

**Deloitte.**



## **Regenesis of SA payments**

What needs to change?



# Contents

Executive summary.....	2
Introduction .....	5
Is South Africa behind? .....	6
Chapter 1 – An instant South Africa.....	9
Chapter 2 – Digital identification.....	16
Chapter 3 – Opening up the national payment system .....	22
Chapter 4 – Mobile payments .....	28
Chapter 5 – Digitising the informal sector .....	35
Chapter 6 – Enabling change .....	41
Endnotes.....	46
Contacts .....	48
About the report.....	49

# Executive summary

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Deloitte South Africa, in conjunction with iCombine, commenced writing this insights paper on payments by conducting research across global territories where developments and trends appeared the most impactful. The countries focused on were Australia, Canada, China, India and the United Kingdom (UK).

The research found the most prominent and South Africa-relevant trends to be instant payments, centralised national identification, open application programming interface (API) and mobile payments.

With the trends selected, the team interviewed 34 payments experts from 22 different institutions in South Africa (SA), ranging from the regulators and the Payment System Operator (PSO) through to the retail banks, neo-banks, payment service providers, financial technology providers, e-commerce payment service providers and large physical retailers.

Respondents were asked about the current state of the South African National Payment System (NPS), the selected global trends, and their relevance in a South African payments context. The objective was to identify areas of consensus and glean further insights into current and foreseen changes in payments and how the industry should respond.

Feedback showed that South Africa will face a period of unprecedented change in the payments market over the next six years, as the South African Reserve Bank (SARB) and industry players move towards the stated Vision 2025 goals and review the NPS Act 78 of 1998. The proposed changes indicate that the SARB intends to drive financial inclusion, open access to the NPS, increase efficiency and lower costs. In addition, the SARB intends to shift the focus from regulating banks, to more explicitly regulating the activities of participants.

Much like Deloitte has seen in other regions, there may be early challenges in establishing the criteria for participation, evaluation and ongoing review by the regulator. Also, similar difficulties may arise in the designation, licensing and monitoring requirements needed for new settlement participants and payment service providers, among others.



Interviewees were encouraged by the changes that the SARB is driving as well as the level and scope of industry engagement being conducted.

Instant payments was identified as a key area that could make significant impacts on the way South Africans make payments. Exactly how this development will be achieved received mixed views. Many suggested that the existing Real-Time Clearing (RTC) system, coupled with overlay services, could be a short-term solution, while a more future-proof solution is sought for longer run adoption.

In conjunction with this topic, the issue of cash usage and cost of cash was often raised. It was suggested that to successfully digitise payments in the informal sector (a crucial component of financial inclusion), electronic payments need to afford similar attributes to cash. In other words, payments should be simple, low-cost, real-time, widely acceptable and offer the added benefit of an irrevocable medium of exchange for all participants.

A high incidence of fraud and lack of trust was raised as a key impediment to the adoption of electronic payments, which drives the call for more regulatory and enforcement efforts. Achieving inclusion, interoperability and economies of scale requires the establishment of nationally accepted industry standards that also adhere to global standards. This is of particular interest to those wishing to see growth in mobile payments and inter-regional cross-border payments.

Key challenges highlighted for mobile payments were the high cost of data, lack of interoperability, unreliable connectivity, the absence of standards and overly complex apps.

Deloitte believes that broader stakeholder involvement, inter-government collaboration and regulatory alignment are needed to facilitate the growth of

mobile payments. For example, achieving a reduction in data costs to support specific low cost payment transactions may be made possible by having the Department of Telecommunications & Postal Services, National Treasury and SARB collaborate on viable options.

In addition, a recommendation arising from the review of the NPS Act, which addresses the provision of retail payment services/activities where money is not due and eliminates the need for non-banks to partner with banks for sponsorship, may encourage increased non-bank participation in future. Non-bank inclusion could be further driven by the SARB providing narrow activity-based licences to non-banks, similar in nature to Payment Service Banks in Nigeria and India. Such a move could increase accessibility to low cost payment systems and incentivise participation in cross-border activities.

Interviewees expressed how regulation often hampers and constrains their ability to offer payment solutions and innovate. The Financial Intelligence Centre Act (FICA) 38 of 2001 was often raised as an example, despite recent amendments to the Act. Regulations of this nature introduce friction to the NPS and impose burdensome processes on all participants, including consumers.

Deloitte considers that the successful implementation of a national central digital identity (ID) database could contribute to creating a central trusted resource much like India has achieved with Aadhaar. This central database would leverage existing national databases such as the Home Affairs National Identification System (HANIS), South Africa Social Security Agency (SASSA), FICA and the Regulation of Interception of Communications and Provision of Communication-Related Information Act (RICA) 70 of 2002. It could be accessed by accredited participants, used to enable trusted payments more efficiently and assist with various other

government initiatives like National Health Insurance (NHI).

Deloitte foresees that many factors may accelerate the adoption of open banking in South Africa. These include the regulator's tendency to model the UK regulations, the potential inclusion of overlay services in the South African payment system infrastructure, the impact of the Protection of Personal Information Act (POPIA) 4 of 2013 and the fact that most institutions are already working on APIs. All interviewees indicated a willingness to participate in an industry-wide open API pilot to inform policy and yield beneficial results by addressing areas where standards are required, between banks, fintechs and retailers.

The use of incubation models to effect change was favoured by many interviewees as a means of fast-tracking innovation and implementation, while simultaneously informing policy based on actual practice. Learnings from DebiCheck<sup>1</sup> and Project Khokha<sup>2</sup> have highlighted the need for time-restricted, lean and narrow vertical pilots that include stakeholders across the payments sector.

Overall, interviewees, as participants of the NPS, seem enthused and expectant. South Africa is poised for a new era in the NPS evolution that has potential to increase the flow of funds, boost financial inclusion, modernise core systems and their accessibility, and impact payments for the long-term good of the country's economy.





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# Introduction

## The world is in a state of change.

Traditional business models and, in turn, supporting payment structures are being transformed. Globalisation, through internet adoption, has forced a relook at how businesses acquire and retain customers.

Emerging markets are innovating to realise economic and financial inclusion in an increasingly competitive marketplace. Included in these innovations are the birth of digital IDs, mobile replacing cash and the growth of peer-to-peer lending. Some of these innovations are taking place outside of the financial services sector, for example, Alipay and WeChat in China. Such innovations are forcing the incumbent financial sector players to address and adopt innovative practices.

In addition, the rise of fintechs is changing the dynamic of the payments landscape. Increasingly, established banking and payments entities are partnering with fintechs to provide innovative services to their clients.

A new era in payments welcomes innovative solutions such as third-party wallets, biometrics and authentication, tokenisation, cloud computing, the Internet of Things, distributed ledger technologies, artificial intelligence and robotics, all of which affect interaction with payments.

The advancements of technology and the accessibility to advanced platforms, such as Amazon and Google, have opened trading on a global scale. The mobile is the point of sale (POS) and anyone can make or receive a payment instantly, effortlessly and at little to no cost. Yet, crime, both physical and in cyberspace, is on the rise, with fraud and ID theft being a greater threat than ever before.

Around the globe, regulators are opening the payments system, clamping down on interchange fees and enabling collaboration

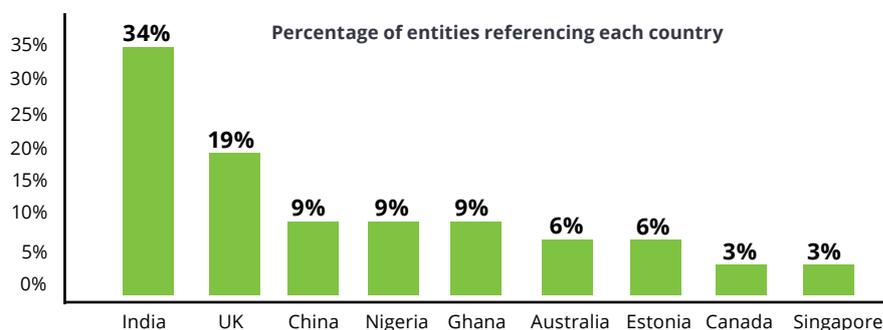
with non-bank technology innovators. No region is the same, nor is any regulator, demographic, economy, or payments infrastructure.

