing side is you need a distribution model, and from an issuing side, the distribution model is acquiring, which means you need a payment acceptance device [at the merchants] to accept these cards. For them to accept those cards you have to be compliant”.*

Expert 8 was also concerned with the acceptance of cards in the distribution model.



*"I think the distribution was going to be important, because part of it was you can just go and buy this off the shelf, fine, you would have to use traditional distribution to solve for that, but how would you get people educated? And so even the solving for this is that we find that the acceptance piece of it, being the traders, etc. should be key participants in driving adoption"*

The experts were concerned with how the merchant would accept the payment using the traditional card rails. However, the researcher suggested that the proposed payment model would negate the need for cards through a contactless solution.

One of the experts who works at a bank (expert 7) identified that one of the biggest challenges to this aggregator model is getting a distribution *"where they live, as you know, rural areas, they don't have the greatest infrastructures. How do you get a distribution model where they live to cater for their needs? They don't always shop with a card, but they always need cash"*.

It was unanimously agreed across all the experts, that *"To run a viable financial inclusion operating model, it requires - in fact, the backbone for it is a distribution network"*.

Expert 12 believed that for the payment aggregator to be commercially viable, it must have infrastructure in place first.

*"So you've got to have that profit element in it for people to be able to invest in it big time, and all of those things, to put the infrastructure in first and then go to market. Investors aren't going to go in unless they think they are going to make money"*.

The same expert also believed that the store of value costs will be the make or break of the payment aggregator as described *"I think the problem in this market is not transactional costs, I think it's storage costs. Because these people are not going to transact regularly, you've got to store that money for long periods of time and keep it safe at no cost [to them]"*

The costs associated with the distribution required to reach the unbanked requires critical scale to make it a viable possibility where shared value would be sustainable.

### **Critical scale**

The research findings show that the aggregator model would need to obtain high volumes of the unbanked market to offset the low values of their transactions and associated running costs.

An expert from a fintech (Expert 3) attributed the failure of previous initiatives to address the unbanked market to the context of South Africa. He stated that *"they [the banks] couldn't generate sufficient traction to sustain that line of business. So I think this probably has to do with South Africa, because if you compare the rest of the Africa with South Africa, the percentage of the population that are in the formal financial services environment in South Africa, is way higher than the rest of Africa"*.

It was also noted the experts believed the banks would not consider this if critical mass was not achieved as described by expert 3. *"if you've got the critical mass you can do whatever you want". "...they are not going to do it unless you give them huge volume"*

Despite the benefits of shared value creation, the experts believed that the operating model for the aggregator is so dependent on critical mass that it would not be worth engaging if this was not achieved. Expert 11, believes that the fintech are also hesitant to engage in this model because of the scale required as evidenced,

Expert 11: *"I think in general fintechs don't think they have the scale to start off with, so an assumption is that, okay, I'm not going to go after this market, because you almost need scale, or you need a partner with scale to plug on top of that"*.

*"...you've got a big fixed cost to run the business, so you need massive scale..and it's quite a big critical mass. I think there's 750 000 Snapscan users on the consumer side, and it's not there yet."*

Added to the costs involved to service the customer, the aggregator would also need to consider the adoption rate of the technology.

Expert 11 *“So now to get someone who doesn't trust technology yet, to service them in a cost effective manner is very difficult. If something goes wrong with my credit card, for instance, I can call the call centre. You work at around R633 per call servicing a call.*

This is concurred by expert 2 that suggests the the aggregator would need to consider the *“ function of adoption, so if you - no matter what you do, no matter how great your ideas are, if your adoption rate is low you're not going to get there, so it's a catch 22 situation”*. In consideration of the adoption rate, the viability of the aggregator rests on cost-to-income ratio as described by expert 2;

*“the cost of service delivery must be lesser than the value you are extracting from the customer. If you can't achieve that, then it's not worth going there ....and usually you need to build a critical mass in order to achieve that”*.

However, expert 11 believes that these costs can be negated through cloud-based computing such that the business could *“use cloud base to run the ledger, so you can use your - your data warehouse can sit in the cloud, your switch. Your processing can sit in the cloud...cloud now gets adopted a lot more, people have started to trust it a bit more. For a long time it used to be like, we're not going there, it's not safe enough, it's not secure, but I think people are starting to adopt it, and what it does allow you is to scale easily, without having to put down a massive lump sum”*.

### **Transaction costs**

Concurrently, the research found that the more organisations involved in processing the payment transaction, the more costly it would become for the aggregator. Shared value suggests that the parties would need to forego these costs in order to achieve greater economic benefits for all parties in the eco-system. However, it does not appear that the parties would not be willing to absorb these costs which could also be attributed to the regulations imposed on them as expressed by expert 9:

*“.. the more players you have ..the more costs”*.

This view is based on the aggregator using the traditional card rails of payment processing which involved the four-party model. However, expert 11 suggested that

by moving the aggregator to a virtual landscape through a virtual ledger system, some of the significant organisations in the payment landscape could be negated.

*“If you’ve got a virtual ledger based system on both sides, the issuing and the acquiring, all it is, is just a reconciling tool that you need [to settle the payment]. ...It doesn't need to move on the Visa and MasterCard rails”.*

Expert 11 went on to describe how the virtual ledger works.

*“..a wallet to wallet payment or ledger to ledger is free. Lets say you owe me money and I owe the third person money, and they owe you; at the end of day we can just say who owes who the money and we just reconcile the bank. The actual money doesn't have to move over a certain rail, go through all the checks and fraud mitigation in the meantime”.*

Traditional card rails is also known as the four-party model which includes the transaction running from the customer, through the merchant, to the merchants bank (acquiring bank) through the associations, for clearing at the issuing bank (the customers bank). Expert 11 suggested that transaction costs for the aggregator would simply increase by running the service through the traditional clearing and settling payment process.

*“I just think that if you use card rails, you plug an aggregator on top of it, it will become - you will just add a layer of cost”.*

#### **5.2.2.2 Theme: Technology**

The technological requirements to facilitate the payment service at the aggregator is not viewed as problematic as described by expert 2;

*“I think technology is not the issue. Technology exists to be able to do that right now, you can do it immediately. Your issues are around governance and regulation around banks, and then competitive behaviour of banks”.*

The bank has benefited off the innovative technology that fintech are able to provide, by outsourcing their services as a payment service provider. This negates the need

for infrastructural changes which have legacy issues. Expert 7 describes this model as; *“it’s easy for a bank to outsource the actual technology anywhere, so that’s why you have payment service providers”*.

## **Interoperability**

However, interoperable payments using the aggregator would face significant challenges. It would require all parties to accept the aggregator products and services and integrate it into their systems. Where the card rails have created this benefit, the aggregator would need to create trusted partnerships with the payment institutions for them to enable the aggregator as interoperable as described by expert 11 and 4;

Expert 11: *“[a] big issue, is the interoperability, and that is what the card rails do offer”*.

Expert 4, *“.. the point is, you’ve got to have the players to buy in”*.

Most of the experts agree that the technology to provide interoperability is available, however, the financial organisations in the payment process have not been able to figure out how to participate in the unbanked market as described by Expert 8;

*“So it’s an environment now that’s becoming highly competitive, and your differentiator is not necessarily going to be the technology, because I think everyone has access to the technology, it’s relatively cheap...I think the technology and the products are there. We haven’t cracked as an industry, I’m referring to now the educational pieces, we haven’t necessarily built trust...”*

## **Virtual payments**

The researcher found that virtual payments is a more cost-effective manner for the payment aggregator to reach the unbanked as described by Expert 11, *“If you’re going after this market, my view is that it would be virtual ledger based and not card based”*

However, there are mixed views on the virtual payment process in that it is suggested by the experts that the unbanked would not trust the virtual payment solution and circumventing the shared value creation model.

Expert 2: (Fintech) *"...[for] the aggregator it all boils down to trust and it costs a lot of money to build that trust, and it doesn't happen like that. Am I going to give my money, deposit, to an entity I've never heard of, they don't have a branch, I don't see their building, who are they? And that same logic would apply right across the spectrum of the market.*

Concern was raised for how the unbanked would perceive the virtual and digital payment solutions which would directly affect the level of adoption. "The key here is, how do I pay you electronically and keep it electronic, in a way that you are comfortable to do so".

The concern for the adoption of the virtual payments by the unbanked was ascribed to a lack of education which was previously seen in the literature review as one of constraints that face the unbanked market and described by Expert 8. *"..it's probably going to be more of education and the change of mindset or creation of awareness, so for people to see the benefit. Because if you see the benefit and if you know that you don't have to keep cash with you, you have to carry out transaction, it's also safer not to keep cash with you, because you might get robbed and all those things"*

A possible solution offered to address these concerns for the unbanked it to provide real time payment which would show the payment was made immediately. It is proposed that this would solve for the informal economy because trust would be established by showing the payment was immediate. Expert 1 describes real time payment by stating that;

*.."it will allow you to create a single platform on which you can get real time API confirmation that the payment was successful. So even though the clearing hasn't happened, the clearing will happen tonight, I can effectively confirm to you that the payment was successful, because it's a push payment.... But if you [regulations] allow for this European standard of open banking [push payments], then you can use the EFT rails and confirm payment in real time."*

### **5.2.2.3 Theme: Regulations**

Value creation in the payment landscape is derived through an enabling payment environment where all the payment parties are opened to accepting payments from each other. The regulations in South Africa are highly regarded for the maintaining the integrity of the national payment system which has been ascribed to facilitating a trust relationship across all the parties in the payment process. The findings show significant barriers to entry through the regulatory framework.

#### **Bank Sponsorship requirement**

When experts were asked what the challenges to the implementation of the payment aggregator was, regulations were most commonly cited and specifically the sponsorship required from the bank. Expert 10 mentioned that the aggregator model was something they had given thought to and the reasons why it is not possible at present.

*“... so we’ve been thinking about this quite a bit, and of course the thing that restricts it right now is probably two things. The one is the Bank’s Act, which I think the Registrar is willing to change, and the second is the NPS Act. So you can’t take money from the public unless it’s for payment due, like it’s a utility bill. So I know there’s payment due so Shoprite Checkers can actually take money into there, as like an issuer would... but it’s for payments due”*

*“...the other thing that messes with this is an e-money position for instance. I think it’s a 2009 position, which pretty much says, if you take money from the public, whether it’s an e-wallet or an m-wallet, you have to partner with a bank”.*

The expert was well versed in the regulation of payments in South Africa and suggested that in the future, a tiered structure would be considered to allow non-bank entities to take receipt of a funds without the bank sponsorship requirement. By enabling this, shared value could be more easily achieved because partnerships would be necessary to sustain payment businesses in the future.

*“ We are willing, possibly over time, to look at three things. One is to have a tiered regulatory structure where these entities, non-banks, fintech firms if you wish, can*



*take in funds from the public for payments purposes, and we'd allow them in a tiered regulatory structure to do it."*

*So the requirements for holding capital, so as you take in funds here we typically hold funds from banks, capital requirements. Today it's 250 million bucks to open a bank. Or if you're a mutual bank like Bank Zero, as an example, it's about R10 million. We're possibly willing to figure out what the capital requirements are at a tiered level, and it would be probably much less than even R10 million to be able to do that. That's one. Two is, we're probably willing to change the e-money position paper".*

*"And three, and this is probably important, we're probably willing to open up access to settlement to fintech firms".*

In respect to the aggregator model, a more immediate solution to enabling the unbanked market would be to partner with the bank as a payment bank only, however this gives rise the costly challenges associated with the bank as mentioned by expert 10,

*"Your model would be – the fourth one would be, you still partner with the bank. My challenge to that would be, in the payments bank scenario, this would be a payments bank ... In that scenario margins are everything."*

Expert 14 did not believe that the banks gain very much for the sponsorship model and could incur most costs that profits. *"So it's not unusual even amongst the major banks, Post Bank for a long time operated under someone else's licence. So it's not unusual, the problem is it is a one-sided transaction in that for the bank there is very little upside, but for the aggregator or for the intermediary, which is often a competitor to the bank, there's significant upside"*

The challenges to achieving shared value through the payment aggregator have previously been experienced by past initiatives such as M-Pesa and MTN mobile with the challenges being attributable to the demand side of the merchant base and the customer base as explained by Expert 10;



*"Now what's interesting, I think, is that there are others who have tried this model, with partnering with a bank, like M-Pesa and MTN Mobile Money... And they failed terribly. And we have to ask well why? And a lot of the reasons that they cite is that, well, the regulatory framework doesn't allow us to partner without a bank."*

*What typically happens when you try and partner as an aggregator, signing up the customer as well as the merchant, is that you move beyond the four party model and you get to a three party model...And three party models are very, very tough. If you don't have large enough a base on this side [customer side] you battle to get the base on this side[merchant side]".*

Expert 3 held that the banks would consider the shared value model as a threat to their business as *"...offering the bank a shared services relationship just for their governance components makes sense. Now they are creating a competitor, they are not getting a return on their current investment because there's new investment created"*.

It is surmised that in other countries where this has been more successful, the government or regulatory body imposed the policy of cashless payments which required merchants and customers to accept the cashless payment solution. Expert 11 describes how this will be done in Nigeria,

*"I will give you an example. 2011 the Central Bank in Nigeria came up with a policy to drive cashless economy. So it was an informed decision... So such policy will really drive adoption."*

Expert 11 perceived the viability challenges of the payment aggregator to be due to the rules created to address the formal market and by negating the context of the informal market, the regulator has made it difficult for other more appropriate parties to engage with the unbanked market.

*"I think something that allows this to happen more now than previously is the risk based approach from SARB, rather than the rules based. So we've been looking at this market for some time. It's a very interesting market, but I think the biggest issue to start off with is that as a country we have created all our rules for the formal market."*

*So now all of a sudden, these informal guys need to plug into the system and it just doesn't work, and they have to circumvent it and find their own way around it."*

## **Open banking**

The researcher found the open banking payment process very relevant to the shared value creation services of the payment aggregator as this would facilitate a closed loop payment process but plug into the banks through an API to enable real time payments. The open banking model is currently not available in South Africa, although it is under consideration by the regulator as described by Expert 1.

*"There is an open banking model in Europe, a standard that's been agreed, and the South African Reserve Bank has instructed the South African banks to start using an open banking model, but there's no standard yet."*

The expert identified that there are a few payment companies who are considering the open banking as a solution to creating better payment services and this would enable value creation in the industry. By providing a closed loop payment service with the facility to plug into the banks for settling purposes, would greatly enhance the ability to address the unbanked market in addressing their various constraints as previously described.

Expert 1: *"So this open banking capability, many okes in the payment industry is considering this open banking standard the new closed loop in-country payment rail, because essentially if I have an API to access - so through some app or whatever, to be able to pay you directly, in a real time basis there's no such capability today... ..at the moment that's not available, because of the regulatory environment"*

Despite the merchant payment aggregators being successful at providing aggregation services to both merchant and the banks, they are still not able to effect debits and credits to the merchant without the need for the merchant to own a bank account. This is limited by the regulations imposed on the aggregator and the banks.

*"...so previously you couldn't access the bank system if you were not a bank. So you couldn't say, I'm going to provide a bank account to you, but in a simpler way,*

*and then I will effect debits and credits to that bank account through an aggregation model, like you described an aggregation model in an acquiring world[for merchants], because basically in an acquiring world you have a single relationship with the banks, which allows you to create multiple merchant relationships. So you don't have a single bank relationship that allows you to create multiple underlying bank accounts."*

#### **5.2.2.4 Theme: Partnership**

Partnership was identified as key component to the success of shared value creation in the payment aggregator proposal.

The experts in the banks believed that partnership is necessary for the banks to consider the payment aggregator as suggested by expert 8, *"...it will have to be a partnership type model where we have line of sight to the customer, that we have some sort of relationship with the customer. It cannot just be you [the aggregator] sitting in the back end, we're using your [the bank] banking licence to satisfy the Reserve Bank, but everything we do is from the fintech's perspective, in terms of servicing, managing and the fintech just thinks they're dealing with you".*

It was found that the fintechs would need to be equally aware of partnership with the community members through an interface such as a trusted community member or agent as described by expert 5.

*"..empower Tommy with Bibi, he will get you in, because people understand him, people trust him, and there's contact between him and the community"*

Expert 4 expressed the need for all the payment service providers to collectively agree a way to address the unbanked, corroborating the need for shared value payment model to be developed.

*"If we must solve for the unbanked, like I said, it's a broader societal issue, government has a big role to play, MNO's, cash, society, everyone has got to play a role in this. If not, it's going to fail"*

However, it is the opinion of many experts that there is a lack of transparency in addressing the unbanked market due to the bank's competitive behaviour. Expert 4 amongst others, stated the banks would be opposed to partnering with a payment aggregator because they view the aggregator as a competitor.

Expert 4. *"The card payment division within the banks were found to be highly opposed...So the card guys here sit there and they go, over my dead body, why would I want to bring in a competing product?"*

It was further suggested that the banks lobby against regulatory changes such as interchange fees and proposals such as the Small Bank's Act.

*"...there are a multitude of those components that you have to navigate to actually become a bank in its own right. Second thing is, the requirements for capital in terms of banks – so the Small Banks Act...But the reality is they have made sure that that does not see the light of day".*

Speaking about the banks, expert 2 believed that the banks put up a front in pretending to be interested in partnerships and willingness to engage in alternate payment services. This is because they are profitable in running the banks as it is now.

*"... don't pretend to be doing it when all you're [the banks] trying to do is keep competitors out, because that is wrong....Do you think in your right mind that a bank is going to say this is a great idea? Of course they're not. They will never, ever encourage competition, why would they?"*

Expert 4 asserted that in stimulating a cash economy, the banks make money. Therefore, they have a vested interest to promote financial inclusion for public relations as described;

*"Banks make money out of cash. Now, because I've just slapped the banks with another half a billion of fees to SPV, which didn't make them happy, the reality is, they're trying to find ways to pass it on. ATMs retail, they make masses of money. They can tell you what you like, but I'm telling you they make masses of money".*

Expert 2 agrees with this view; *“I promise you, if you can show me a champion in any of our banks that is passionate about this segment of the market I will eat this table. I really will. They make all the right noises and they make all the right talks... You can have the best technology in the world but if you don't have passion and enthusiasm for this financial inclusion, let's call it that, it's not going to succeed”.*

#### **5.2.2.5 Theme: Cash**

The researcher found that the emphasis on necessity of cash for the unbanked was a significant challenge to the implementation of aggregator model. In specific, three main areas were found in thematic analysis of cash being, the sentiment around cash such as the tangibility, convenience and sense of control associated with the holding of cash, the cost of cash to the unbanked and the profitability of cash for the banks.

Experts in the field all unanimously concurred that the unbanked trust cash more than a digital cash option. It was also suggested that it is deeply engrained in culture and the risk of loss of money through alternative means to cash was significant enough of a deterrent to eliminate adoption. This was explored by the researcher with some of the finding as follows;

The fear of erroneous errors in transacting through digital payments was used as an example by Expert 5. *“That is 70% of 57 million people live on grants. They have no - their threshold of loss of money is little. So my grandmother who's got cataracts, who can't see properly, has a limited threshold of pressing the wrong number to take out money, because if she loses R200 ..that is massive enough”.*

*“Cash is the only thing that we [informal economy] know. Guess what I did this morning? I went to Pick n Pay to buy airtime and data cash. I've got internet banking, I've got a [bank account], I chose to withdraw money and go there. That's what works for me. And trust me, I'm very tech savvy, but some things I do it old fashioned”*

Expert 7. *“...so cash is trusted, it's tangible, they can see it. People might not understand the education we give them, but they understand money”.*

Cash remains a dominant payment choice as described by Expert 8. *“Cash is still a dominant payment mechanism, even though digital payments will see growth rates of 200%, 300%, 400%, it accounts to 10%, 15%, 20% of the overall volumes”*

Expert 4 reiterated this by saying that *“We are a cash-based economy, 85% of our transactions are cash, so you’re not going to get away from it. Why? This is your biggest problem, it’s got nothing to do with the bank and whatever, it’s got to do with the eco-system”*.

This is further corroborated by Expert 1 who describes that despite the welfare recipients receiving a highly subsidised bank account, cash withdrawals remain prominent in this sector of the market.

*“SASSA, they have been migrated from a cash model to a card model, which is essentially a banking model at a very subsidised rate, and all that happens is the moment that money hits their bank account, they go to the ATM and withdraw all the money”*.

*“And there is many reasons for that, one being that they’re over debted and they don’t want people to have access to their money, secondly that there’s no facility in the towns and areas where they live to use electronic value, so it’s the chicken and the egg. And thirdly, it’s maybe a trust issue, because they cannot feel it”*

Expert 1 suggested that despite adoption of banking wallets, there remains a prevalent portion of the South African population who would continue to convert the value into cash.

*“And then I can send more money to that wallet, the next time I send it goes to the same wallet. But that shows you the kind of problem that you’re dealing with, with that consumer having cash. So they’re using a formal banking system, but they’re converting it to cash”*

Expert 7 described her experience of understanding the unbanked needs as the accessibility of cash.

*Their biggest need right now, is if you're looking at the unbanked or underserved market, their biggest need is access to cash... So where they live, as you know, rural areas, they don't have great infrastructures. How do you get a distribution model where they live to cater for their needs? They don't always shop with a card, but they always need cash"*

Expert 5 believed that the emphasis on reducing cash payment is only South Africa and that in the context, it remains relevant irrespective of what the associated costs may be.

*"South Africa you will not get it right, because you need to understand, Africa, the only place in Africa where cash is - there is a negative connotation on cash, is South Africa. Everywhere else in the continent, cash is what works. In Nigeria, MTN thrived because they never used contracts they used pay as you go, because cash is what works"*

The trust embedded in cash for the unbanked market has also been associated to the distribution centres of cash as described by Expert 6, *"In the unbanked community there's also that trust factor. So over a period of time they've got to know the different ATM's, and there is a Tyme ATM, very clever marketing, Tyme has got no more or far lesser ATM's than some of the high street bankers. But how did they get it in there? They got it in the trust factor around the retailer"*

This was supported by Expert 7 who stated that *"If you partner with a merchant, as such, they've already got the infrastructure. Pick n Pay already offer cash over the counter, people already trust them because they purchase there, they know they can get cash over the counter, so it's a lot easier. Trust in their retailer is a lot better than - in my opinion, a lot better than trust in your bank."*

There have been significant number of studies done to show the negative impact of costs, specifically affecting the unbanked. The experts mention how these costs impact the unbanked.

Expert 11, *"cash deposit is becoming a very expensive thing for customers"*



Expert 1, *“..if you think of a spaza shop, and we work in that field quite a bit, is they collect cash, and then at some point they need to take that cash and pay ABL or Tiger Brands, and how do they get there? So there’s a cost. So it might not be a direct cost in spending, but there’s a cost in handling cash”*

The opportunity costs associated with the merchant not taking cash could be loss of customers which is described by Expert 11,

*“...for a merchant point of view, it’s got bigger scale, there’s less risk than the actual holding of cash, and the expenses that come with it. So it’s actually in their best interest not to raise their price for someone to pay with a credit card”*

In describing the cost of cash in South Africa, Expert 8 provided context into why M-Pesa worked in Kenya and why it failed in South Africa.

*“Part of the big issue was security. So if you go to M-Pesa, they’re happy to take in the cash, happy to give you the cash, their environment is very different. Cost of cash and to move cash was cheaper than South Africa. Here, if you go and talk to merchants, traders, informal traders, they don’t want to keep a lot of cash, because they become targets”*

It was further stated by Expert 4 that the banks are well invested in promoting the use of cash as they make money out of cash withdrawals,

*“Banks make money out of cash. Now, because I’ve just slapped the banks with another half a billion of fees to SPV, which didn’t make them happy, the reality is, they’re trying to find ways to pass it on. ATMs retail, they make masses of money. They can tell you what you like, but I’m telling you they make masses of money.”*

In contrast to other expert statements, Expert 6 stated the cost of cash to the banks was becoming significant such that they are considering the viability of the cash distribution model.



Expert 6. *“The cost of cash is killing the country at the moment... the cost of handling cash in this country is crippling, it’s crippling. To the fact that generally the banks are saying that’s not a viable environment”.*

#### **5.2.2.6 Theme: Unbanked Market**

The researcher found through the research process that the unbanked market held many beliefs around the value of cash as well the distrust around other payment service options. In the context of the payment aggregator, the experts provided their insights into what they believed would be the biggest challenges to the payment aggregator in serving the unbanked. It was acknowledged by expert 5, that the formal financial institutions such as banks don’t fully understand the consumer behaviour of the unbanked which would make the shared value model difficult to achieve.

*“See, the problem is we try and solve, I think, for a consumer whose behaviour we don’t fully understand”.*

The experts contended that the unbanked market would be slow to trust the payment aggregator, lack the financial education required to understand the value of the payment aggregator.

A common finding throughout the research interviews was the sentiment of trust. All the experts expressed their beliefs that the unbanked lack trust in the formal financial institutions. The lack of trust would remain a challenge for the payment aggregator as mentioned by Expert 5 and further corroborated by Expert 7 in the section above.

*“...the trust is not there, and without trust nothing - you can do anything innovative and creative, without trust it’s not going to work”.*

The challenge seen by the unbanked as described in an example by Expert 1 who claimed that the unbanked would question whether the payment had reached their account.

*“So if I make a payment to you, you need to trust me that I effected a payment to you, because you won't see the payment in your bank account if we bank at two different institutions.”*

Added to this, Expert 2 stressed the necessity to build trust with the unbanked market in making the payment aggregator a valueable service.

*“[For] the aggregator it all boils down to trust and it costs a lot of money to build that trust, and it doesn't happen like that. Am I going to give my money, deposit, to an entity I've never heard of, they don't have a branch, I don't see their building, who are they? And that same logic would apply right across the spectrum of the market”.*

The lack of trust is also linked to the low threshold of loss of money for the unbanked as explained by Expert 6. It is considered that the low income market is more affected by the loss of money, despite the value of it, than the higher income market. Therefore, the impact associated with loss of money is significant which exacerbates the level of trust needed.

*‘More so you are going to be trusted by someone that that money is a lot more important than it is – to them [the unbanked] than it is to me [higher income earner] because that small amount there's a purpose there. If you lose that, or if that transaction doesn't get effected etc., that trust system will fall away.’*

Expert 7 also provided an example of how the welfare recipients' threshold of loss of money is low. *“... 70% of 57 million people live on grants. They have no - their threshold of loss of money is little”.*

## **Education**

The lack of education was found to be a noteworthy challenge for the aggregator model to reach the unbanked. It was expressed that banking products are already a challenge for the unbanked to understand, therefore a cashless payment service would add further complexities to the unbanked markets' ability to understand the value in the service as evidenced by Expert 7.

*“...banking products are confusing to the unbanked, they don't know which products to use, they don't understand the fees”.*

It was found during the interview with Expert 8 that in that even with initiatives being taken by the SARB which would be assumed to focus on the unbanked market, the education around these initiatives would be imperative to the adoption rate as well as the source which promotes it as described by Expert 8.

*“I think now the regulator is taking a much more prominent stance on shaping the industry, I suppose like rapid payments are going to make a massive difference. But even with rapid payments you will still need education. So countries that have successfully done this, even like India, they will go and market this out to the unbanked, not as banks, but as the country; as the Reserve Bank or as government. Use this, this is the cost to try and build trust. So the way it's going to be adopted [is important] because people still don't trust banks, because they still have this legacy mindset that banks are expensive, etc. banks didn't cater for me.”*

Expert 8 went on to provide an example of the constraints they have faced in attempting to address the unbanked market with the opportunity to open a bank account.

*“When we showed to customers that in under a minute you can open up a fully functional bank account that's free and enables you to transact, they said, no man, this is witchcraft. That's what one person said to us, it's like it cannot be. Because they also have a mindset, what is a bank account? They don't know, these are the financially excluded, and they don't necessarily trust it”.*

In addition, expert 7 suggested that a remedy to negating the education challenges, could be providing face to face interaction with the unbanked would address this challenge in the most appropriate manner.

*“...we need to be able to educate at a level they understand. Marketing material does not work. You need to be on the ground, you need to be road showing, you need it to be in a language they understand, that's how you build trust.... So it is a*

*long educational process to get everybody on board, and for us, I think the best way was to gain the trust, to give them something in their hand first”.*

Expert 14 suggested through his findings of the unbanked, that they avoid the banks because of language barriers. The researcher surmises that these language barriers may arise from a lack of education. *“...So the second challenge that you sit with is one of language, is that people felt when they went into a branch they would invariably fear that they’d wind up with a teller who spoke English, or a language that wasn’t their home language.”*

In light of the cashless payment service proposed in using the payment aggregator, Expert 11 believed this would amplify the need for education. *“So now to get someone who doesn’t trust technology yet, to service them in a cost-effective manner is very difficult”.*

This position is supported by Expert 9. *“We see in South Africa, if you take aggregators, whether it’s SureSwipe or any one of these other guys, they have foot soldiers that are on the ground. Cell Pal, all these guys they have people, 100, 200. If you take Yoco, Yoco have a sales force of 173 people. They have more sales people than we have in the bank.”*

### **5.2.3 Research Question Three Findings**

#### ***What technology considerations need to be undertaken in using the proposed payment aggregator to reach the unbanked?***

Notwithstanding the inadequate financial education provided to the unbanked, the researcher queried what technology would be most appropriate for this market to be able to align the shared value model in facilitating the inclusivity of the unbanked. The researcher found three main areas emerged namely, the need to provide simplistic technology with appropriate software applications. This is illustrated in Figure 12.