Across the world this change is taking place for different reasons. In some markets, payments reform aims to address competitiveness; in others, increased customer satisfaction through immediacy, ease and accessibility of payments are drivers. In South Africa, one key reason for payments reform is the need for deeper financial inclusion, something that the SARB has placed high on the agenda.

Based on open and direct engagement with stakeholders in the South African payments industry, this paper addresses four major trends in payments that are effecting substantial change both globally and locally: instant payments, centralised national identification, open API and mobile payments.

This paper goes on to explore these trends and their relevance in a South African context and provides various viewpoints and recommendations.

**Figure 1: Countries referenced as good use cases for South Africa to follow**



Source: Interviews with 22 South African payments entities, October to December 2018, Deloitte analysis

# Is South Africa behind?

## A global industry view

In the 1980s, South Africa's Saswitch was a world first, allowing customers at any bank to withdraw their money from any bank automated teller machine (ATM). In 1998, South Africa implemented its real-time gross settlement system (RTGS), called the South African Multiple Option Settlement (SAMOS). SAMOS enabled banks to settle their obligations on a real-time or an arranged batch basis, in line with international best practice.

Several interviewees stated that South Africa's payment system was rated among the best in the world during the early 2000s. In 2006 South Africa pioneered one of the first inter-bank RTC payment systems. Multiple debit push services followed in the same year, as a response to a need for creditors to collect repayments. (See page 7 for a timeline that lays out the developments in South African payments from the 1980s to the present.)



**"There is innovation out there, but it is taking place within the individual bank entities rather than in the core."**

**John Anderson,**  
Head: Industry Payments, Standard Bank South Africa (SBSA)

South Africa has indeed been innovating, but mainly in silos. Several financial institutions have shown and continue to show great innovation. However, there is little collaboration between entities, which limits the industry-wide adoption of innovative practices because of a lack of interoperability. Interoperability at an industry level is the key to driving electronic transaction volumes and greater customer benefits.



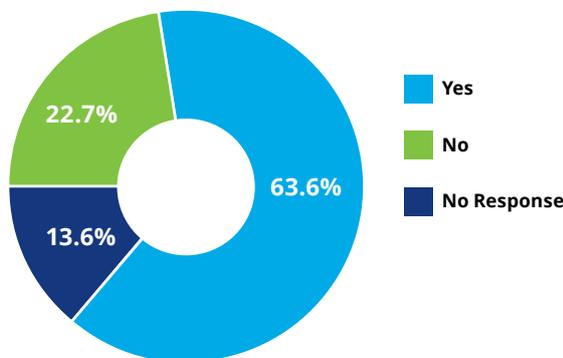
**"The people that kicked off the NPS and Saswitch in the 1980s were very forward thinking. We have one of the best electronic banking systems in the world. One of the things that has held our country strong and steady has been our NPS."**

**Rick Wheeler,**  
Group Retail Systems Manager, SPAR<sup>3</sup>

However, even with the recognition of a great NPS, the majority (63.6%) of interviewees agreed that the NPS has fallen behind other global markets lately when it comes to payments innovation as shown in Figure 2. Regardless of the views, the global expectations of a NPS are propelling the South African payments industry towards change.

**Figure 2: Views on whether the South African NPS has fallen behind in payment innovations when compared to global markets**

Share of entities who agreed or disagreed that the SA NPS has fallen behind in payment innovations



Source: Interviews with 22 South African payments entities, October to December 2018, Deloitte analysis. Not adding to 100% due to rounding.



## South Africa Payments Timeline

### 80s

- **1981:** First debit orders are cleared through the Automated Clearing Bureau (ACB)
- **1985:** Saswitch system goes live

### 90s

- **1992:** First electronic POS services
- **1993:** BankservAfrica is founded to provide interoperability
- **1995:** SARB NPS Strategy "Blue Book" published
- **1995:** PASA is established
- **1996:** Internet banking launched
- **1998:** SAMOS goes live
- **1998:** NPS Act promulgated

### 00s

- **2003:** EMV compliant POS terminals go live
- **2004:** The SA Rand accepted as Continuous Linked Settlement (CLS) currency
- **2006:** RTC system launched
- **2006:** Early debit order payments go live
- **2006:** Banking Enquiry by Competition Commission on conduct of retail banking in SA
- **2008:** Banking Enquiry publish key recommendations

### 10s

- **2013:** All ATMs and POS terminals become EMV compliant
- **2013:** The NPSD commit to comply with Principles for Financial Market Infrastructures (PFMIs)
- **2014:** Revised ATM interchange rates effective
- **2015:** Effectiveness of PASA reviewed by NPSD
- **2016:** Revised card interchange rates effective
- **2018:** PASA launches Project Future
- **2018:** DebiCheck system goes live
- **2018:** NPSD publish Vision 2025
- **2018:** NPS Act Review commences



# Chapter 1

## An instant South Africa

A fast payment system is a domestic, inter-bank, purely electronic payment infrastructure into which irrevocable funds are transferred from one bank account to another and where confirmation back to the originator and receiver of the payment is available in one minute or less.

Globally, economies in various stages of development have either replaced or are busy replacing daily batch payment systems with real-time systems. These systems execute payments in seconds, carry richer data (to align with the global standard, ISO20022) and are architected for flexibility to meet the needs of the future digital economy.

APIs provide for further enrichment of faster payments platforms through the enablement of overlay interfaces, through linkage to social media and chat platforms, through fraud detection and integration to recognised national identifiers, as well as remote authentication services. These enhancements provide for ease of use, reduce friction and assist faster payments.

### Instant payments propel India's market

In India the regulatory driven Universal Payments Interface (UPI) pushed by the National Payments Corporation of India (NPCI) was ground-breaking. Propelled by a demonetisation goal to curb corruption by addressing the volume of black money in circulation, in 2016 the Reserve Bank of India removed Rs500 and Rs1 000 notes which accounted for 86% (in value) of the total currency in circulation at that time.

Having combined the accessible and prevalent national identity base (Aadhaar) and their real-time payments service, IMPS (in place since 2010), the NPCI released its UPI – a universal API and single integration point with access to these services and more.

UPI was initially used to offer a government-sponsored mobile service, BHIM, but it really took off once it was used to enable payments within a range of third-party social apps: PayTM, Google Pay (previously Tez)

and WhatsApp Pay. The mainstream banking infrastructure was being used to enable social payments. In each social platform, consumers needed to register their bank account so that payments on the platform could be sourced from and processed to that same account.

This approach pushed the adoption of digital payments in a society that had experienced a sudden withdrawal of cash. While this highly debated big bang approach to withdrawing cash left many casualties in its wake, the design of the UPI, including its rules and layered architecture, has lent itself to an uptake in instant digital payments. There has also been an increase in competition and service quality from the social platforms.

UPI crossed the Rs1 trillion (US\$14 billion) milestone for monthly value in December 2018, growing nearly eight times over the previous year. It also achieved a monthly volume of over 600 million, four times the volume of UPI transactions in December 2017, according to data released by NPCI.<sup>4</sup>

### Social payments unleashed in China

China is another example of explosive payment transformation, with the market dictating the need and timing of instant payments. Two decades ago, the internet boom and the resulting proliferation of social media saw the birth of social payments enabled by Alipay and WeChat. The Chinese government took an arm's length approach to regulation and allowed the market to develop.

From 2013 to 2016, the number of transactions made through non-banking mobile apps in China increased from 3.7 billion to more than 97 billion. This resulted in an annual growth rate of over 195% in mobile transactions, according to a study by Ipsos.<sup>5</sup>

Due to the rapid development of the online and mobile payments market, mostly initiated by the non-bank sector, the Nets Union Clearing Corporation (NUCC) for non-bank payment institutions was established in 2017 by the People's Bank of China (PBOC). NUCC was formed because many of the non-bank

payment service providers did not have payment clearing licences. NUCC created a clear boundary between online payment and clearing services of Third-Party Providers (TPPs) and improved financial compliance in online payments with specific operational guidelines.

The interventions by government improved the transparency and interoperability of financial transactions, creating more visibility and aiding in preventing fraud and criminal activity.

China has leapfrogged developed countries into embracing mobile payments owing to public willingness to try out a new platform, a lack of red tape and having a less developed financial system at the outset.

These examples show how fast payment systems, overlaid with mobile payment services, are stimulating economies by replacing bank notes, reducing card usage, enabling businesses of all sizes and sectors, providing a service to consumers "as quick as cash" and matching the demands of the instant digital world.