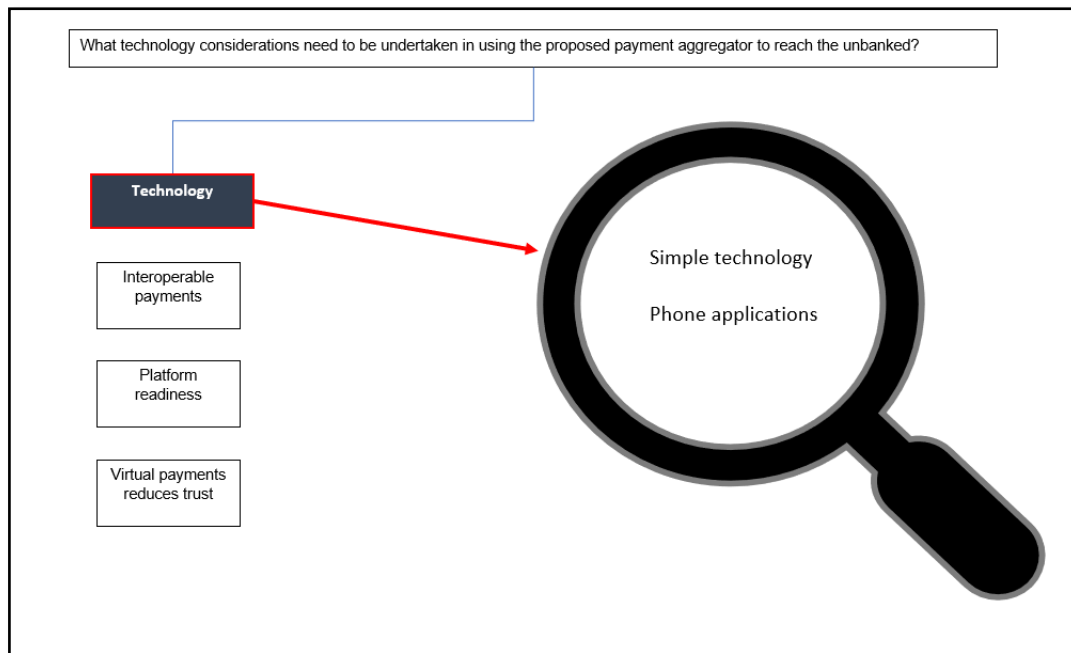


Figure 12: Question three themes

Source 12: Authors own

### 5.2.3.1 Theme: Technology

The experts unanimously stated that the technology needed to address the unbanked market was certainly available. However, the need to understand the unbanked market was prominent is providing the appropriate technology as described by Expert 8. *"I think the technology and the products are there. We haven't cracked as an industry, I'm referring to now the educational pieces, we haven't necessarily built trust"*.

Notably, Expert 14 proposed that providing technology to this segment of the market is not enough because the constraints and sentiments of the unbanked negatively impact the adoption of technology. *"when it comes to the technology adoption side was that having a pure play technology solution does not work, because some of these issues translate into the device. If I don't understand, who do I talk to? If it's not working, where can I go? .... So the person must first trust the intermediary, or the aggregator, and then trust the underlying technology"*.

## Simple Technology

The findings showed the need to refine and scale down the technology to provide simplicity for the unbanked to be able to use it more comfortably as evidenced by Expert 3. *“...[if you] focus on the low income segment, the base of the pyramid, you can't use the existing technology's that - you just need to - you know, you need something that is much more - that is lighter, that is agile and that is robust to serve that market sector”*

The necessity to provide technology which supports the unbanked requirements is relevant in light of the suggestion by Expert 8, that the adoption curve for payment services will increase significantly. *“I think you're going to get a lot more competitors that have banking products. If you look at rate of adoption or take up, even Nedbank, on our MobiMoney we signed up well over 150 000 [customers]. Tyme Bank will tell you they signed up about 200 000, FNB will give you very similar numbers. So everyone will give you very similar numbers, but I also think you have this thing around an adoption curve that's going to be exponential, so I think you will see flat lining or you will see adoption, but usage will be very low. But I can tell you now, over the next two years, you will start to see that curve starting to increase, and it will go up, like I said, exponentially”*.

Expert 3 believed that providing simple technology with less error rates would increase customer volumes and decrease the need deliver customer support services. This requirement is significant in digitising payment services through a virtual environment. *“With this model [the payment aggregator] the strategy should be to the keep the unbanked away from the branches. So that's part of what we strongly recommend...So my recommendation is just keep it simple first. If you make sure your services are very simple, very seamless, lesser errors, then your requirement for customer service will be minimal”*.

Notably, there appear to be contrasting views on the technology considerations because Expert 6 suggested that the payment aggregator would need to focus on building trust, as opposed to simple technology, in order to gain traction when the service offering is done virtually. *“...running this predominantly in the cloud. You are running it on reference, this worked for me, why don't you try it? You are running it*

*on a promise to do this, and you're running it on the integrity of the payment system in the country"*

## **Software Applications**

It emerged through the research interviews that a lack of alignment exists in the banking products offered to the unbanked as they are challenging to understand and over complicated to use. Given the educational challenges discussed, the researcher found that the software applications provided by the banks could unintentionally alienate the unbanked market.

Expert 2 depicted this finding. *"One of the banks I was talking at a conference have got 270 I think functions, functionality on their app of which three are actually used"*.

The cost of all the software applications provided by the banks increases the cost to the unbanked person such that the bank unintentionally remove themselves from being able to engage with the unbanked market. This is evidenced with Expert 2. *"...Not everyone can download the apps that they have. You have to have a pretty high end device to be able to absorb some of those bank apps at the moment because they've become really bloated and really large"*

Expert 3 was also found to support this view by asserting that "To engage the unbanked customer the technology cost – not discuss salary and everything, just the technology cost per customer is about R50 per month. Now the question is, is it possible to charge the customer within that segment R50 every month? And the reason for the high cost is because the bank was planning to use the existing technology infrastructure to serve that market segment."

In addition, Expert 8 acknowledges that the bank application downloads still present data cost challenges. *"But still the download is still 50mb, 100mb, 200mb, and the download cost is still quite expensive, and that's barriers that the banks aren't willing to pick up, because it will cost you [the bank] an absolute fortune"*.

Expert 2 believed the software applications are too costly for the unbanked. *"...and here's the reality, not everyone can download the apps that they have. You have to*

*have a pretty high end device to be able to absorb some of those bank apps at the moment because they've become really bloated and really large".*

Providing an example of a simple technology for the unbanked market, Expert 2 describes the technology he found to be most appropriate. "...we were the first to launch with USSD, and we did it why, because at the time that we launched there weren't smart phones, we couldn't even smell it. They were feature phones. So, we wanted a technology that worked on every handset, irrespective of the Telco that they were part of, irrespective of the SIM card. And it works today, and still today I've got all the technology and fancy phones in the world, I still use USSD because it's easy to use."

#### **5.2.4 Research Question Four Findings**

##### ***What are the appropriate interfaces necessary to reach the unbanked?***

The researcher was interested to discover what the appropriate user interfaces would be with the unbanked considering the constraints they face as discussed in section 2.3.3. There were a variety of opinions on this topic, however, three main findings emerged as illustrated in Figure 13 namely,

- Retailers
- Agent banking
- Mobile Phone



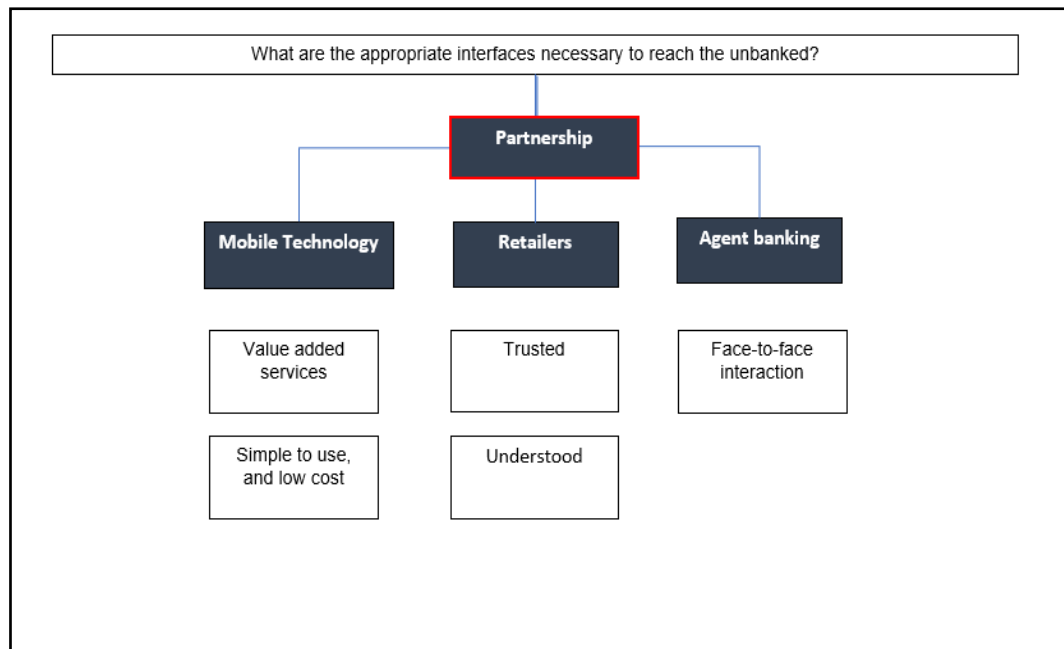


Figure 13: Research question four themes

Source 13: Author's own data

Embedded in the three findings is the emergence of a share value creation model through partnership which will be discussed in chapter 6.

Expert 14 expressed the tangibility of payment services was a significant discussion point. He described how the tangibility of a savings book which worked as a ledger was of the most popular products at the Post Office and remains to be the most popular.

*"...the issue of tangibility...Post Bank was the oldest savings bank in South Africa, it was the biggest savings bank, its customers were primarily bottom of the pyramid, or entry level banking. And therefore for them it was often their first banking experience. The single biggest product that we sold was the book, in other words the savings book."*

The demand was described as prevalent across the bottom of the pyramid because *"poor people wanted something tangible that they could see, they wanted something they felt that reflected the bank, and what was in their bank account, and that they could hold it with them"*.

## **User Interface 1: Retailers**

Previous studies around the unbanked and technology adoption had been conducted by Expert 14. He shared his findings around why the unbanked would be more comfortable to engage with retailers as described below.

*“They were significantly more comfortable with retailers than they were with the Post Office, and the ones they were least comfortable with was banks. On the retail side, when we dug deeper, the reason for them being more comfortable with retailers was that the people that served them looked like them, spoke their language, they were comfortable in that they could relate to the shops, they frequented shops, it gave them a sense of comfort. A banking branch did not, they were intimidated by the banking branch. Very often these things were gold plated, so you walk into the banking branch, there’s glass, there’s marble. Bottom of the pyramid people see that as alien to them, and therefore it’s intimidating.”*

Previous and current banking strategies around using retailer partnerships have prompted the new digital banks to leverage off the retailer footprint as an appropriate interface to their banking products as explained by Expert 7. *“Pick n Pay’s footprint compared to a banking footprint is a lot bigger than a business banking model. brick and mortar is very expensive. We don’t want to be a traditional bank, we don’t want to be putting up branches, we don’t want to be having infrastructure where you’re reliant on hardware to be able to get something done.*

## **User Interface 2: Agent Banking**

Agent banking was discussed on many occasions because it was the means by which the banks attempted to introduce greater face-to-face and on the ground presence. Expert 1 describes how this works. *“The agent banking model is really a model to allow for that bank entry, that cash to electronic currency conversation. So it’s a sign up model, but in this model you could go and target SASSA who has already signed up, and just overlay technology. But agents are typically okes that do cash in, cash out and sign up”.*

However, Expert 14 demonstrated that the agent banking has lost credibility with the unbanked. Thus, the agent banking model was proposed to be an inappropriate interface to engage with the unbanked market. *“...and when Standard Bank launched the banking agent the idea is sound but it sits with some of the same challenges in that I [customer] need you to explain to me how this works, and banking agents were not skilled in being able to explain. So you issue someone with a point of sale device and you assume that when people come it’s all going to be smooth”.*

Expert 3 differed in his opinion of agent banking, proposing that the agents need to be carefully screened based on education levels and location to facilitate the signing up process of new customers. *“...we proposed was that to onboard an agent you have to prequalify the agent, depending on the location of the agent”.*

The need for a human interface was consistent throughout the findings as an appropriate engagement method. This was expressly noted by Expert 4. *“...for certain things people want a human interface. You can do it cleverly, and that’s where robotics and different things come in, so you can bring in chatbots and whatever”*

### **User interface 3: Mobile Phone**

Mobile phone technology emerged as a common finding that suggested the way to create traction for the payment aggregator, was to provide value added services to the mobile phone as one of the offerings that the aggregator provides. This would generate a trust in the service because the need is there and as stated by Expert 7, *“the phone has become the trusted vehicle at this point”.*

Expert 7 explained how value-added services would initiate interested in the payment aggregator and could be the appropriate interface. *“So a lot of - the biggest products in South Africa, South Africa specifically, they kind of work on the fintech side, and I know it’s a very simple thing, but value added services, airtime. People understand that and they know how to use technology for it. So starting with a VAS product that they understand and then helping them to use that for money transfers, simple money transfers, interoperable money transfers makes it a lot easier”.*

The ability to integrate various offerings through the mobile phone is proposed to assist in reaching wide array of customer as explained by Expert 6. *“We operate off that to actually get instant money and to get mobile money, encourage VAS payments, inter-account transfers on a mobile app, in an app environment and in a non-bricks and mortar environment. And to the extent that we’d like to sign up through a different method that we are probably getting customers, or potential customers, that we would never, ever get in the bricks and mortar environment through that environment”*.

To this end, Expert 2 validates this further in stating the appropriate user interface is *“...very simple, and this is the evolution of the mobile phone. You have to work with what you have, you can’t bring new devices, new technology into the space because your cost elements escalate. So the mobile phone is key to this. The difference is that we need to evolve with the technologies that are available to us.”*

By enabling a payment services through a mobile phone, many of the Experts believed that the technology is simple and easy to use for the customer while simultaneously enabling an easier and more cost effective on boarding process for the payment aggregator. *“I will tell you why a mobile phone, is that on boarding process is a lot easier through a mobile phone, whether it’s FICA or any one of the other regulations, because that’s going to be a prerequisite. In order for you to on board clients you will have to do it at scale and cheap, and mobile allows you that”*

In addition, Expert 12 confirms the use of a mobile phone is best suited to the unbanked market. *“...using technology, it needs to be - again, it needs to be low cost and it needs to be simple. It needs to be mobile based. It has to be mobile based. If it can be linked to an MNO of some sort, then absolutely, but it needs to be on mobile phone. And when I say mobile phone, I mean like payments need to be accepted on a mobile phone, and potentially even sent out of a mobile phone.”*

In contrast, Expert 4 believes that the unbanked market do not have access to a mobile phone to enable them to gain value from the payment aggregator service *“... these people don’t have a laptop, they don’t have a mobile phone to go and do their banking and do all the stuff.”*

This is concurred by Expert 14 who believes that the need for tangibility exists in the user interface to provide a level of trust that is embedded with the knowledge of how it works as described. *“I think something tangible that deals with the proxy of cash in a manner that gives the user that same experience. I think is maybe a path that needs to be looked at some point. The card doesn’t, the cell phone doesn’t. Because if someone steals my cell phone my money is gone.”*

## Chapter 6

### 6. Discussion of Results

This chapter will be discussing the results of the study undertaken which was to understand the factors that impede the fintech from partnering with the banks to provide aggregator payment services to the unbanked. In specific, the aggregator service would be positioned on the issuing side of the banks to be a direct service to unbanked customers. The findings from the 17 interviews conducted will be analysed in comparison to the literature review to establish whether coherence is found or if there were any new findings emerged.

The findings showed that five main themes emerged during the study with supporting literature sources shown in Table 3, namely;

*Table 3: Factors described with supporting literature*

Costs	(McKay & Pillai, 2016), (FinMark Trust, 2017), (Gomber et al., 2018), (Fields, 2010), (Cooper et al., 2018), (International Finance Corporation, 2018)
Technology	(Demirguc-Kunt et al., 2018), (Gomber et al., 2018), (International Finance Corporation, 2018), (Lawack, 2013), (Moore et al., 2017), (Ohene-afokwa & Nyanhongo, 2017), (Pfitzer et al., 2013), (Wentzel, Yadavalli, et al., 2013)
Regulations	(Allen et al., 2016), (Anarfo et al., 2019)(Bilodeau et al., 2011), (Competition Commission, 2003)(Cooper et al., 2018) (FinMark Trust, 2017),(International Finance Corporation, 2018), (Lawack, 2013), (Rotman Parker, 2011)
Partnership	(Gomber et al., 2018), (International Finance Corporation, 2018), (FinMark Trust, 2017), (Pfitzer et al., 2013), (Tobbin, 2012)
Sentiment of the unbanked	(Anderson & Billou, 2007); (Deloitte, 2019); (Wale & Makina, 2017), (Wentzel, Yadavalli, et al., 2013)

## 6.1 Research Question One Discussion and Results

*Why aren't there more payment aggregators servicing the unbanked market of South Africa?*

### 6.1.1 Fintechs have considered the Payment Aggregator

The researcher was interested to know why the banks or the fintechs hadn't engaged in more payment aggregator services to reach the unbanked. Through the interview process, the experts were prompted to expand on their answers to enable the researcher to ascertain whether consistent themes would emerge and if any new thoughts and ideas were prevalent. The results of the study will be discussed below by reviewing the themes that emerged in each research question.

The researcher found that both the banks and the fintechs have considered the payment aggregator model to the unbanked through the issuing bank. The research found that ordinarily, payment aggregators have targeted merchants and operated on the acquiring payment side (Pillai, 2016). There have been some payment aggregators on the issuing payment side in South Africa, however, their success can be attributed to their "tight" relationship with the issuing bank. This finding was important because the literature predominantly suggests that mistrust is evident across the payment organisations and not the unbanked market alone.

As the payment aggregator is required through regulations to be sponsored by the bank, it has resulted in a great dependency on the bank. For the bank, the risks in sponsoring a PSP could result in significant punitive measures if there was any breach to the integrity of the payment system (Coetzer & Naicker, 2019).

These risks are plentiful such as the operations, credit and liquidity requirements, systemic factors such as the security of the payment system, financial integrity regulations around FICA and efficiencies around the clearing and settling of funds in the payment systems (Cooper et al., 2018).

The value of the fintechs are recognized by the banks but the risks compound the lack of engagement. It is claimed that "all the risk sits with the bank, but the reward sits with the fintech" (Participant interviewee 9).

For the fintech, the need to partner with the bank had been shown to constrain the agility often associated with a fintech, thus promulgating innovation and discouraging

a healthy level of competition with similar fintechs and the established bank (FinMark Trust, 2017). It is evidenced that the obligatory relationship with the bank has constrained the PSP's product line as the banks are concerned with cannibalising their own products in promoting the PSP's products and services (FinMark Trust, 2017).

The researcher thus found that the mistrust across the entities in the payment landscape stems from competitive behavior and fueled by the regulatory risks associated with any PSPs. It was shown that fintechs are able to provide service offerings through dynamic technology to address the various needs of customers for the financial institutions who have been unable through their own systems to offer these valuable services (Gomber et al., 2018). However, this would require the bank to provide sponsorship to the PSP.

The commercial viability of the PSP is under question if the costs undertaken to be operational outweigh the income received. Despite the technology costs reducing due to open source software and cloud based infrastructure, the income for processing high volumes of small value transactions is low and can only be offset by reaching critical scale (Fields, 2010) (Gomber et al., 2018).

#### **6.1.2 Scale Required for Viability of the Payment Aggregator**

Cooper et al. (2018) believe that the viability of a PSP is subject to attainment of scale because of the high costs associated to the infrastructural requirements (Cooper et al., 2018). This is corroborated by the findings that argue the payment aggregator would only be of interest to the banks to engage if the risks perceived with sponsorship were to be negated through the achievement of scale. The commercial viability of the PSP thus rests on the payment aggregator gaining trust from the unbanked market who currently have a greater propensity towards cash (International Finance Corporation, 2018).

Despite the increase in mobile money transaction in South Africa, the preferred means of payment remains to be cash. Thus, to incentivise the unbanked to start using cash would require a great amount of partnership between all the entities involved in the payment process being the regulator, the banks, the fintechs and the merchants. This is supported by Cooper et al. (2018), where in it is stated that “



increasing uptake of digital payments requires the availability of sufficient cash-in and cash-out points until such time as the full payments ecosystem is digitised” (Cooper et al., 2018. p. 15). Therefore, the ability to achieve scale will be subject to navigating the arduous journey of converting cash payments to digital payments which is embedded in trust (Cooper et al., 2018).

Additionally, in order to break even the payment aggregator requires critical mass to offset its high capex investments and fee-per-transaction model. The Consultative group to Assist the Poor (CGAP) (2016), proposes that integrations are highly capital intensive for aggregators which includes the skills and technology required to enable the integrations (Pillai, 2016). The revenue models of payment aggregators are usually based on fee-per-transaction which involves a flat fee or percent per transaction and may be tiered according to whether it is a debit or credit card transaction (Pillai, 2016)

#### **6.1.3 Distribution Network**

A full distribution network and value chain is required to support the viability of the payment aggregator model. In querying whether the payment service organisations have considered the payment aggregator model, the payment process theme was continuously referred to. The researcher proposed a three-party payment model with the ability to remain interoperable. However, all the experts pointed out that the four-party payment model would remain even though in appearance it looks like there are only three physical entities. This finding was notable to the relevance of cost saving model to the unbanked through a payment aggregator.

The acceptance infrastructure is a critical point in the payment aggregator being able to engage in the payment system (Competition Commission, 2003). The findings show that for the merchant to accept the payment method presented, the acceptance process would need to be included. Thus, the payment process would involve an issuer, customer, merchant and acquiring bank. The issuing and acquiring bank may be the same bank, however interchange fees would still be imposed on the clearing and settling of funds. Therefore, there would not be significant cost saving as the fees per transaction remain across four parties.

## **6.2 Research Question Two Discussion and Results**

*What are the factors that impede the payment aggregator from servicing the unbanked market in South Africa?*

The aim of research question two was to understand the constraints and challenges in using a payment aggregator as a service offering to the unbanked market in South Africa. The literature addressed many of these constraints with some additional and unexpected findings through the research interview process. In addressing these challenges, the researcher will discuss the findings materialised through the themes that emerged.

### **6.2.1 Costs**

Both parties agreed that the cost factors created a barrier to entry for the development and implementation of a payment aggregator. As is shown in the literature the National Payment System makes the ability to engage in clearing services very costly for non-bank entities (FinMark Trust, 2017). This is due to the PSP's inability to settle and clear the transaction through the payment system which is necessitated via the sponsorship of a bank only and the costs associated with the acceptance and process of the transaction are significant (FinMark Trust, 2017).

Added to the costs associated with the regulatory requirements, the fintechs face the challenge of finding appropriate technologies which can integrate with the banks legacy systems in a cost-effective way. The banks are also limited in their ability to engage with a PSP because of the costs involved in integrating with the PSP (Cooper et al., 2018). It is for this reason, that scale is necessary to offset the costly exercise of building the appropriate infrastructure for both the PSPs and the banks.

### **6.2.2 Interoperable Technology Negates the Need for Cash**

Interoperability is important to the payment system as it enables the customer to transact at any location of their choice which is facilitated through the payment associations and other partnerships such as mobile network operators (International Finance Corporation, 2018). It is evident that the need for partnerships across the

banks, retailers and mobile network operators is increasing and the need to have “interconnected services” are required (International Finance Corporation, 2018).

Interoperable payment technology is one of the key factors in creating a shared value model for the purposes of providing the unbanked with quick, convenient and alternative payment methods (Ohene-afoakwa & Nyanhongo, 2017). However, the findings showed that the PSP may face challenges in being accepted onto the payment rails because of the sponsorship of a bank requirement. This is viewed as counter intuitive to achieving financial inclusion and shared value creation because it not only precludes the ease with which to provide payment services to the unbanked, but also makes it costly for the non-bank entities (Lawack, 2013). Invariably, shared value creation is subject to the trust relationship required between the bank, the PSP and the unbanked market as mentioned in the findings.

### **6.2.3 Regulations and Payment Process**

The PSP is thus faced with the choice of either applying for a bank license or developing partnership with a bank for the purposes of sponsorship (Bilodeau et al., 2011). However, the current legislation around becoming a bank means that there is a holding capital requirement by the SARB and it was confirmed that it costs approximately R250 million to open a bank (Coetzer & Naicker, 2019). The expert working at the regulator did suggest that the SARB would possibly look at tiered levels for capital requirements in the future. It is argued that a more competitive payment ecosystem would enable less monopolistic pricing and encourage more participants in the field, inciting better innovation and more equitable costs associated with payment processing (Cooper et al., 2018).

It is also proposed that the market expressed frustration on having to navigate the obligatory sponsoring bank layer in the payment system in order to provide a valuable service to customers (FinMark Trust, 2017).

On the onus of bank sponsorship, the PSP is constrained with its choice of distribution model as it would be reliant on the bank’s distribution channels which have been shown to lack the reach required to meet the demands of the unbanked (Anarfo et al., 2019; Allen et al., 2016). Both literature and research findings purport that the banks have faced challenges in providing the physical infrastructure

necessary to reach the unbanked market which has had implications on the products and services made available to them (Bilodeau et al., 2011). There is consensus across the literature and the experts interviewed that the financial payment platforms can only be as effective as the financial institution's infrastructural capability (Lawack, 2013). This infrastructure influences the distribution model as well as the costs involved which directly impacts the scale which can be achieved.

The banks distribution model is reliant on the issuing bank having a distribution model on the acquiring side for the merchants to accept the payment method presented to them which describes the four party payment model (Competition Commission, 2003). The advantages of the banks distribution channels is the ability to provide interoperable payments through the four-party payment process, also known as open loop banking, which is valuable in that it facilitates the acceptance of all payments ubiquitously (Competition Commission, 2003).

If the PSP were to choose to operate within a closed loop payment system, negating the bank distribution channels, it would be required to create its own distribution channels such as the cash-in processes and cash-out processes. This would incur significant costs for the PSP comprising of the fixed costs of the transactions as described in the literature which in itself clearly describes the commercial viability considerations to be undertaken when considering high volumes of low value transactions (Fields, 2010; Rotman Parker, 2011)

Additionally, a closed loop payment system is not interoperable as this would involve a three-party payment model which is classified as the issuer and acquirer of the card being the same payment organisation (Competition Commission, 2003). Therefore, both the customer and merchant would be limited in choice of payment and acceptance method. The implications result in reduced transaction volumes, within a limited environment which accept the payment method.

Regulations around open banking are not yet implemented in South Africa and discussions around how to reposition the e-money paper and accessibility to the fintech to undertake settlements are currently underway. Experts in the field believe that a "deposit-taking institution or bank which processes large transactions with a multitude of linkages, settlement windows and instruments within the economy

should be subject to different prudential requirements than a small, single instrument, payment service provider” (Cooper et al., 2018. p.11)

The current regulations do not allow for the payment service provider to settle transactions which impacts their business model. This leave the PSP with limited choices and casts a heavy responsibility on the banks in providing sponsorship. As such the banks prioritise the risks of institutional failure and ensuring efficiency, integrity and transparency over the need to improve financial inclusion (FinMark Trust, 2017).

It was proposed by one of the experts that the regulations should be viewed on a risk-basis instead of a rules base. This is corroborated in literature that proposes that prudential regulations could review the license requirement for PSPs in accordance to risk factors such as the operational, institutional risks, credit and liquidity risks described in the literature research (Cooper et al., 2018)

Concurrently, it is proposed that the regulations have been amended to address the exclusionary results seen with the MLTC such as Exemption 17 bank accounts which facilitate the opening of a bank account simply by using a South African ID book. However, the findings suggest that the banks appear to promote these products but don't market it to the best of the ability. Some of the experts believe this is because the banks don't believe there are great revenue possibilities at the bottom end of the market.

Thus, to reduce exclusion of the financial services landscape, Cooper et al (2018) suggested that financial service providers including the PSPs should engage in the tiered consumer due diligence (CDD) provided by the regulations which has the primary purpose to identify their customers to assist in detection and prevention of financial crimes (Cooper et al., 2018). The resulting impact of this would mean that the PSP could consider products and services that are tiered with earning thresholds to reduce risk.