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**Fast payment systems, overlaid with mobile payment services, are stimulating economies by replacing bank notes, reducing card usage, enabling businesses, and providing a service to consumers "as quick as cash".**

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### How does South Africa perform?

Fidelity National Information Services Inc (FIS) developed the Faster Payments Innovation Index (FPPI) in 2014 to create a comparative rating system where diverse payment schemes around the globe could be compared. FPPI measures not only the speed with which transferred funds become available, but also how the scheme in question is applied in its local market (see Illustration 1).

The FPPI rates South Africa's instant payments capability at 3. India leads the way and is the only country with a rating of 5.<sup>6</sup> This shows that South Africa's RTC system has room for improvement.

### Could instant payments replace cash?

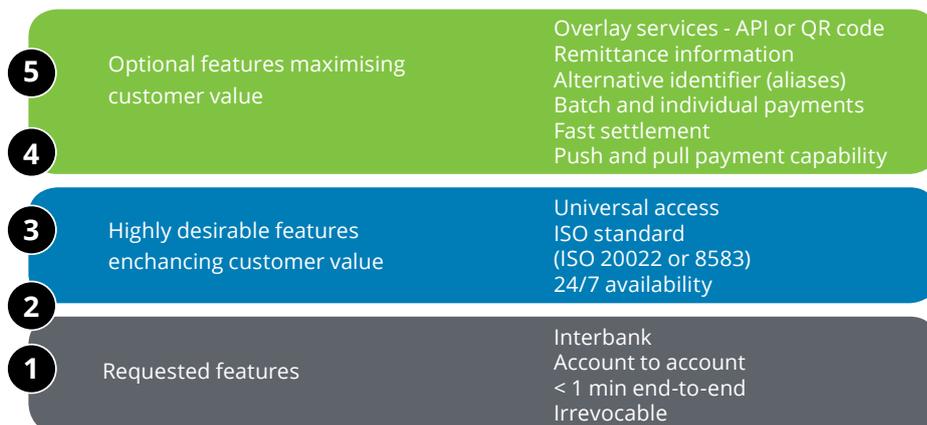
Studies have shown that in both India and China the growth in real-time payments has coincided with a reduction in the use of cash. Cash offers many benefits – for most consumers, cash is immediate, simple to use, easy to count and budget, free to exchange with no hidden fees and can generally be trusted. In addition, using cash requires neither digital literacy nor access to the internet through cellular data or WiFi.

However, there are also risks inherent in the use of cash. These include loss, theft or counterfeit fraud, and an inability to create a track record for purposes of securing credit applications.

Digital payments are evolving at a rapid pace to align with the benefits of cash and address its pitfalls, while keeping up with the consumers' growing expectations of omni-commerce (the ability to pay with the same method whether in-store, online or via mobile).

In the marketplace, the convenience of instant payment reduces the need for customers and merchants to carry cash, resulting in a reduction of associated costs such as cash handling, security, transport, leakage caused by theft and opportunity costs.

**Illustration 1: Faster Payments Innovation Index (FPPI)**



Source: Flavors of Fast 2018 Report, FIS

South Africans have shown an appetite for instant payments. For example, in September 2018 First National Bank (FNB) reported that R21 billion had been sent via its eWallet platform in the 12 months to June 2018, generated from 6.1 million active wallets, of which nearly two million were regular users. This demonstrates the important gap eWallet has bridged for consumers who need low cost instant payment solutions.<sup>7</sup>



**“The market has expressed scope for growth and the need to extend the instant payment capability to broader use cases and transaction types, such as low value micro payments. Instant payment is a top priority, as we enter the shared and digital economy. The sending and receipt of payments in real time matters and should not be constrained and reserved for business related transactions or high value payments.”**

**Arif Ismail,**  
Head: Fintech, SARB

A study released by Mastercard estimates that physical cash usage cost consumers R23 billion or 0.52% of South Africa's GDP in 2015. Despite an increase in the number of banked adults from 63% in 2011 to 77% in 2015, cash transactions still accounted for more than 50% of the total value of all consumer transactions in the country.<sup>8</sup>

According to a Moody's Analytics study electronic payments added US\$296 billion in real terms to GDP across 70 countries studied between 2011 and 2015. That is equivalent to the creation of about 2.6 million jobs on average per year over the five-year period, or about 0.4% of total employment in the 70 countries.<sup>9</sup> This shows that increasing the use of electronic payments and reducing the cash in circulation has a direct impact on the growth of a country's GDP.

Deloitte's view is that in the short to medium term, instant payments could operate alongside cash, increasing financial inclusion with greater adoption.

### Could instant payments replace Electronic Funds Transfer (EFT)?

One of the biggest frustrations in South African banking is the transfer time for local inter-bank EFT payments. It can take up to two business days to process a payment between banks.

Furthermore, the potential for error exists. Consumers who use this service need to know the recipient's correct bank details; if a mistake is made, there is no way of knowing prior to making the payment. This can result in payments made to closed or incorrect accounts, disputes, incorrect allocations and time-consuming reversals.

Traditional EFTs are collected throughout the day and processed in batches at certain times. If the customer's instruction has missed a cut-off time, the payment will follow in the next batch run or fall into the two-day payment period.

Instant transfers are available between different banks, but customers are charged a premium fee to use this service. According to banks, this fee covers additional risk and costs associated with immediate settlement.



**"Many factors have prevented RTC from reaching its full potential. One of these is the high fees charged by many of the banks for the service, which is definitely having a dampening effect – apart from the fact that many customers are just not aware of this option. Fortunately, at least two banks have in recent months introduced much lower charges for real-time payments, and they have been rewarded by a massive take-up by their customers."**

**Walter Volker,**  
CEO, Payments Association of  
South Africa (PASA)

When customers choose to pay for immediate settlement, the funds are cleared in around 60 seconds and there are no windows for reversals in the case of attempted fraud or user error.

Low cost EFT batch payments were designed for high volume payments, while instant transfers through the RTC system were designed for low volume, single transactions.

Inter-bank instant payments could significantly accelerate the velocity and reliability of payments in South Africa.

Despite the benefits that instant payments present, it is Deloitte's view that there is still a role for batch EFT. EFT is a viable payment mechanism for high volume, batch payments, as is seen in the UK market where faster payment is the ubiquitous payments approach.

#### **Could instant payments replace card?**

Initially, cards operated by either "swipe" or "swipe plus sign". Rampant fraud necessitated the card schemes increasingly assessing and evolving the levels of complexity and sophistication, resulting in "swipe plus PIN";<sup>10</sup> then "swipe or inject plus PIN"; then "swipe or inject or tap plus PIN", depending on value. In the online space, there are various ways to secure e-commerce payments, for instance, a One Time PIN (OTP) or remote authentication, such as 3D Secure. In addition, other technologies such as Payment Card Industry (PCI) and tokenisation have evolved to encrypt card and related data in flight and at rest.

Contactless payments have been gradually gaining traction and mass market adoption. These frictionless payments at the POS are as simple as "tapping – sometimes plus PIN", like performing a "one-click" checkout when shopping online.

Similarly, contactless card payments and transactions use the smartphone wallet solutions such as Apple Pay, Samsung Pay and Android Pay.

Consumers perceive instant or near real-time payments at a POS in a shop, online or on their smartphone when making a card payment. The reality is that the funds are transferred several hours or even a day or two later. After the issuing bank authorises the card transaction by sending an authorisation code to the merchant (in real time), the settlement stage begins. These

transactions are grouped with others for batch processing and settlement all at one time.

Therefore, merchants may have shipped the goods, but they only get their money later and there is also the risk of chargebacks and credit card fraud.

In addition, card processing comes with associated costs such as acquiring commissions and bank charges for the card-acquiring devices and related infrastructure.

In Europe, instant payments are threatening card products because customers want to get services and make payments immediately. Merchants benefit by being assured of instant settlement and pre-emptive fraud detection, while suppliers want certainty around payments.

As in China, instant payments provide an alternative to card payments, with additional cost savings for participants. A mobile app enabled with instant payment makes electronic payment more accessible to those who either do not qualify for cards or cannot afford them.

Instant payments represent a new set of "rails" on which payments can be made, facilitating the development of innovative products that can compete with cards both online and in-store. Provided that such services are cheaper to use and as widely accepted as cards, card products may find themselves cut out of the payments value chain.



**"The best days of the classic card product are already behind it. In the future, it's unlikely to be the winner in the scramble for new volume as mobile replaces cash."**

**Chris Hamilton,**  
CEO, BankservAfrica

Small service businesses, such as delivery services, plumbers and electricians, can benefit from faster payments by eliminating the complexities of carrying card machines, working with card-acquiring devices, or waiting and trusting as they do for payments to clear timeously via EFT for services rendered.

parties have differing opinions on this. Merchants are likely to support instant EFT, given the costs of the interchange of card that they typically carry. For banks, however, there is less incentive to move away from cards, given the interchange value to be gained. Consumers benefit from the loyalty programmes that most card schemes offer.

the need for cards, the consumer benefits are likely to keep cards as a key part of the payments offering in the short term.

Illustration 2 demonstrates how cash, EFT, card and instant payments currently compare from a South African consumer perspective and why cash is still dominant.

Could instant payments threaten cards? Within the payments ecosystem different

Deloitte is of the view that despite the many reasons why instant payments could remove

**Illustration 2: Comparison of payment methods from a South African consumer perspective**

Category	Description	Cash	EFT	Card	Instant Payment
Low cost	Inconsiderable to most consumers	✓	✓	✓	✗
Simplistic	Easy to understand and budget	✓	✓	✓	✗
Real time	Settled instantly	✓	✗	✗	✓
Interoperable	Accepted everywhere	✓	✓	✓	✗
Availability	Easy to obtain	✓	✓	✓	✗
Usability	No electricity, phone, battery, data or connectivity required	✓	✗	✓	✗
Trusted	Provides certainty of payment	✓	✓	✓	✓
Safety & Security	Makes it more difficult to become a victim of crime & fraud	✗	✓	✗	✓
Anonymity & Tax	Untraceable and allows for tax avoidance	✓	✗	✗	✗
<b>Score</b>		<b>8</b>	<b>6</b>	<b>6</b>	<b>3</b>

Source: Deloitte analysis, 2019

**Why has RTC not gained traction in South Africa?**

South Africa was one of the first countries to implement instant payments back in 2006. Built for the instant clearing of high value, low volume transactions, the South African RTC system processes transactions within 60 seconds using a two-pass message process, on an ISO8583 message protocol. An account verification is done on each transaction to safely deliver irrevocable payments. Implementation of the service is optional, with banks participating as issuers, acquirers or as both.

In South Africa, RTC volumes are relatively low. Currently, RTC transaction volumes amount to a mere 3% of all EFT transactions (255 million RTC payments as against 8 460 million EFT credits in 2016), which poses questions as to why this capability has not been utilised more. Is the current architecture sufficient? Do the RTC rails need updating? Does RTC meet the requirements of the Fourth Industrial Revolution?



“Banks have different names for RTC in South Africa and it delivers differently depending on the bank. As a product, it is all over the shop. Nobody knows what it is and what they get when they use it. Industry needs to address the elements of the problem first and then the pricing. RTC should be a branded product akin to Visa – customers need to know exactly what they are getting.”

**Chris Hamilton,**  
CEO, BankservAfrica

Interviewees highlighted the following challenges that have hampered the uptake of RTC in South Africa:

- Not all banks are using the system, which has resulted in a lack of ubiquity.
- Posting time is not mandated and therefore not uniform across all banks.
- High pricing of the RTC service has led to limited use among businesses and consumers that view the service as a premium value-add, only to be used for urgent transactions.
- The current architecture does not lend itself readily to innovation.
- The use of ISO8583 messaging prevents the carrying of the additional data necessary for rigorous treatment of transactions and value-adds.
- There is no national brand name or standard customer service experience.



**“It is essential for us that the SARB sets the rates for RTC interchange, and all future payment innovations. Otherwise, like with EFT, we have to conduct bilateral negotiations with all the participating banks. Bilateral negotiations are not easy for a small bank as the big banks have a volume incentive to maintain high prices and can use the bilaterals as a way of keeping small banks ‘out’.”**

**Gary Cook,**  
Head of Transactional and Value Added Services, TYME Bank



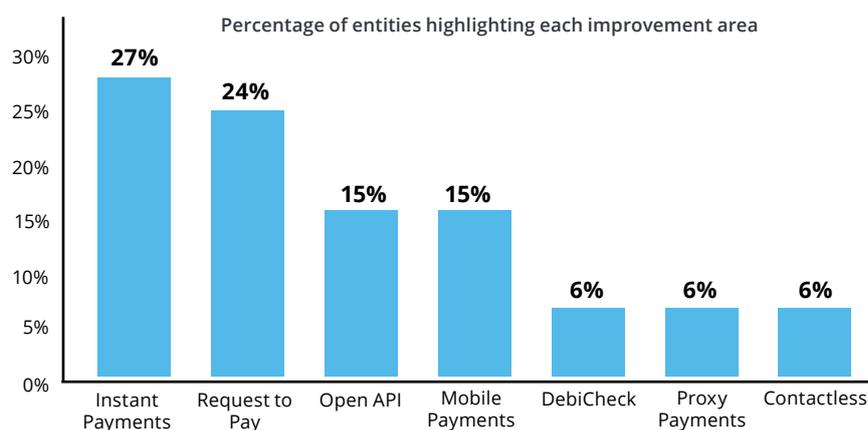
**“RTC is built on card rails, ISO8583, which is a massive problem for us as it contaminates the way we do card. As a starting point, the architecture needs to fundamentally change. Secondly, the overlay services such as request to pay and proxy services that enable the optimisation of RTC have not been built and thirdly, we have not collectively dealt with the risk components of real time payments.”**

**John Anderson,**  
Head: Industry Payments, SBSA

### Designing a payments future

In the interviews, all 22 entities recognised the importance of instant payments, and the associated global trend. There was enthusiasm about the SARB’s involvement and vision for instant payments. Instant payments and a request to pay functionality were identified as the highest payment improvement areas, as illustrated in Figure 3.

**Figure 3: Highest payment improvement areas for stakeholders interviewed**



Source: Interviews with 22 South African payments entities, October to December 2018, Deloitte analysis



“RTC with a proxy service would unlock a whole lot of markets via payments by enabling person to person and person to small business payments. This is critical to making payments and electronic commerce more accessible to a wider group of South Africans. It is feasible, not expensive to achieve and has been on the agenda for a long time.”

Walter Volker,  
CEO, PASA

Projects such as Project Future<sup>11</sup> are underway as a collective effort to design a layered architecture that facilitates speed to market and provides a framework to pragmatically embrace change. It will be important for the project team to engage fintechs and the broader industry in the design of the architecture, as has been the case in Australia, Canada and the UK.



“Project Future gives a really good view of what a logical layered architecture could look like. We need to distil it and see what the primary use cases are and where we are going to focus. Our view is to start with optimising the instant payment rails, and then build primary services (proxy and request to pay) on top, focusing on addressing person to person and person to small business payments. The goal is to create a new instant payment service, branded as such for low value payments akin to mCash in Nigeria.”

John Anderson,  
Head: Industry Payments, SBSA

Some stakeholders believe that while the current RTC system provides a solid core, the system infrastructure, messaging standards and processing capacity have not been designed for instant person to person (P2P) and person to business (P2B) payments. There is also an absence of overlay services such as a universal API interface to allow for simple integration across a spectrum of service providers and device types.



“The PASA and BankservAfrica are finalising a proposal that addresses the optimal solution as well as the key issues (brand, bank participation and pricing) and will put forward an action plan on what will be undertaken in the short, medium and long term. The future enabling NPS architecture may only come to fruition in a few years’ time, but we need to address what we do between now and then. Because, indeed, we need to recognise that the world is operating in real time as the digital world doesn’t sleep.”

Tim Masela,  
Head: National Payment System  
Department (NPSD), SARB



# Chapter 2

## Digital identification

At the inaugural workshop of the Intergovernmental Fintech Working Group (IFWG) in April 2018, participants highlighted that a South African digital ID may result in increased financial inclusion by making it easier for South Africans to access financial services. This provides just one opportunity for the respective authorities and the industry to pursue the development of a digital foundation and contribute towards the longer-term digital wellbeing of South Africans.

Digital ID is increasingly the focus of policy discussions across several countries, with various governments proposing or implementing national digital ID programmes. India, Estonia and Singapore are examples of countries that have successfully implemented digital IDs.