Cooper et al (2018) propose that the level of innovation occurring in the fintech landscape make it challenging for regulators to keep up with the changes (Cooper et al., 2018). This poses a risk to the success of fintech start-ups. As such the time and effort spent on “dealing with opaque compliance requirements and unsustainable

regulatory delays” results in fintechs incurring unnecessary opportunity costs on resources who could otherwise be spending their time contributing to innovation ideas for the company (Cooper et al., 2018.p.18)

As such, Cooper et al (2018) suggests that previous mobile money initiatives such as M-Pesa were unsuccessful in South Africa because the regulators were at odds with the way it could be accommodated (Cooper et al., 2018).

#### **6.2.4 Partnerships**

Partnerships across the PSP and the banks is crucial to the success of the payment aggregator because each entity could make a marked difference in the successful penetration of the unbanked market. However, individually each entity will struggle to achieve the same results under the regulatory framework, associated cost implications of the distribution model and payment process it would need to consider navigating around these constraints.

Trusted partnerships were a significant finding in the research. Ironically, the competition amongst banks and payment aggregators is fierce and fuels an environment where the parties are concerned with the reduction of revenues associated with enabling interoperability across the payment landscape for new participants instead of the concern of how to create better, trusted partnerships (Gomber et al., 2018).

A recent study across Sub-Saharan countries wherein partnerships in enabling interoperability across MNOs and digital financial solutions was reviewed, showed that by “establishing scheme rules and revenue sharing models required careful negotiation. Far from reducing revenue, interoperability has increased the number of P2P transactions for all providers (International Finance Corporation, 2018)

The results of the study demonstrated that shared value creation could be achieved through the cooperation and collaboration amongst competing businesses where there is a common goal. The strength in leveraging partnerships could offset the regulatory constraints and bolster the tools required to address the defined need (International Finance Corporation, 2018; Pfitzer et al., 2013).

The research found evidence that suggests the banks are open to API integrations with the fintech community, however, the consideration of this was not to enable shared value as much as it was to increase market share. A few of the experts mentioned the benefits of gaining bank sponsorship for the fintech would be greater than the benefit banks would experience.

Despite the misalignment in payment partnerships seen in South Africa, it is noted that given the changing landscape, the banks are adopting the open APIs for payment service providers to “build new systems and products that integrate the provider’s proprietary information securely into their own services and applications”. (International Finance Corporation, 2018. p.24)

#### **6.2.5 Unbanked Market**

The experts contended that the unbanked market would be slow to trust the payment aggregator and lack the financial education required to understand the value of the payment aggregator. The research done across literature and in-depth interviews found that the unbanked market continues to face the 4A barriers namely, affordability, availability, acceptability and awareness.

The affordability factor remains a problem in that the solution created for the unbanked often require a smart phone or incur data costs (Deloitte, 2019). Such market failures diminish trust in the unbanked market as was evidenced in the legacy issues around sentiment for banks. These market failures can be attributed to the competitive behaviour of banks limiting interoperability with PSPs which exacerbates the acceptability barriers. (Anderson & Billou, 2007; Wale & Makina, 2017).

Additionally, the lack of information could be attributed to the banks not providing better customer service to the financially illiterate which impedes their willingness to engage (Wale & Makina, 2017; Wentzel, Diatha, et al., 2013). Seemingly, distance to a banking facility remains a problem and consensus is seen in the findings where digital banks struggle to reach the customers (Wale & Makina, 2017)

Finally, implementing appropriate products to the unbanked market has been as a further constraint as the unbanked market require simple, uncomplicated technology offerings (Wale & Makina, 2017).

### 6.3 Research Question Three Discussion and Results

*What technology considerations need to be undertaken in using the proposed payment aggregator to reach the unbanked?*

Technology is considered the epitome to enabling digital financial services' ability to provide "affordable, accessible and sustainable financial services to people who were previously often excluded from traditional bank services" (International Finance Corporation, 2018). Understanding the unbanked market in South Africa is fundamental to designing, creating and deploying the appropriate technology (International Finance Corporation, 2018).

As such, studies done on the education levels at the bottom of the pyramid showed that approximately 19.2% have matriculated (Wentzel, Yadavalli, et al., 2013). Given the education levels seen in the unbanked market, the need for simple technology is prevalent. Additionally, English was cited as being the least spoken language across the bottom of the pyramid intimating that the technology used to address the unbanked needs to be understood across a multitude of languages given that South Africa has 11 official languages (Wentzel, Yadavalli, et al., 2013).

In order for the PSP to provide an aggregation payment service to the unbanked market, the findings have shown that the PSP would face the challenges of staying a breast of technology changes such as digital payment platforms while being constrained in its scope due to regulatory challenges and the low technology adoption rates across the unbanked market. Digital platforms have been shown to have unintentional consequences such the development of new markets, where it can provide value to all (Moore et al., 2017).

The success of large platforms across the globe have been attributed to a clear strategy which was "carving out a role in a fragmented or saturated market by aggregating services into a single, convenient point of access" (Moore et al., 2017.p. 4).



### 6.3.1 Interoperable Simple Payment Platform

As shown in the findings, interoperability is an important component to the payment service provided to the unbanked. Payment platforms across Africa have provided the service of integrating mobile wallets into various value added services such as utility payments, mobile top ups and the likes as a means to offer greater convenience (Moore et al., 2017). This business model elevates the financially excluded market by providing inclusionary digital payment technology such as mobile banking which has shown to face challenges in the propensity of adoption by the lower income segments of South Africa (Demirguc-Kunt et al., 2018)

The level of interoperability required to have a broad impact across the economy is such that the full value chain in digitising payments is necessary. (Cooper et al., 2018). The findings corroborate the evidence that cash is costly for the unbanked market. As such, the full value chain of digitising payments means that the customer should be disincentivised to convert the digital transaction into cash.

However, in the South African context it is suggested that "...digital payments are not yet widely accepted for everyday purchases at local retail stores and markets..." (Demirguc-Kunt et al., 2018.p. 90). Therefore, the payment aggregator would need to provide a trusted and reliable cash-out experience which would incite trust in a market which is already untrusting of the financial services institutions (Demirguc-Kunt et al., 2018; Wentzel et al., 2013).

Given that the current regulations, wherein the PSP must be sponsored by the bank, the PSP can only achieve full interoperability through the four-party model as evidenced in the findings of the research. However, by applying a payment platform to address these challenges, this could potentially be negated through using an existing platform.

The findings propose that the required technology to build a payment aggregator exists. This alignment is further seen where Moore et al (2017) agree with the IFC, stating that it is not necessary to build a platform for every business. Instead, by leveraging off existing platforms, the business could enter into an ecosystem which make it more affordable, quicker and beneficial to product cross selling opportunities (Moore et al., 2017).

This thinking embodies the shared value creation theory and suggests great opportunity exists in addressing the unbanked market by collaborating and providing transparency around the business.

The unbanked require education around how to use the technology provided to them as they find the products and services confusing because education levels in the unbanked market is low which exacerbates the problem. Therefore, it emerged through the findings that partnerships across the full value chain would be of great benefit to all parties involved.

The IFC propose that the aggregator would naturally require partnerships with organisations such as the MNO's, third party processors and VAS partnerships (International Finance Corporation, 2018). This is necessary to gain trust with the unbanked as it emerged through the findings that the unbanked would not initially trust the PSP. Thus, it was suggested that the PSP should partner with organisations or individuals with whom the unbanked already have trusting relationships. It was further corroborated by literature that the unbanked have much more affinity to the retailers and tangible services than technology-based services which have no tangible presence (Wentzel, Yadavalli, et al., 2013).

Consequently, the business model which underpins the partnership of the PSP, retailers, MNOs and banks would need to be one that is seen to be profitable (both tangibly and intangibly) for these organisations to commit to the investment required (International Finance Corporation, 2018). The IFC states that "It's important to ensure that the business model for the channel sustains all parties involved and that competitive forces are aligned for the greater good of the partnership" (International Finance Corporation, 2018.p.89)

Given the competitive behaviour of both the fintechs and banks as evidenced in the findings, the lack of trust between the parties and the unbanked was raised as a concern amongst the experts interviewed. This is because shared value creation opportunities are recognised, however, addressing the unbanked market seems to be daunting and costly in spite of the innovative payment platform consideration (Pfitzer et al., 2013).

Thus selective partnership in building a payment platform and eco-system is critical to a win-win strategy (International Finance Corporation, 2018). Moore et al (2017) showed that "Traditional linear business models and political and economic

uncertainty in the country have engendered a scarcity mindset, where victory means success at the expense of someone else” (Moore et al., 2017.p.9). It is shown through the findings that business leaders are aware of the need to shift their mindset to a shared value creation mindset that brings “mutually beneficial” results to everyone involved (Moore et al., 2017)

Many of the experts confirmed that the banks and the fintechs don’t fully understand the context and needs of the unbanked market and the educational requirements of the products and services are lacking. This challenge further deepens the unbanked markets mistrust in the banks given the fear that they may suffer financial loss.

The technology offerings thus show the need to take account of these challenges when considering the business model and sustainability thereof.

Given the technology adoption challenges seen in the unbanked market, the IFC propose that the technology should be focused on building a “centralised integration platform” (International Finance Corporation, 2018). Additionally, it is suggested that the technology requirements for the unbanked should be built to work for them given their constraints, and not because of them (Accenture, 2017).

In developing the appropriate technology for payments, Pfitzer et al (2013) recommend that businesses create a deeply embedded culture of shared value which permeates the core purpose of its work (Pfitzer et al., 2013). It is suggested that developing products and services to the unbanked would be futile in the absence of the business investing the time and effort to fully understand the constraints and needs of these customers, which is concurred in the findings (Pfitzer et al., 2013).

As such the challenges experienced in reaching and gaining traction with the unbanked could be minimised by creating a foundational integrative platform that could accommodate new integrations or payment partners easily (International Finance Corporation, 2018). By building an ecosystem as described, it was found that the payment aggregator could more easily pivot around the needs and demands of the customer as well as accommodate a changing landscape which may predominantly be influenced by the context. This is especially important in the unbanked communities where contexts might be different across different communities such as urban communities versus rural communities.

## 6.4 Research Question Four Discussion and Results

### ***What are the appropriate interfaces necessary to reach the unbanked?***

The nuances associated with addressing the unbanked market have been explored throughout the research to understand the factors that impede the fintechs from engaging successfully as a payment aggregator directly to this segment of the market. The section will discuss the results of what was considered the most appropriate interface through which to provide payment aggregator services. In the process of finding ways to develop shared value to address the unbanked market, a lack of fully understanding this segment of the market is prevalent. It was clearly stated in the findings, that the fintech cannot get the traction and reach it needs without the partnership of MNOs, government and citizens (Participant 4).

Previous studies undertaken by Wentzel et al (2013) have shown a predisposition to trust the retailers over the other payment providers such as a bank, post office and mobile banking (Wentzel, Yadavalli, et al., 2013). In contrast, Tobbin (2012), argues that mobile banking through the use of a mobile phone is a clear solution to the addressing the unbanked market (Tobbin, 2012). However, (Demirguc-Kunt et al., 2018), affirms that agent banking is a valuable tool to incite digital banking and a cornerstone to encouraging adoption rates (Demirguc-Kunt et al., 2018).

The findings show that this same dissonance resonated throughout the payment landscape. Despite the contrasting opinions across the experts, the greater proportion of the experts agreed that mobile was the most appropriate means with which to facilitate the payment aggregator services.

#### 6.4.1 Retailer Partnerships

The results reveal that the post office and supermarkets would provide viable, more accessible and more readily accepted channels for the provision of financial services at the bottom of the pyramid when compared to banks (Wentzel, Yadavalli, et al., 2013)

It was evidenced through the research that by providing payment services in partnership with the most commonly used retailers, the unbanked could negate the 4As described in the literature research. One of the experts interviewed had

previously studied the unbanked market and confirmed that the unbanked were profoundly more comfortable with retailers because the physical appearance and characteristics of the shop tellers were more familiar to the unbanked person. The language barriers were also negated, while simultaneously providing convenience and comfort because the unbanked regularly frequented the shops and were comfortable with the retail stores (respondent interviewee 14). On the key measure of trust, only 16.7% of respondents trusted banks, as compared to 24.9% who trusted supermarkets (Wentzel, Yadavalli, et al., 2013).

It was also confirmed that one of the banks who specifically aims to serve the lower end of the market, found the ability to leverage the retail stores value chain more cost effective. This is further corroborated by previous studies done on the effectiveness of retailer partnerships (International Finance Corporation, 2018).

One of the experts described how the most successful banking products sold was a tangible savings book which acted as a ledger to show money in and out of the account. It was suggested that the payment aggregator could make significant strides by using this product principle and overlaying technology on it.

Wentzel et al (2013), stated that the user interface needs to consider the low education levels, inconsistent income and language challenges to provide simple products which are intuitive to understand (Wentzel, Yadavalli, et al., 2013 p.35)

#### **6.4.2 Mobile Phone**

Consumers consistently express the benefits of digital financial services as a combination of fast, safe, easy-to-use, affordable and convenient. But despite these benefits, digital financial services remains a secondary option compared to cash (International Finance Corporation, 2018). Across the world, only about one-third of mobile wallet accounts are active at any given time (International Finance Corporation, 2018).

In South Africa, mobile banking is on the rise however, the biggest providers of mobile banking remains the banks in partnership with the mobile network operators. (Lawack, 2013). Scale has not been achieved because of lack of interoperability

which has resulted the full value of the value proposition of mobile banking being reduced (Deloitte, 2019).

The full value in mobile banking is that it can provide unlimited opportunities in other financial services offerings such as insurance, savings and credit (FinMark Trust, 2017). It is suggested that mobile banking adoption rates may be lower in South Africa than elsewhere because of the lack of education seen in the unbanked market (FinMark Trust, 2017). Therefore, the requirement for simple mobile technology is seen to be a determinant in adoption (FinMark Trust, 2017). Alongside awareness and education, the unbanked market's propensity to adoption of mobile financial services could increase significantly (FinMark Trust, 2017).

## **Chapter 7**

### **7. Conclusion**

#### **7.1 Principal Findings**

The purpose of this study was to establish what factors impede the fintechs from being able to provide payment aggregation services to the unbanked. Payment aggregators have been defined as “the glue that helps many parts of the digital financial services ecosystem to work together. They allow payment instrument providers (like MNOs offering mobile money services or banks offering mobile banking) to easily integrate with entities that want to send money to or receive money from end customers” (McKay & Pillai, 2016). As such, there has been an expressed need to study the value of payment aggregators in an academic study (Gomber et al., 2018).