### India's Aadhaar system

Aadhaar provides Indian residents with proof of ID by validating and recording demographic information. The system stores the following information: name, date of birth, gender, address, a photograph, fingerprints and iris scans for anyone age 18 or older. Recently, facial recognition capability was added. The programme is free and voluntary, and as of August 2018, over 1.2 billion Aadhaar numbers had been created. Each person can only have one Aadhaar number associated with them, which can be used in person and online.

The original purpose of the programme was to have a verified method of distributing welfare benefits and subsidies. The Aadhaar number can now be used to provide proof of ID to open a bank account, for tax identification, to receive government benefits, to make electronic payments, to validate drivers' licences, and to enable check-in services for flight and train travel. It is one of the key pillars of the Digital India initiative, which aims to move manual processes to electronic ones.

The broad use of the Aadhaar number means the number is now necessary in order to function within broader Indian society. For example, individuals must connect their Aadhaar number to all their bank accounts.

Even if someone already has a bank account, they must enrol in the programme and link their account.



**"India has cracked momentum towards a digital economy by creating four digital stacks, authentication; authorisation; payment and consent layers."**

**Arif Ismail,**  
Head: Fintech, SARB

### Estonia's e-Identity system

Unlike in many other countries, every Estonian has a state-issued digital ID. As a result, Estonia is years ahead of countries still trying to work out how to authenticate people without physical contact.

Estonians can provide digital signatures using their ID-card, Mobile-ID or Smart-ID, so they can safely identify themselves and use e-services. The mandatory national card also provides digital access to all of Estonia's secure e-services.

Statistics marking the success of Estonia's efforts are:

- 98% of Estonians have a national ID card.
- Over 30 000 people have applied for e-Residency.
- Over 30% of Estonian voters from 116 countries use i-Voting in Estonian elections.
- At least 2% of GDP is saved due to the collective use of digital signatures.
- Every year, 840 years of working time is saved thanks to data exchange.
- The time required to establish a business has been reduced from five days to 18 minutes.

- 98% of Estonian companies are established online.
- 99% of banking transactions are online.
- 95% of tax declarations are filed online, taking only three minutes on average.<sup>12</sup>

### Singapore's MyInfo system

Singapore has adopted a Smart Nation policy, which means that they embrace technology in all their processes and encourage technological innovation and adoption.

The Monetary Authority of Singapore (MAS) has identified 10 enablers to shift towards the digital economy. One of these, as in Estonia and India, is the ability of citizens to store their basic ID electronically. In Singapore, this initiative is called MyInfo.

MyInfo is a one-stop online personal data platform, which collects personal data such as ID number, name, gender and age. It can also include education, employment and income information.

Such access enables quicker completion of digital online artefacts by using the APIs of MyInfo.

### Does South Africa need a national digital ID?

Payments participants in South Africa strongly support the need for a South African national digital ID to be implemented.



**"A national reference database is required. We need the ability to latch on to a centralised digital platform which is owned by government and secured by government to enable authorisation on demand."**

**Arif Ismail,**  
Head: Fintech, SARB

One reason for this strong support is that a digital ID enables access to financial services and thereby facilitates financial inclusion. The existence of a national digital ID allows all to participate in the future as new technologies become available.



**“To unlock the digital economy for a broader community a verifiable digital identity is critical.”**

**Walter Volker,**  
CEO, PASA

### Digital identification use cases for South Africa

Global trends have highlighted various benefits of a central identification, but what are the potential benefits for South Africa?

#### 1. KYC requirements

A central digital ID could benefit the market in addressing Know Your Customer (KYC) requirements that are placed on financial institutions. While the recent amendment to FICA allows financial institutions to take a risk-based approach to conducting KYC, KYC requirements still act as a barrier to account ownership among the financially underserved.



**“One of the biggest challenges to solve for financial inclusion is the current KYC requirements.”**

**Ravi Shunmugam,**  
CEO EFT Credit House, FNB

With a central digital ID, companies would benefit from faster and more accurate KYC as well as save time and money when verifying the identities of their customers. Customer identification could be confirmed with less information, by relying on the already verified digital ID.

#### 2. Biometric authentication

In 2016 PASA, in partnership with Visa and Mastercard, published a biometric authentication standard for use with Europay, Mastercard, and VISA (EMV) chip cards. The intention of the standard was to create interoperability in the payment space. The standards met those set by ISO and EMV.

The standard is intended to ensure that cardholders have access to the same biometric services across South Africa's financial sector.

Absa was the first to pilot this new specification, combining biometrics with chip card transactions. The biometric technology detects human characteristics to provide identity authentication. The specification can enable palm, voice, iris or facial biometrics.

Visa and Mastercard have both tested biometric payment cards in Europe and it is possible that multiple institutions will soon adopt the standard. In South Africa the standard could help biometric authentication extend beyond national banks, with PASA CEO Walter Volker asserting that SASSA was regarded as one of the major potential users of the technology for its social grant disbursements.<sup>13</sup>

Market research by Mastercard shows that 65% of South Africans have an interest in using biometrics as opposed to traditional authentication methods, with seven out of 10 people preferring to use biometrics to access their account.<sup>14</sup>



**“The biometric standard has been approved and is the international standard set by Visa and Mastercard. That would be a perfect starting point for the national biometric data base.”**

**Rick Wheeler,**  
Group Retail Systems Manager, SPAR

In addition, South Africa is currently moving to a Smart ID system that captures biometrics. However, there has not been enough cooperation between the Department of Home Affairs (DHA) and the private sector to optimally use this database for digital authentication.

An obstacle to the adoption of biometric authentication is that the current acquiring infrastructure does not cater for biometrics. The SARB, as catalyst, will engage stakeholders to facilitate future acquiring infrastructure to accept biometric authentication. This could mean that although current infrastructure may not need to be upgraded, new infrastructure rolled out will need to facilitate biometric authentication. Care will be taken to ensure this does not add significant costs to the payments system and specifically to some big retailers who provide their own acquiring infrastructure. The SARB sees biometric authentication as a further way to address convenience, enhance financial inclusion, and benefit the lower end of the market.

### 3. A more seamless user experience

In this digital age, consumers expect to connect with services and products every day, online and instantly. Traditional physical ID processes are no longer adequate in this new era, causing friction and mistrust.

Every year, South Africans need to prove or verify their ID hundreds of times to carry out everyday transactions. This is frustrating and time-consuming for consumers, also failing to resolve the growing incidence of fraud for businesses and government.

Since 2012, a range of powerful solutions have been deployed in the banking industry. Most of the major banks have established mobile solutions that require users to remotely “approve” transactions via apps or Unstructured Supplementary Service Data (USSD). In addition, these solutions have even proven effective in trapping and eradicating instances of fraud and binding consumers to payment transactions conveniently conducted using Quick Response (QR) codes.

One of the fintechs that has made such technology possible for most of the South African banks is Entersekt, based in the fintech hub of Stellenbosch. Entersekt was the first company in the world to launch interactive transaction authentication by leveraging the mobile phone.

Deloitte, along with stakeholders from the payments ecosystem, believes that adopting a national digital ID and remote authentication standard for South Africa will improve customer experience, reduce friction and help to address fraud risks. In addition, it would greatly reduce the administrative load on financial institutions by removing the need for them to deploy their own KYC processes, and store their own secure KYC data.

India is probably the best example of how a single, standard, central, interoperable, nationally accessible digital ID database can be used as a trusted central resource for the nation and generate sizeable uptake and

efficiency through a more seamless user experience.

South African citizens would no longer have to remember different usernames and passwords for services or carry multiple security tokens to transact online. The central database could provide the convenience of a single digital ID, saving time and effort for citizens when using their digital profile that contains government-verified data for transactions with any digital service.

This could also form the basis for various other payment innovations, including but not limited to instant payments, proxy payments (e.g. payment by phone number), push payments, debit order authorisation, social grant payments and account verification services.

### 4. Protecting local sovereignty

The protection of a nation's digital sovereignty is pertinent to this discussion. In early 2019 the French government took steps to reduce the influence of Google and its personalised services by replacing the Google search engine. French bodies will be using an alternative French-based search engine called Qwant that protects its users from being tracked or being targeted by advertising.

In August 2018, Sim Tshabalala, CEO of the Standard Bank Group, was quoted by Business Live as saying: “These are enormous platforms that serve billions of clients. We are keeping a keen eye on them because they are very well resourced, collect enormous amounts of data from customers and have the ability to disrupt our industry.”<sup>15</sup>

Tshabalala believes that true disruption to the core activity of banks — the execution of transactions, deposit-taking and lending — will come from what he terms “the big platforms”; the likes of Amazon, Tencent, Alibaba, Facebook and Google.