The relationship of financial services specifically tailored to the unbanked, has been shown to enable great growth in human capital, physical capital, the ability to navigate management of a business and boosted technological advancement, ultimately driving economic and social economic growth (Anarfo et al., 2019). In doing so, the findings showed that partnerships underpin the enablement of payment aggregator services to the unbanked.

The greatest benefits enabling fintech partnership is the ability to reduce acquisition costs and increase speed of onboarding new customers (Gomber et al., 2018). By leveraging their platform, payment service providers are able to tap into data which delivers valuable information about their customers and the associated payment trends. (Gomber et al., 2018). Therefore, it is possible for the PSPs to customise products and service and deliver the solution at greater speed than the banks who find it difficult to have the same level of agility as a fintech (Gomber et al., 2018).

The key take outs of the study revealed that five main factors caused impediments to the payment aggregators, namely;

- Cost factors
- Technology factors
- Regulation factors
- Partnership factors
- Unbanked market factors

### 7.1.1 Cost Factors

These factors consisted of the distribution costs, the costs of acquisition and the transaction fee costs.

For the payment aggregator to serve the unbanked, it would require the distribution channels to be available on both the issuing and acquiring side of the payment process. Additionally, on the basis of providing interoperable payment solutions and choosing not to get a bank license, the payment aggregator would require the sponsorship of a bank (Bilodeau et al., 2011) . This is because the regulations insist that the PSP must be “compliant with systems, networks, governance and infrastructural requirements in order to meet its obligations under a payment agreement” (Cooper et al., 2018. p.10).

Thus, the PSP is subject to using the bank’s distribution channels which have been shown to lack the reach required to meet the demands of the unbanked (Anarfo et al., 2019; Allen et al., 2016). Given that the banks have faced challenges in providing the appropriate products and service to the unbanked due to the physical infrastructure necessary, the PSP would need to find alternate means to reach this segment of the market. (Bilodeau et al., 2011). There was consensus in the literature research and findings from the experts interviewed that the financial payment platforms can only be as effective as the financial institution’s infrastructural capability (Lawack, 2013).

Even if the PSP were to make the payment instrument a contactless solution, it would remain reliant on existing infrastructure and communication technology via mobile network operators to send and receive messages for the processing of the transaction. Added to this, is the mobile phone required to act as the payment instrument, the servers required to process the messages and the clearing and settling infrastructure from the banks (Cooper et al., 2018). In choosing not use a contactless payment instrument, the PSP would need to provide Points of Sale (POS) devices as well as issuing cards for processing (Cooper et al., 2018).

Notwithstanding the regulatory costs associated with being able to provide payment aggregator services, the PSP is faced with the consideration of its margins after all



the costs associated with leveraging existing distribution partners. As such shared value creation across distribution channels using technology could be a solution for the PSP as was suggested by some of the experts interviewed (Pfitzer et al., 2013)

### 7.1.2 Technology Factors

Technology is heavily embedded in the operation of payment services (Gomber et al., 2018). It is proposed that the technology required to provide interoperable payment services to the unbanked needs to be quick, convenient and provide alternative means to transact. (Gomber et al., 2018). Additionally, by engaging with PSPs' technology, the unbanked could engage in a payment platform which could bridge the gap of their financial payment needs while also increasing the speed and security of transactions (Demirguc-Kunt et al., 2018. p.10)

In corroboration with the literature, the findings suggest the unbanked market would benefit from product and technology offerings which is easily accessible, addresses a need and can provide ease in understanding the financial products (Wentzel, Yadavalli, et al., 2013). There was unanimous agreement that payment technology offered by the PSPs would only be valuable if interoperability was available as well as addressing the education around the use of technology to access the financial services. This is because interoperable payment services makes it possible to digitally tap into the full value chain of payment services (International Finance Corporation, 2018).

To mitigate potential mistrust in the technology, the PSP needs to ensure that customers do not experience erroneous transactions because the reputational risk would have significant impact on their ability to onboard new customers, retain existing customers and manage declining transaction volumes (International Finance Corporation, 2018).

Therefore, the need to build trust with the unbanked market is necessitated by partnerships in order to provide interoperability. Having low error rates, simple technology which is easy to understand for those who are financially illiterate with a seamless payment experience, that is ubiquitous would build the trust required to adopt the payment service (Moore et al., 2017).

On the basis that the banks were more open to integrating with the payment aggregators, both parties would face the challenge of sourcing the appropriate technologies which are able to integrate with the banks' legacy systems in a cost-effective way (Cooper et al., 2018). Therefore, the PSP is faced with having to navigate these challenges either through creating its own interoperable environment with significant costs or leverage the technology through a platform which enables partnerships across the other non-bank entities.

### **7.1.3 Regulation Factors**

The infrastructure and technology required to provide a payment aggregator service to the unbanked market form one part of the picture. The regulatory factors permeate this study as it is a necessity and considered a safe guard which provides comfort to all those included in the payment process (Cooper et al., 2018).

The current regulations imposed on PSPs stipulate that clearing and settling transactions may only be done through a sponsoring bank which many of the respondents in this study suggested is an impediment to their ability to innovate and build traction on business ideas (Demirguc-Kunt et al., 2018).

This leave the PSP with limited choices and casts a heavy responsibility on the banks. The implications are that the banks prioritise the risks of institutional failure and ensuring efficiency, integrity and transparency over the need to improve financial inclusion (FinMark Trust, 2017).

Despite the frustrations expressed by the fintechs and banks on the regulatory constraints, there was a consensus for need of the regulations. Literature also shows that the rules provide a safety net for fintechs wishing to invest, as the removal of regulations may be construed as being too risky. Therefore, regulations in the payment landscape is a necessity factor (Cooper et al., 2018).

There are conflicting thoughts around the application of rules imposed by the SARB and NPS. On the one hand, the rules should be enforced to ensure the integrity of the payment systems are not comprised. On the other hand, debate exists around

whether the regulators should consider the fintechs on a risk base instead (Cooper et al., 2018).

It is suggested that the rules governed by the regulators have constrained the payment service providers through their classification of such, from the two key benefits, being interest payments and deposit insurance from which the banks benefit substantially (Bilodeau et al., 2011). In providing the customer with the ability to accrue interest, all parties would benefit. Bilodeau et al (2011) states that by "Passing on such interest would not only benefit customers but bring more money into the traceable formal economy" (Bilodeau et al., 2011. p 8)

As such, the regulators face the risks of excluding innovative means through which financial inclusion could be addressed, further exacerbating the constraints experienced by the unbanked market (Bilodeau et al., 2011). In order for the regulators to continuously encourage innovation it is important for the rules to keep up to date with technological advances in the industry (Cooper et al., 2018). Looking forward, the regulators will find the fast-changing landscape challenging and particularly where virtual ledgers are incorporated in the payment process (Cooper et al., 2018).

Using the example of regulations imposed on interoperability, the International Finance Corporation contend that this may decrease investment interests for potential new start-ups and investors looking to enhance new fintechs (International Finance Corporation, 2018). Instead, it is proposed that using a risk based approach would allow the market forces to organically determine whether interoperability would be profitable for them (International Finance Corporation, 2018). This is corroborated by Cooper et al (2018) that proposes the prudential regulations could review the license requirement for PSPs in accordance to risk factors such as the operational, institutional risks, credit and liquidity risks (Cooper et al., 2018).

Ultimately, the market forces could determine whether the payment aggregator is best suited as an interoperable solution or if it would best suited to a closed loop payment system (International Finance Corporation, 2018). Working within the parameters of ensuring the financial integrity of the system is not compromised, findings show that the risk-based approach suggests that the SARB should provide

a tiered structure to enable payment service providers into the NPS, based on payment value and deposit thresholds.

#### **7.1.4 Partnership Factors**

Partnership is a key variable to the factors that constrain the fintechs in providing a payment aggregator to the unbanked market. In the evolving landscape of financial technology and considering the needs of the unbanked, it was found that value added service (VAS) were a good entry point to gain traction with the proposed solution (Pillai, 2016). This is because the facilitation of payments has been shown to bring the volumes of transactions necessary for the payment aggregators revenue streams. The third parties providing the VAS services gain from the “convenience, speed, security and affordable pricing” that the aggregators providing digital financial services can bring (International Finance Corporation, 2018. p. 29).

The International Finance Corporation (2018) believe that the key ingredient to extending interoperable payment aggregation services to the unbanked market is through partnership (International Finance Corporation, 2018). Alongside the financial expertise of the banks, the payment aggregators and third parties such as mobile network operators can leverage each other's strengths to create shared value across the payment services landscape (International Finance Corporation, 2018).

#### **7.1.5 Unbanked Market Factors**

Given the constraints faced by the unbanked, financial payment systems have an opportunity to customise their services to address the needs of this segment of the market (Demirguc-Kunt et al., 2018). The mistrust has shown to stem from a lack of education which translates into factors such as a lack of understanding of the product and service, the low threshold of loss of money, the sentiment around the formal institutions being too costly and the tangibility required to see the results of money in and out of their wallets (Wentzel, Yadavalli, et al., 2013).

For technology to work in the unbanked markets, it is required to provide simplicity of understanding and to enable an easy onboarding customer process through a trusted source, such as a community member (Demirguc-Kunt et al., 2018).

## **7.2 Summary of Conclusion**

The research objectives for this study was to understand what factors impede the fintechs from providing payment aggregator services to the unbanked market in South Africa. The researcher set out to understand the payment landscape and the payment advances occurring in the payment landscape. This was necessary to establish a framework for application of the payment aggregator in the payment process.

Through extensive interviews with experts in the payment landscape, the researcher can demonstrate the research objectives have been met in describing the main factors that impede the payment aggregation services.

Firstly, the cost implications for the fintech's distribution network and infrastructure is shown to be unfeasible without partnership. Secondly, the technological constraints can be described as the need for interoperability to exist for the payment service to be accepted anywhere. Thirdly, interoperability is limited by the regulatory constraints of bank sponsorship imposed on the PSP. The regulations governed by the South African Reserve Bank are recognised as a necessity, however, it is shown that the regulators may struggle to keep up with the advances in the payment landscape. This may require an assessment of whether the rules-based structure around the regulations is still appropriate.

Fourthly, the evidence argues that the PSP required partnership across the payment landscape for sustainability of the business. Partnership embodies the shared value creation theory underpinning this research study. Without the partnership of the banks, regulators, merchants and value-added services such as utility companies and mobile network operators, the PSP will be construed as competition and unlikely to survive. In achieving partnership, all entities can look forward to achieving healthy profits while enabling financial inclusion and contributing towards economic growth of the country.

Finally, addressing the mistrust sentiment of the unbanked about the cost associated in engaging with a formal financial institution is necessary. It was shown that their lack of education resulted in the need for a tangible user experience, which would incite a level of financial and technological education and address any concerns of loss of money.

### 7.3 Implications for Business

The study has shown what factors have challenged the fintechs from being able to provide payment aggregation services to the unbanked. Despite these challenges the research has shown what opportunities are available to enable a payment aggregator to serve the unbanked market. The precipitous incline in financial technology requires leadership across the payment landscape to shift their thinking about what the sustainability of their services means to the greater economy.

Some of the key factors to consider are as follows:

- The well-established payment system's integrity should not be compromised in the process of enabling payment aggregation services;
- Existing infrastructure of the banks and mobile network operators should become more open to fintechs through a risk-based approach managed by the regulators which does not implicate the banks or MNOs. Partnership could therefore be encouraged without the banks or the MNOs being subject to the risk;
- The risk should sit with the PSP and be subsidised by the regulators as this would ensure the qualifying criteria of becoming operational has considered all the mitigating factors in upholding the integrity of the NPS;
- A tiered regulatory framework should be considered for PSPs to enable them to clear and settle transactions. This could mean that more closed loop payment systems with layered transaction thresholds are initially undertaken with the ability to build scale and become interoperable and open loop;
- Consumer protection safeguards need to be top of mind considering the mistrust already seen in the unbanked market
- To develop the trust, the PSPs could encourage greater community involvement such as incentivising members of the community to become ambassadors of the payment solution
- Financial literacy remains the cornerstone of the mistrust seen in the unbanked. Therefore, the PSP should consider building tiered payment service offerings according to consumer spending behaviour with gamification built into the technology with the view to qualifying for greater service offerings and better loyalty rewards. This would require platform-based technology

such that credit facilities, insurance and savings services could be built into the payment aggregator solution.

#### **7.4 Limitations of the Research**

The limitations to the study can be described as follows:

- The research did not include research interviews or secondary data of the unbanked market in South Africa. Including this information, may provide richer insights into the reasons for the mistrust in the formal banking sector.
- The researcher was limited to the South African context alone, where greater African success strategies may have been valuable to the research findings.

#### **7.5 Suggestions for Future Research**

Throughout the research, there were several areas which were noted as relevant future research. These are noted as follows;

- What value and opportunity exists for financial technology firms to engage in community members as agents to accelerate the onboarding of new customers in payment aggregators.
- Does closed loop instant payments using mobile network operators provided to one community at a time, encourage greater trust and adoption with customers.
- What is needed to achieve cooperation and sharing of infrastructure across the payment landscape to enable interoperability and reach greater scale?
- There is a significant movement to encourage real time clearing and settlement processing which could be done through shared infrastructure so that the PSPs face lower payment processing costs, giving them the opportunity to provide better customer service.

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- Could the provision of regulatory flexibility through a “test-and-learn” approach incite greater innovation? The risk-based approach of a tiered regulatory framework has not been researched enough and could be seen as an opportunity cost to the economy.
- In the face of a regulatory structure which may impede new start-up fintechs, could a closed loop payment environment integrated into an open loop payment environment incite greater traction on fintech products? Thus, the view could be to start small in a limited location with limited service offerings and scale the solution as the business grows.



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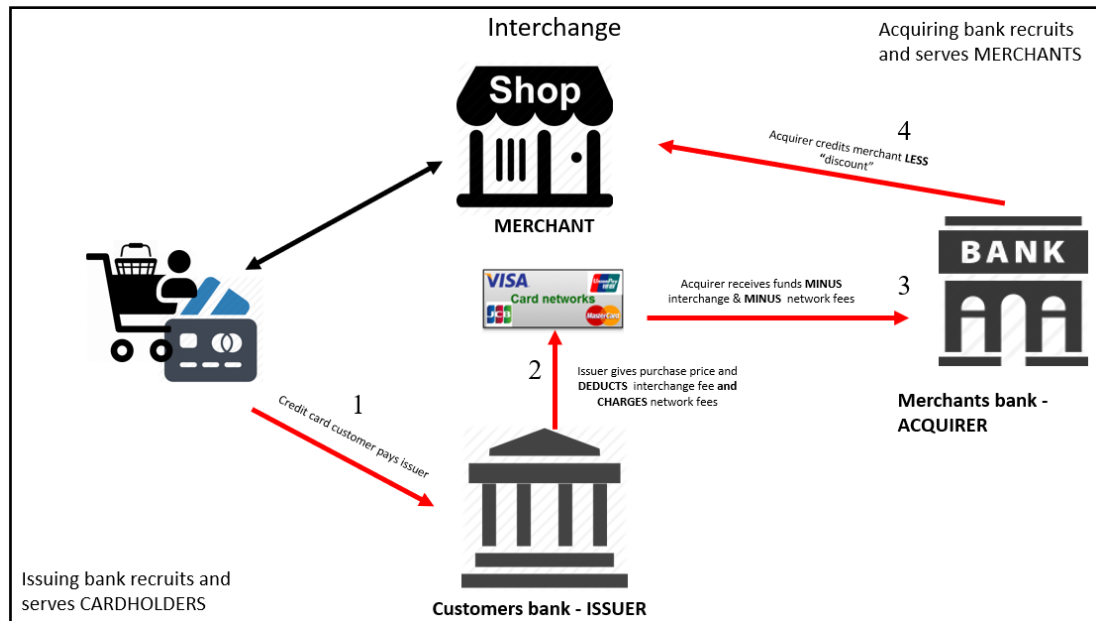
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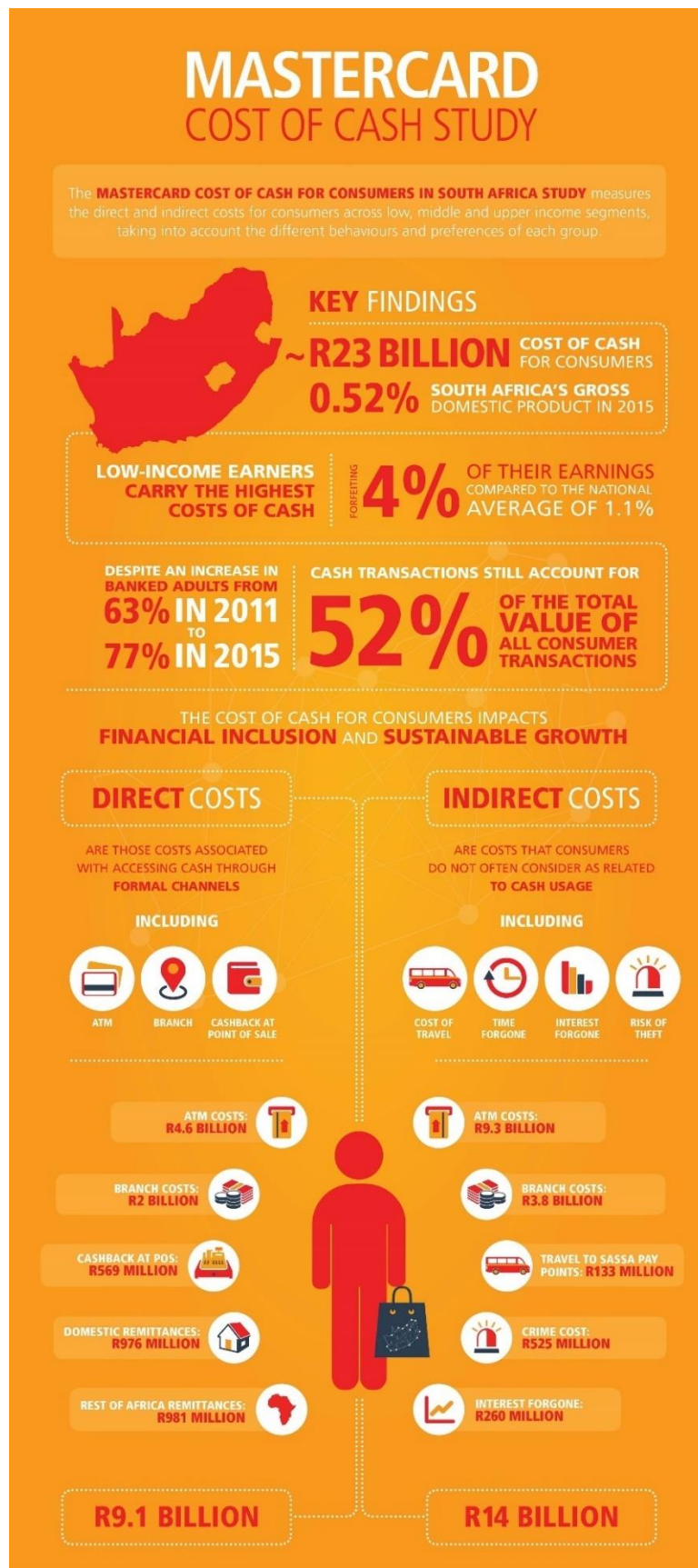
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## Appendix A: Interchange explained



## Appendix B: Cash Study Results



## Appendix C: Interview Guide

Question number	Primary question	Sub questions
1	Has the financial institution considered using a fintech to operate as payment aggregator to reach the unbanked market?	Why has this not been done before?
		Is there anything that stops the banks from engaging with the fintech's in this capacity?
		What banking products / fintech products have been created specifically for the unbanked in South Africa?
2	What are the factors that impede the payment aggregator from servicing the unbanked market in South Africa?	What regulatory challenges do the banks / Fintech's face in providing products and services to the unbanked market?
		What do you consider, are greatest needs to be met for the unbanked customer, in using this payment aggregator model?
		Does the payment process enable the unbanked to engage in financial services?
		Is it possible to request new interchange / transaction fees from the SARB and PASA, specifically for the unbanked market?

		Could the proposed three-party payment aggregator model better enable cost savings for the unbanked over a traditional four-party model?
3	What technology considerations needs to be considered in serving the unbanked?	In your opinion, what technology offerings are best suited in serving the unbanked market?
		Could better customer service to the unbanked be achieved through your suggested technology?
		Could partnerships between the banks and financial technology companies (using APIs) better enable the unbanked market to engage with non-cash transaction services?
4	Is a structural and physical interface (bank branch) necessary to gain trust with the unbanked?	What other issues need to be considered in order to develop loyalty with the unbanked market in question

## Appendix D: Interview Consent Form

### Interview consent form

***An exploratory research study to determine if financial technology partners could provide a payment aggregator service to the unbanked by offering interoperable technology enabling cashless transactional requirements.***

I am currently a student at the University of Pretoria's Gordon Institute of Business Science and completing my research in partial fulfilment of an MBA.

I am conducting research on if financial technology partners could provide a payment aggregator service to the unbanked by offering interoperable technology enabling cashless transactional requirements. I am trying to find out if financial technology partnership as an aggregator could enable better financial inclusion to the unbanked.

Our interview is expected to last about an hour and will enable me a better understanding of what products and services have been offered to the unbanked and what the success rate has been as well as what did not work. I would also look to explore the proposed aggregator payment process and whether this could negate less transaction fees for the unbanked market

**Your participation is voluntary, and you can withdraw at any time without penalty.**

Your details, including your name, surname, company and department within the company for whom you work will remain confidential.

Recordings of the interviews will be saved for the transcription of the interview recording to be undertaken by a GIBS recommended professional transcriber who has confirmed full confidentiality of the recording details. Once the transcription services are complete, the transcriber erases all recordings and transcriptions.

The researcher will conceal all confidential information and it will be represented as codes. All data will be reported without identifiers and will be presented through codes, categories of information and themes that are extrapolated from the interview.

If you have any concerns, please contact my supervisor or me. Our details are provided below.

Researcher Name Charna Felet	Research Supervisor signature Ian Mcleod Signature:
Email : <a href="mailto:charnaaisabella@gmail.com">charnaaisabella@gmail.com</a>	
Phone: 0723560321	

Name of participant: \_\_\_\_\_

Signature of participant: \_\_\_\_\_

Date: \_\_\_\_\_

Name of researcher: \_\_\_\_\_

Signature of researcher: \_\_\_\_\_

Date: \_\_\_\_\_

## Appendix E: Ethical Clearance Approvals



31 July 2019

Charna Felet

Dear Charna

*Please be advised that your application for Ethical Clearance has been approved.*

*You are therefore allowed to continue collecting your data.*

*Please note that approval is granted based on the methodology and research instruments provided in the application. If there is any deviation change or addition to the research method or tools, a supplementary application for approval must be obtained*

*We wish you everything of the best for the rest of the project.*

*Kind Regards*

GIBS MBA Research Ethical Clearance Committee

## Appendix F: Confidentiality Agreement with Transcriber

### CONFIDENTIALITY AGREEMENT

This Confidentiality Agreement was made and entered into on 30 JULY 2019. It was entered into between the Company/Transcriber, EVE ARMSTRONG, AUDTRANSCRIBE, who currently runs a business establishment at CRAMOND, and the Researcher, CHARNA FELET, who is currently a Student at the Gordon Institute of Business Science, and will make use of the services of the Company.

For valuable consideration, the Company and the Researcher agree to the following:

1. The Company agrees to keep all of the voice recordings, findings, transcripts, data and any other confidential information that relates to the interviewees, which belongs to the Researcher, confidential at all times, during both the term of agreement, and indefinitely thereafter.
2. The Company also agrees to not make any unauthorized copies of any of the information described on point 1 above.
3. Both the Company and the Researcher agree to the following additional terms: \_\_\_\_\_  
NOT APPLICABLE  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

  
\_\_\_\_\_  
*Signature of Company*

AUDTRANSCRIBE  
\_\_\_\_\_  
*Printed Name of Company*

30 JULY 2019  
\_\_\_\_\_  
*Date Signed*

  
\_\_\_\_\_  
*Signature of Researcher*

CHARNA FELET  
\_\_\_\_\_  
*Printed Name of Researcher*

30 July 2019  
\_\_\_\_\_  
*Date Signed*



## Appendix G: Code Table

Aggregators exist on issuing side mainly on prepaid cards  
Acquiring relationship with Mastercard & Visa  
Acquisition cost needs to be minimal for platform to be cheap, efficient and simple  
Adding aggregator to card rails will increase costs  
Adoption of payment services in traditionally unbanked environment is challenging  
Adoption of product and service is critical to reach scale  
Agent and middleman is valuable because they have worked in communities  
Agent banking not been a great success for the banks  
Aggregation with large merchant is extremely difficult  
Aggregator can't affect debits and credits in the same way aggregators work in acquiring world  
Aggregator on issuing side won't be a problem  
Aggregator or fintech need financial rigor of regulation to give confidence to market  
Aggregators are running financial services in intangible method -no touch to the payment process, thus integrity of payment system in country is important  
Alipay works because closed loop wallet system  
All the banks have a no fee bank account  
Indirect cost of cash such as handling cash  
Alternative to aggregation model on issuing is wallets  
Ambassadors to help unbanked sign up makes it personal  
API to banks for open banking standard  
Apply the person to person payment tech to SASSA there's no need to withdraw their money  
Apps were not designed to hold secure sensitive information  
Assumption that the unbanked want to be banked  
Bank App has too many functions  
Bank apps can't address every segment of the market  
Bank license required to issue payment instrument  
Bank uses payment service providers to outsource technology  
Bank will always be needed to settle transactions  
Banked use mobile money applications more than unbanked  
Banking products are confusing and that causes distrust for unbanked  
Banking the unbanked still means they just withdraw the cash because no accepts the tech  
Banking wallets are still simply promoting cash withdrawals  
Banks are addicted to the interchange drug, it is so profitable  
Banks are looking at building a platform to facilitate other payment services using an API  
Banks are stuck in their old ways with existing rails, they won't build new rails  
Banks being participants in aggregator model will create greater value economically  
Bank's choice to partner with aggregator is all to do with appetite for risk and how bank partners with fintech  
Banks consider primary banked as two transaction a month  
Banks are primarily custodians of data  
Banks do the payment acceptance, collection and settling payment process well  
Banks don't have a problem with more players in landscape as long as integrity of payment system is upheld  
Banks find it too costly to serve the unbanked  
Banks find it very difficult to scale sales channels because of their technology  
Banks have made it impossible for the Small banks bill to come to fruition  
Banks have not been successful in banking the unbanked because cost efficiencies are not there  
Banks make money from lending which is their primary business not amounts of transaction they settle  
Banks make money out of cash because of ATM withdrawal fees  
Banks market their involvement but no passion to address the unbanked  
Banks not incentivizing consumer or merchant properly  
Banks should partner with fintech

Banks view the fintech as competition - removal of deposit which is important to their balance sheet  
Banks want to make money and there is no money in the low-income earners  
Banks will not make it easy for opposition entrant to come into the market  
Behavioral barriers to being banked  
Benefit of the card rails is interoperability  
Benefit with cash is they it is instantly available, and the individual controls it  
Benefits of fintechs is they are much more agile  
Benefits of fintechs is they can make decisions quicker, not bound by regulation too much and innovative  
Biggest challenge for model to work is that issuing and acquiring is preferred vendor for payment services because compliance will take forever  
Biggest challenge of unbanked and underserved is how do we get them to sign up  
Biggest challenges to fintechs and banks are regulatory practices  
Biggest expense for fintech and banks is regulations  
Biggest need for unbanked and underserved market is needed to access cash  
Bottom end of the market don't have the airtime so USSD is way to go  
Bring payment to customer through interoperability  
Building trust in any new payment service is important  
Card rails have Merchant commission fee built into the payment process  
Cash based economy has nothing to do with the banks it's the ecosystem  
Cash based economy of 85%  
Cash in and cash out in whatever digital currency you choose  
Cash is interoperable  
Cash is only thing that unbanked know and understand  
Cash is tangible and manageable  
Cash out through remittances provided by bank through a pin  
Cash still remain a preferred payment mechanism  
Challenge is how to get a distribution model where unbanked live to cater for their cash needs  
Challenges to aggregator model is the many entities involved in value chain of payment  
Challenges to the aggregator is trust  
Challenges to viability of aggregator model  
Challenges with fintechs is they over promise and under deliver  
Closed loop can only have value moved within the Closed loop environment, it's not interoperable  
Closed loop environment not touching banking network  
Closed loop environment works where you have one dominant player  
Closed loop payment environment is prone to fraud and money laundering  
Closed loop payments can have as many players are possible  
Closed loop payments have no settlements, it's like a pay as you earn transaction  
Closed loop payments with core merchants to start off  
Closed loop to negate the four-party bank model  
Closed loop with Mastercard issued card, no bank and interoperable  
Cloud based computing gaining more trust and adoption which reduces upfront costs  
Cloud computing and peer-to-peer payment  
Commercial model is key to the viability of the aggregator  
Commercial viability rests on infrastructure then go to market  
Communities are all about trust and they don't trust the neighboring community  
Competitive behavior of the banks shuts down the opportunity for payment aggregators  
Consideration from regulator to use interchange as an incentive  
Constraints of the unbanked heavily impacts technology adoption  
Contactless payment solution requires PCI compliance through associations  
Corporate saver similar to aggregator model  
Cost incurred in keeping the money safe is significant with the low values of these deposits  
Cost of service delivery must be lower than value extracted from customer  
Cost of technology to support aggregator is significant  
Costs associated with a bank account  
Costs for aggregator include devices, insurance, app and a markup all makes it costly