Protecting data sovereignty by investing in South Africa's own infrastructure and providing local digital services addresses the privacy and security of the nation as it increasingly goes online.

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**Deloitte believes that adopting a national digital ID and remote authentication standard for South Africa will improve customer experience, reduce friction and help to address fraud risks.**

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### South African payments industry views

In the interviews, participants were asked whether a national, reliable and accessible database has a use case in South Africa.

### Regulator view

- There is definitely a need for this in South Africa. For example, why should citizens be required to complete the FICA process multiple times?
- With the roll out of the DebiCheck system, the need for a central digital ID was reconfirmed, recognising that citizens that change their mobile numbers are not contactable to verify their debit orders as required by the system.



“The banks are working on solutions to establish proxy services. The SARB along with other government departments and stakeholders needs to take a stance on the best way forward to address digital identification for South Africa.”

**Tim Masela,**  
Head: NPSD, SARB

**PSO view**

- Strong digital ID is critical to facilitate the emerging digital economy, not only for payments but also other areas. It is, however, not a precondition for substantial payments innovation.
- There are concerns with a central biometric ID in the event that it gets compromised. It is not possible to reset biometric data like a normal password reset.

**Bank view**

- Banks are already working with the DHA to optimise a digital ID solution for the market. Government departments need to coordinate to achieve policy alignment.
- There is a definite benefit for local and cross-border money transfers.
- There is a big opportunity for integration with various other available data sources, including the National Credit Regulator (NCR), DHA, FICA, etc.



“Moving forward on the modernisation road map and looking at Project Future, whether it is a global PSO or a domestic PSO, the two should co-exist for interoperability and default into a universal database to enable innovation such as request to pay and instant payments.”

**Tshego Lesole,**  
Head: Alternative Payments, Absa

**Retail view**

- A central database should reduce capital outlay for hardware and software. It would also reduce risk and queueing time and create true interoperability.



“This will only be useful if it results in faster, more cost effective and more convenient payments.”

**Jacque du Toit,**  
Chief Accountant, Pick n Pay

**Fintech view**

- The cost of managing risk in the payments space is massive and if a central database could assist with centralising some of the risk management, then there is a great benefit for the entire industry.
- A central database should be possible with the South African ID number and biometric data already available. The central database would need to integrate with various other systems to be of value, add benefit and ensure customer consent.
- If the data is applied correctly, the velocity of money could be increased significantly.

**Next steps**

Implementing a central digital ID is not a simple task and poses challenges, such as working with infrastructure that is not optimal, dealing with unreliable connectivity, managing hardware malfunctions and addressing ID duplications. There are also key aspects that need to be addressed, such as access to and the exposure and protection of personal information, the management of data breaches, compulsory versus voluntary participation and the inclusion of foreigners residing in South Africa.

The SARB has shown an appetite to work with other regulators, overseers, policymakers and government to focus on unlocking any inefficiencies within South Africa’s current processes and platforms to stimulate economic growth. The plan is to provide parties an opportunity to gain deeper insights into the various innovations available and discuss critical government requirements (including a possible digital ID). The outcome of these discussions should form the basis of a national strategy that will take South Africa into the digital future.

## Case Study:

### Mobile authentication – a springboard for payment innovation

In 2008, Entersekt – a Stellenbosch-based technology company and an innovator of mobile-first fintech solutions – developed a push-based mobile authentication solution to combat internet banking fraud. Phishing attacks were a special focus, being rampant in South Africa at the time, and accounting for 5% of the US\$1.3 billion losses incurred globally.

A common solution adopted by banks replaces OTPs for selected transactions with a simple “yes” or “no” request presented to the transaction initiator (user) via mobile phone. The solution binds the user to the mobile to the transaction. The result is a transaction that is both authenticated and irrevocable, complex in design yet simple for the user to register and respond.

In 2012, Nedbank implemented the Entersekt solution and phishing attacks were reduced by more than 99% overnight. Within 11 months of implementation, 23 million transactions with a value exceeding R15 billion were processed via the Nedbank App Suite with almost zero fraud. This breakthrough was achieved by a fintech partnering with a bank, resulting in a successful market-first solution that solved a seemingly impossible problem in a new and innovative way.



Most South African banks followed suit, implementing the Entersekt mobile authentication solution for multiple applications across various product sets to solve customer ID, security and trust for both banks and customers. Currently, Entersekt protects 150 million transactions per month in 46 countries worldwide.

With the foundation set, non-repudiation in place, and security and trust neatly packaged, the path for further innovation was laid. In 2018, Entersekt, in collaboration with Mastercard, implemented its first payments enablement solution, Scan to Pay, with Nedbank. Scan to Pay enables Nedbank customers to make QR payments to Masterpass, Pay@, SnapScan and Zapper merchants and billers through the Nedbank Money app, whether online or at a physical POS. This means that Nedbank Money users need just a smartphone app for all major domestic scan-to-pay services, representing a combined footprint of more than 100 000 retail points of presence and 800 billers. The achievement of interoperability is another big success for the fintech.

The Entersekt case study illustrates improved accessibility to the local payments system and how payment innovation can be fast-tracked, rolled out to multiple banks and accessed by multiple users. This was achieved by leveraging a foundation layer comprising of authentication, frictionless user registration, non-repudiation, trust and security.



**“People think banks should be disrupted. But banks do a hard job. Banks have the data, the clients and operate in a regulatory framework. The success lies when combining fintechs and banks.”**

**Gerhard Oosthuizen,**  
CTO, Entersekt

**Strength:** *Out of band, two-factor authentication rendered on a single device which includes feature phones and smartphones; secure payments with a QR code proxy.*

**Weakness:** *Dependency on banks to implement in a manner that enables true interoperability.*

*Note: The views, opinions and information expressed in this case are sourced from case interviewees and printed with their permission.*



# Chapter 3

## Opening up the NPS

Historically, the financial sector has been a protected arena with core payment service providers operating in silos and competing for market share by keeping customers and their data close. This paradigm is shifting, with change being pioneered out of Europe. A 2016 Competition Markets Authority (CMA) report highlighted the failures of the status quo and described the anti-competitive and anti-inclusive nature of the finance space and its bias towards the banking sector. European governments responded with regulations to open the banking sector, a process known as open banking.

The need to embrace innovation, stimulate competition and service, and protect consumers has been the driving force behind regulatory changes in the European Union (EU) and Australia. In both areas, directives have been effected instructing banks to provide third parties with access to personal customer information at the request of the customer. Led by the market, countries such as India, Japan, Singapore and South Korea are developing data-sharing frameworks electing to adopt an open banking approach. Open banking is happening at pace.

### Europe setting the benchmark

The EU's open banking journey began in 2009 with the promulgation of the Payment Services Directive (PSD), enabling the inclusion of non-banks and encouraging pan-European competition. The intent was to level the playing field and improve consumer protection by focusing on the rights and obligations of payment service providers. The legislation and its framework evolved to encompass a wider group of participants, with PSD2 taking effect in January 2018. The General Data Protection Regulation (GDPR) followed in May 2018 and addresses data management and its handling across every sector. The launch of the Regulatory Technical Standards (RTS), which will see banks providing third-party access to customer transactional data and customer bank account data, is scheduled for September 2019.

As a result of this opening up, a wave of innovation has hit Europe. Open banking has provided space for fintechs to enter the payments arena, thereby broadening the payments ecosystem. Overlay services are being provided, enabling banks and third parties (e.g. fintechs) that connect to the instant payment clearing and settlement infrastructure and its participants to offer a host of payment services.

The inclusion of fintech and the secure accessibility of customer permissioned data has birthed many new financial services innovations. Examples abound. Starling Bank is a tech start-up with a banking licence, which offers banking products through a branchless, digital-only offering. Yolt enables customers to make better financial decisions by providing them with a single view of where they spend, their accounts and credit cards across multiple account providers. Openwork creates products to facilitate loan applications. ClearScore taps into multiple data sources to provide customers with a credit score. Yoyo is a platform that enables consumers to make mobile payments in-store, collect loyalty points and receive fully itemised receipts.

Certain requirements must be met to participate in open banking. Only third parties that are registered with the Financial Conduct Authority (FCA) as authorised providers can access the data and only with the permission of the customer who provides consent, either through the internet, mobile banking or the authorised service provider's app or website.

Customers choose which data will be accessible, to whom and for how long, and bank login details remain completely private. Customers are redirected from the app or website to their bank's app website when this input is required. Customers interact with these apps as they would any digital app, installing, using and deleting at will.

It is premature to measure the macro success of open banking in the EU, but the

potential benefits to the public seem clear. Open banking is safe, improves money management, facilitates ease of payments, and provides access to fit-for-purpose finance. This revolutionary approach also offers a selection of relevant banking products based on actual behaviour, affordability and spend so that customers can move, borrow, manage and grow their money. Successful solutions are frictionless, add tangible value and have a quick and easy sign-up process.

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Open banking has provided space for fintechs to enter the payments arena, thereby broadening the payments ecosystem.

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### Around the world

#### Market-driven approaches

Some countries are opting for an open banking approach without a firm hand from the regulator. In Singapore, the MAS and the Association of Banks have published an API Playbook to support data exchange and communication between banks and fintechs. In Japan, the Financial Services Agency has established an authorisation process for TPPs, introduced an obligation for banks to publish their open API policies, and encouraged banks to contract with at least one TPP by 2020. The majority of Japanese banks are taking this regulatory encouragement very seriously and are on track to fulfil the 2020 deadline. The United States (US) has also opted for a market-led approach without any material government initiatives to support the development of open banking.<sup>16</sup>

## Regulatory-driven approaches

Outside the EU, two major jurisdictions have opted for a regulatory-driven approach: Hong Kong and Australia.

The Hong Kong Monetary Authority issued an Open API Framework in July 2018, setting out a four-phase approach for banks to implement open APIs, starting with information sharing on products and services, and ending with sharing of transactional information and payments initiation services. Contrary to the EU approach, banks will be required to develop APIs while restricting access to collaborating TPPs.

But it is Australia that stands out for its innovative approach and scale of ambition. Like other open banking initiatives, the Consumer Data Right (CDR) Act will allow consumers to share their data with whichever authorised third parties they choose. The key difference, however, is that the CDR is a data policy initiative and not a financial services one. While it will apply to banks first, the CDR will subsequently apply to the energy and telecommunication sectors as well and, eventually, to any sector. The CDR is also the first open banking legislation to introduce the concept of "reciprocity", where an accredited data recipient in a designated sector is obliged to provide equivalent data, in an equivalent format, in response to direction from a consumer.

## Open banking use cases for South Africa

The global trend is prolific, but what are the implications for the South African NPS and domestic use cases?

### 1. Digital access stimulates the economy

In a cash-dependent South Africa, secure online payments delivered within social media and chat applications would encourage digital transactions and stimulate the economy.



**"All banks are ready technically. There are many use cases. It's about who will take the jump."**

**Quintin Marnebeck,**  
Head: Product Wholesale Payments,  
Nedbank

The EU innovation examples referred to above demonstrate the possibilities that open banking offers and how accessing payments data and behavioural data inform the development of meaningful products for consumers.

The real value is when products and services are presented to the customer at an opportune time to satisfy a specific need.

Nedbank Head of Product and Wholesale Payments, Quintin Marnebeck, provides the example of the informal trader who uses cash. If the trader's payments were electronic and various financial services providers had access to his transactional and account data, he could, amongst other value-adds, be made aware of business trends that inform his stock purchasing requirements. The trader could be offered beneficial loans to help manage his cash flow and grow the quantum of his purchasing capability. He could have access to a host of options providing the opportunity to select the right products at the best price. Given such benefits, the trader would be in a better position to sustain and grow his business.

### 2. Response to workarounds

In countries where open banking is established, it operates within a framework and a set of standards that cohesively work together to meet the requirements of compliance and security while addressing customer demand. This framework guides

the cooperation of entities within the broader payments ecosystem, including fintechs and banks.

In South Africa, the current lack of industry-wide open API standards and the absence of an NPS fintech-inclusive operating framework have encouraged fintechs such as SiD, iPay and Instant EFT to innovate.

At present, these fintechs cannot connect to banks directly for access to permissioned customer data. As a result, screen scraping or HTML parsing has emerged as a way for Payment Service Providers (PSPs) to provide the innovative services that satisfy customer needs.

These services provide a seamless payment alternative for the many people who either do not have credit cards or who are afraid to use their credit cards for online store purchases. To use these services, banked customers need to provide their online banking login details within the PSPs apps, an inefficient and costly process for the PSPs.

This is also worrying for banks, which remain responsible for their customers' banking security. In fact, this solution counteracts the common theme of customer education and campaigns to counteract cybercrime, especially phishing: customers must protect their bank login details.

Open API would regulate the sharing of customer data between fintechs and banks by providing the standards, framework and architecture required to formalise these services.

### 3. Agile implementation of industry wide projects

It is clear that a centralised FICA database, which is linked to real-time and trusted data sources, is necessary. This would provide reliable information for verification purposes and, later, enable smooth customer on-boarding, accurate credit scoring and relational data insights. Various initiatives have failed to gain traction, resulting in entities investing in their own solutions that are devoid of the benefits that are derived from collective input. FICA is not just about compliance. In many instances it is a deterrent to customers who fail to take up new products from financial services providers.

Deloitte believes that in the open banking environment, through the provision of standards and integration points, the vision of these projects may be achieved with the input and execution of multiple authorised services providers, on a national scale, at speed and for a fraction of the cost.

### 4. Supporting innovation

There is no shortage of innovation in South Africa. Banks are using APIs within their own environments and building bouquets of products that include geo payments, QR codes and mobile money send services, among others. Discovery Bank has linked the Discovery insurance data and medical aid data and will be combining it with banking data, creating a version of open banking within its own ecosystem.



“Open banking is a future reality. Banks are already building their own solutions and platforms. There is a need for industry-wide standards and regulations which allow an element of flexibility, and different layers which inform who can have access to what.”

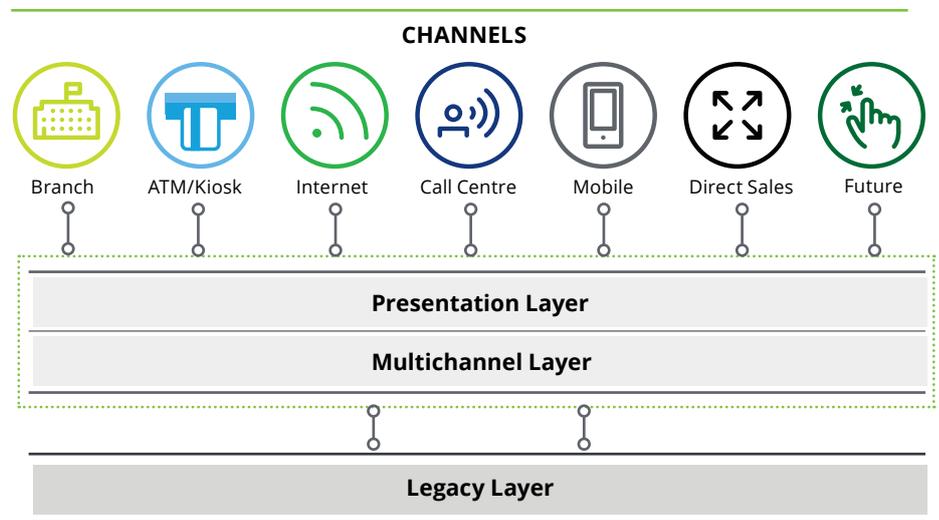
Dirk Ehlers,  
Head of Interbank, Capitec

### An open banking framework

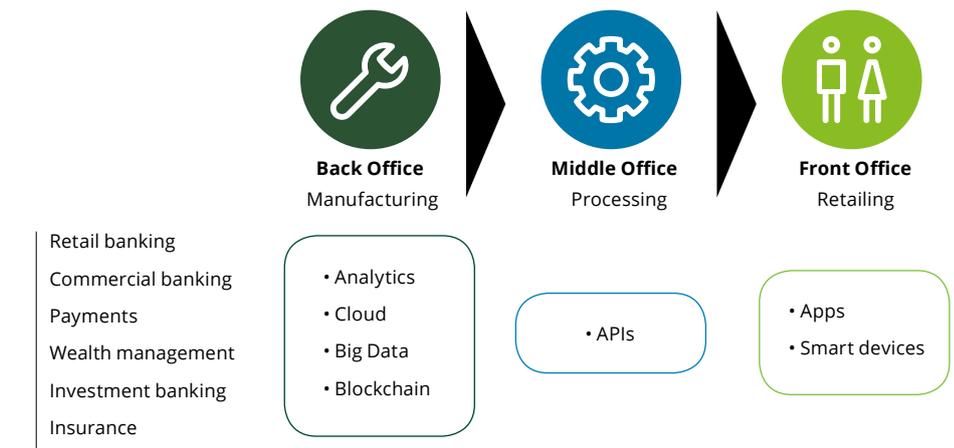
In his book *Digital Human*, Chris Skinner speaks of the architectural shifts from proprietary to open, from controlled to marketplace, and from internal to external focus. He describes the idea as micro-service architecture where all components are independent, separated and distributed so that services are isolated to enable real-time change with no impact to the core.<sup>17</sup>

Illustrations 3a and 3b show the move from proprietary to open, from controlled to marketplace, from internal to external focus, and from mainframe to APIs, apps and cloud.