Costs of cash are significant for all parties  
Creating new infrastructure is very costly  
Credibility and reputable standing of middleman will have greater interest to bank than new start up  
Credit is actually what the unbanked need as a kick start  
Critical mass important for it to work  
Critical mass required to offset fixed costs  
Current initiatives to solve for unbanked and remove cash from ecosystem  
Adoption rate is low, but this will change significantly in next 2 years  
Data costs are significant and who pays for it as payment aggregator?  
Definition of banked versus underbanked  
Definition of being a bank has changed given fintechs  
Definition of banked versus underbanked  
Definition of being a bank has changed given fintechs  
Demand on merchant side towards payment aggregator  
Demand side (customer insistence that they want the service) not the merchants  
Dichotomy exists in first world versus developing markets in adoption of payment services  
Digital is the way to go to reach unbanked  
Digitising payments in a way that the unbanked are comfortable with is critical and key to success  
Direct connection into FIDAS makes FICA online real time to make it easier  
Distribution centres to get to the people is key for aggregator model  
Distribution economics is crucial part of being able to get product into market  
Distribution model for the aggregator is important from educating customer through to merchants driving adoption  
Distribution model is biggest challenge on issuing side for the acquiring banks to accept your payment service  
Ecosystem of the unbanked market lends itself to the informal industry and for tax purposes  
Education and awareness of digitising payments will benefit the unbanked  
Education is necessary to make aggregator model come to life  
Education to unbanked on the ease of open a bank account created distrust  
Exemption 17 allows quick onboarding, only ID required and capped spend on account  
Exemption 17 accounts and F profile fully FICA'd with lower floor limits  
Face to face on the ground service is necessary to build trust  
Feature phone with USSD code is appropriate interface  
Fees for SASSA payments and transactions  
FICA reduces the risk for the fintech  
Financial education needed  
Financial education needs to be in language unbanked understand, to build trust  
Financial inclusion needs to be enabled through regulation without compromising integrity of payment system  
Fintechs can only access banking infrastructure via sponsorship with the bank  
Fintechs needs to be sponsored by a bank  
Fintechs products such as snapscan still need a bank account to deposit funds  
Fintechs are faster and can create new transactional platforms using bank rails  
Fintechs can do it cheaper which is why the banks are speaking to us  
Floor limit on host card emulation  
Floor limits have changed because of fraud  
For Mobile Network Operator to send money, they have to partner with a bank  
For the banks to get into the mass market they deal off an API  
Forcing demand through regulations is a monopoly and has its own set of problems  
Four party model enables the infrastructure to allow your customers to transact on broad base  
Fraud challenges using premises for banking is the same as cloud-based banking  
Full FICA achieved within 5 minutes using phone and thumb print  
Full value chain of sales channel, infrastructure, digitisation, APIs, adoptive technology required  
Future of banks is custodians of data  
Government policy would create traction and drive greater adoption

Having an eco-system build out gives reach to payment services depending on context  
Higher fees on credit card than debit  
Host card emulation allows you to integrate your card into your phone  
How many transactions do they make per day  
How you bill your customer determines whether it's a good cost saving product to unbanked market  
Human interface with technology is ideal but very expensive  
If aggregator becomes viable the banks will imitate it quickly through collusion  
If product strategy is not issuing the banks will want to know that the accounts are viable  
In India, rapid payment, pay by proxy was created to reach the unbanked  
In order for suggested payment aggregator model to work, you need to be a bank or partner with a bank  
In order to make aggregator model a success you have to build out an eco-system as was done in India  
Initiatives to address the card payment rails include phone number  
Integrity of national payment system  
Interbank - using USSD strings  
interchange and merchant service commission challenge to aggregator  
Interchange is a cost recovery model  
Interchange relates specifically to card transactions, and it's the regulated fee that SARB says the acquiring bank must pay The issuing bank, and that fee is really for the issuing bank to fund 55 days free credit on a credit card, and to pay ebucks, and to cover the cost of that transaction.  
Interoperability is key for success of aggregator model  
Issuance can happen from fintech but sponsorship by bank  
Issuer aggregator model will provide education opportunities to unbanked  
Issuing outside of branch network  
Issuing side of bank takes fund from public  
Keep technology as simple as possible - consider phone  
Lack of education has prompted the distrust by unbanked market  
Lack of exposure or financial literacy accounts for a lot of fear in the unbanked  
Language barriers cause unbanked to avoid banks  
Ledger payment process  
Limit to the value of the remittance provided with a flat rate of R9  
Lip service and marketing ploy but underneath it all is their competitive nature  
Long standing trust relationship between bank and fintech needs to exist for banks to engage in this aggregator model  
Low income customer have sentiment around being offered an inferior product  
Low income segment doesn't have convenience of laptop or mobile phone to do their banking  
Low value money has greater impact for lower earners than higher earners, every cent counts so trust is crucial  
Loyalty incentives would be a differentiator for the aggregator  
Loyalty is complex and need to be simplified to unbanked and merchants  
M Pesa still didn't work  
Making the payment aggregator interoperable is critical to the success of the business model  
Margins are necessary to sustain the business for it to engage in social responsibility  
Market adoption challenges  
Marketing materials don't work to educate unbanked, you need to be on the ground demonstrating the service  
Merchant infrastructure owned by your bank  
Merchant interface where you accept real time payments from a person  
Merchant are not concerned with interchange at all  
Merchant can influence the adoption of new payment products  
Merchant willing to pay interchange and MSC fee because they can sell more  
Middleman has earned huge trust because community believe he has their best interests at heart  
MIP and DEX integration for merchant to accept all transactions  
Mobile app heavily invested by banks excludes those who don't have smart device

Mobile money created critical mass  
Mobile payments is the way forward but the MNOs are profit driven  
Mobile phone and simple technology  
Mobile phone is best suited technology offering for unbanked market  
Mobile phone is preferred onboarding mechanism for unbanked  
Mobimoney at Nedbank  
Money laundering based on market you're serving is low value  
Money laundering person profile is not unbanked person  
Most banks offer zero fees on bank account now but negative perceptions still exist  
Most trusted was retail store, then post office and least was banks  
Movement of money in majority of south Africa where cash is guaranteed, immediate  
Moving away from using cash is a mindset and cultural matter  
Moving money in and out still needs to run through a bank  
MPESA also worked as environment was highly unregulated  
mPesa failure in South Africa  
Mzansi initiative was a failure because it was government driven  
Mzansi marketing disaster  
Need to duplicate the Mastercard and visa in country  
Negligence costs for the bank are high  
No bank fees because its internal debit and credit  
No facilities in town to use electronic money  
No investor will look at a company that can be shut down by the regulator  
Not done before because you would need to create your own infrastructure  
Not ever been used for emerging market  
Not financially viable for financial institution to have bricks and mortar everywhere  
NPA is reviewing the mandate to allow other people to play in payment landscape  
Often banking products created for the low-income customer starts being used by higher income customer and taken over because they pay less fees  
On the ground education  
On us base through aggregator linked to issuing bank  
On us infrastructure only viable for the banks if huge volumes provided  
Onboard customer, person to per payment and no deposit accepting account  
Onboarding customers through agents and qualifying criteria for agents  
Once customer is onboarded, provided with debit card where they can transact anywhere  
One standard called FICA  
One system similar to aggregator model which attorneys use  
Open banking being looked at - but no South African standard  
Open loop acquiring aggregator to do "on us" transactions  
Operating model for fintech rests on cost, value to customer, critical mass  
Origination of account done in 5 minutes using fully technological digital platform, using thumb print and phone  
other financial services may work elsewhere but context is key  
Over indebted - don't want people to access their money  
Part of the reason mPesa failed in South Africa was the cost of cash and risk of being a target or loss of cash  
Partnership model necessary where the bank also benefits  
Partnership will be key to making aggregator work, not just 1 company  
Partnership with community member will enable trust in aggregator model  
Partnership with MNO will give you much greater reach than the banks  
Partnership with retailers would be appropriate interface for unbanked  
Partnerships is the way to go into fintech space  
PASA is run by the banks  
Payment acceptance on merchant side can drive adoption of cashless payment services  
Payment aggregator faces political and other hurdles than make it demotivating to continue  
Payment aggregator is too costly based on regulatory overheads  
Payment aggregator uKheshe just trying to provide digital payments and not address the unbanked  
Payment aggregators model is too expensive  
Payment aggregators on the issuing side



Payment eco-system needs to be considered from remittances to all payment services  
Payment process using aggregator model won't be a big saving for processing transaction  
Payment services either require partnership with a bank or become a bank  
People need to immerse themselves in loco to understand the value chain of money to derive appropriate solution  
People stay unbanked because they don't want to be banked  
Person to person payment  
Person to person payment still allows you to use existing rails  
Pesa Link is a low value, real time credit push transaction  
Phone and costs associated with reaching unbanked is challenging  
Platform that allows you to open bank accounts  
Problems are governance and regulation around banks  
Problems to get traction on unbanked products is traction and volume because formal financial services in South Africa is higher than rest of Africa  
Providing a deposit account must enable debit orders, which is why people don't want their money in a bank account  
Providing interoperability and reduce need for cash you need partnerships  
Pull transaction can affect bank account up to 180 days after the event  
Pure play aggregator would be a competitor to the banks  
Push payment using API platform  
Push payment, get a confirmation and no charge back  
Push transaction is as good as cash  
Question of whether it is economically viable  
Real Time credit push transaction adopted by the banks, but they started putting it on card rails which muddled the water  
Real time payment is needed for trust in cashless payment technology  
Real time payments directly not capable at moment  
Reasons why they choose to cash out  
Regulation prevents open banking at the moment  
Regulations are there to make sure payment is done correctly  
Regulations are there to provide comfort to people knowing their money is safe  
Regulations ensure things are done correctly to provide peace of mind that your money is safe  
Regulations for holding capital  
Regulations impede aggregator  
Regulations in South Africa don't allow for it  
Regulations make it impossible for aggregator model to operate without the bank  
Regulations make it very difficult for banks to do what fintechs do  
Regulations mediated by PASA  
Regulations require review on e-money paper  
Regulations squash innovative payment services  
Regulations which impede aggregator currently  
Regulations willing to review fintech being able to settle funds  
Regulations written not considering technological changes  
Regulatory requirements says the bank must be involved  
Reliance on hardware to get financial services done is not future model of banking  
Retail footprint is greater than banking footprint  
Risk based approach rather than rules based  
Risks for the bank to partner with fintech  
Risks of money laundering negligible  
Running four party model on us space means you will be a three-party model  
Rural people don't have infrastructure that caters for their needs  
SARB are pushing for disintermediating the card association and not the banks and promotion closed loop payments  
SARB delegate the governance of payment industry to PASA  
SARB doesn't set interchange, the banks do  
SARB has instructed the South African banks to start using an open banking model  
SARB needs to support the smaller fintechs otherwise we just get cut off  
SASSA accounts - cash out fee for withdrawals

SASSA recipients are essentially banked  
Scale is not linear  
Selling solar panels to people who have no money as a means to create financial education  
Sentiment around cash and cash economy  
Settlement on wallet adds additional cost to payment model  
Shared value difficult to achieve with costs associated  
Simple technology to address unbanked market  
So, unbanked don't want to be associated with the bank  
Solve for how to transact with cash in already done  
South Africa is only place where cash has a negative connotation  
South African banks are a big PR machine  
Sponsored by the issuing bank  
Sponsoring bank for aggregator will protect themselves against the aggregator aggregating the risk  
Sponsorship of bank is necessary to ensure fintech manages payment appropriately  
Sponsorship of banking license not very valuable to the bank  
Storage costs of the money is what will be the biggest problem  
Success rate of product measured by number of primary bank clients  
Technological awareness in regulatory body is a big challenge  
Technology and products are there but trust still needs to be built  
Technology exists now to make aggregator model work  
Technology is not an issue  
Technology is not the differentiator to solve for the unbanked  
Technology makes it easier to FICA customers now  
The bank cannot serve every segment of the market  
The banks are making too much money, no vested interest in changing their ways  
The banks don't have the infrastructure to get to mass market  
The banks don't see the value of serving the low-income market  
The banks have too much power  
The ecosystem of the unbanked is not conducive to becoming banked  
The more players in payment model the more cost  
The unbanked are not a profitable segment for the bank or fintech  
The unbanked are not near digital, they want to speak to someone when things go wrong  
There is a product in bank that they could have used  
There is opportunity for aggregators and or API plug in for the new wave of banking  
There is sentiment around money which is deeply ingrained in culture  
They are looking at derivatives of the European standard  
this solves for informal economy  
Three party consideration - mobile phone, technology embedded and agents  
Three party model means your sacrifice the four-party model infrastructure  
Three reasons why difficult to overlay any kind of tech  
Tiered regulation being reviewed to enable fintech growth  
To address financial inclusion, you need distribution network  
To apply this person to person tech the only issue becomes cost  
To cover the risk fintech aggregator will need a big balance sheet  
To drive adoption, leaving the fee to customer instead of business would increase adoption  
To serve low income segment technology needs to be lighter and more agile  
To solve for unbanked, government, MNOs, cash, society and partnerships all have a role to play  
Traditional banking doesn't solve for the unbanked because its too costly and therefore been neglected  
Traditional banking model is expensive with bricks and mortar infrastructure  
Trust account opened for attorney's accounts  
Trust account sitting at issuing bank allows you to do bulk issue of wallets and integration  
Trust around acceptance of payment technology on phone  
Trust because electronic money they cannot feel  
Trust deficit because of lack of understanding in how an intermediary works  
Trust in banks is gone, yet in informal economy trust is prevalent amongst community

Trust in financial services is embedded in the branches and ATMS, and now retailers  
Trust in retailer is greater than trust in banks  
Trust in the MNOs and VAS services  
Trust is crucial to the low-income market  
Trust that payment has been affected if we have 2 different banking institutions  
Trusting technology and customer service costs is a challenge for aggregator

### **Themes extracted**

- Cost for the Fintech
- Technology choices
- Regulations
- Partnership
- Unbanked Sentiment