**Illustration 3a: Legacy system – Multichannel integration**



**Illustration 3b: Future open system with collaborative structures**



Source: *Digital Human*, Chris Skinner, 2018

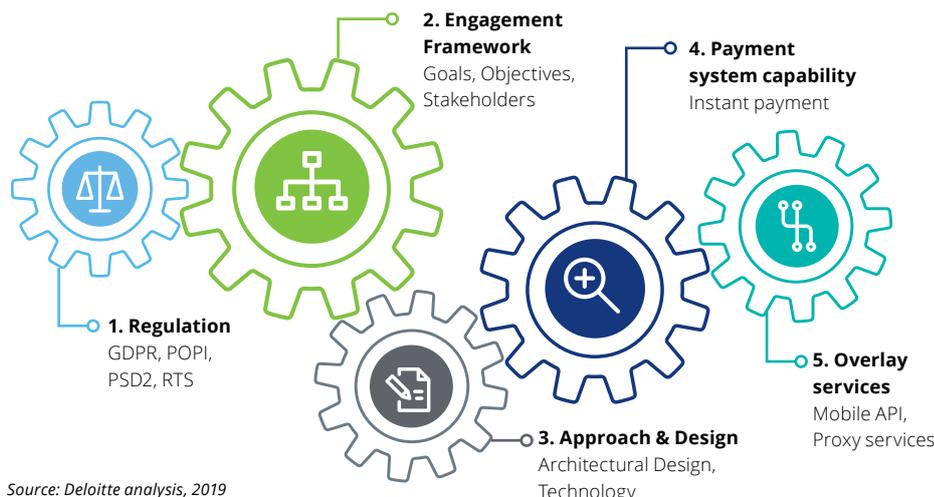
Open banking appears to be the trend in South Africa as well. “We don’t know what we don’t know. All we can do is architect a payments environment that is more flexible and responsive rather than hard coded and rigid,” says Walter Volker, CEO, PASA.<sup>18</sup> In addition to investing in their own APIs, banks’ investment in DebiCheck has had them convert to the ISO20022 message standard, a key component of open banking.

Regulation alone cannot achieve the imperatives of open banking. The outcome is dependent on the participants, their engagement model, coordination, effective data mining, technology innovation and the implementation of overlay services as displayed by Illustration 4.

**Open banking in South Africa according to the payments industry**

The payments industry acknowledges that open banking goes hand in hand with a regulatory framework that addresses data privacy, rights, accessibility, protection and control. The SARB, as part of Vision 2025, is considering open banking and how it could succeed in South Africa.

**Illustration 4: Open banking ecosystem**



Source: Deloitte analysis, 2019

**“We are looking at establishing an open banking standard akin to PSD2 regulation. The regulator believes that the bank data that is with a customer’s bank is the customer’s data, it should not be used as a customer retention tool and thus should not be protected by the bank to prevent the customer from receiving value-added services from outside of the bank. This data should be accessible by relevant third parties with the customer’s consent for the customer’s benefit.”**

**Tim Masela,**  
Head: NPSD, SARB

From a technology perspective, the industry views open banking as a key imperative, with the potential to effect quick changes in the payments system. Open banking is a mechanism that can utilise the strengths of both the banks (regulation and risk) and the fintechs (skill and agility to meet specific market requirements) for the benefit of the customer. Open banking can open up the payments environment and provide a mechanism to regulate workarounds like screen scraping.

**“Availing APIs is critical and will facilitate partnerships and innovation. Creating an open payments environment through payments APIs and broadening access to the payments system is where we will go.”**

**John Anderson,**  
Head: Industry Payments, SBSA

Some industry stakeholders worry that banks will attempt to hold onto their customer data and feel threatened at the prospect of including fintechs in the payments fold. The fintechs made it clear during the interview process that they do not plan to compete directly with the banks, but rather compete with cash.

**“Open banking should improve process efficiency and could significantly lower the cost of transactions for bill payments. Banks though are cautiously entering the open banking space by holding on to their piece of the pie and protecting themselves as the threat of other market players, such as retailers, MNOs and fintechs, eroding their revenues and relevance is a real concern to them.”**

**Andrew Hardie,**  
COO & Business Development,  
Pay@ Services

A pilot project may be the way to take open banking forward in South Africa. All 22 entities who were interviewed expressed interest in participating in such an endeavour. This would enable many of the issues and concerns to be tested in a safe environment and assist in establishing the principles and frameworks that will ultimately make for successful implementation.

**“We need to look to the Singapore central bank model for guidance; where there is an incubator for participants to land ideas that can be practically seen and tested, in a space that actively offers mentorship from the older generation.”**

**Hennie Ferreira,**  
CEO, Microfinance South Africa (MFSa)

## Case Study:

### Innovating against the odds

iPay is an innovative payments company, offering online transactions and instant EFTs. They handle 11% of all online payment transactions processed in South Africa and saw remarkable growth in transaction value of 700% between Black Friday 2017 and the same day a year later. This proves they can deliver securely on scale and illustrates that the true metric for payment innovation is the impact it has on businesses and consumers.

iPay was founded in 2014 by a digital payments team with e-commerce insight and a clear vision to solve online payments, for merchants and the consumer who either does not have or does not want to use a credit card. Through clever engineering and collaboration with the Mobile Network Operators (MNOs), iPay has assisted with the inclusion of the underserved in the online marketplace, who utilise the iPay service without incurring data costs.



**“We knew what merchants wanted and the payment gateways weren’t thinking of the merchant or the customer, they were just focused on moving money.”**

**Mitchan Adams,**  
Head: R&D and Co-founder, iPay

While the fintech has achieved smooth processing for its customers who can make a registration-free, instant EFT within 20 seconds, the journey has been anything but smooth. Despite its zero-fraud rate, instant EFT is an emotional topic in the banking world, with banks firmly of the view that there is a need for a regulated framework for this “stream”. iPay’s view is no different: without a standard in place, iPay works closely with the SARB, PASA and the South African Banking Risk Information Centre (SABRIC) to create a standard, while continuously proving its ability to self-regulate.



**“Banks are right to want to protect their customers.”**

**Thomas Pays,**  
CEO and Co-founder, iPay

The fintech has not allowed the lack of regulation nor the naysayers to hinder its performance, but rather seen this as an opportunity to drive innovation and shape the way forward.

Among the top 20 candidates selected from 20 000 entrants in the TechStars Barclays Initiative 2016, iPay has continued to impress and to date has secured seed funding and angel investment of R20 million. iPay plans to expand, starting with a branch in Amsterdam.

With security at the forefront, the team is currently working on PCI plus with PASA, extending the PCI decision support system (DSS) to include EFT login details and account information.



**“We know it is sensitive information and have asked Galix, our Qualified Security Assessor, to specifically look at EFT data when conducting our PCI audit, treating account information the same way they would treat credit card numbers. We have gotten a second check from MWR to make sure we are doing things right and give suggestions on how we can do things better.”**

**Mitchan Adams,**  
Head: R&D and Co-founder, iPay

However, while iPay is achieving in an undefined space, the fintech is looking forward to a future enabling framework.



**“The future of payments will be around open API, that’s when the magic can really happen.”**

**Thomas Pays,**  
CEO and Co-founder, iPay

**Strength:** *Easy merchant sign-up process; customers only require an active bank account to do online transactions.*

**Weakness:** *No policy framework to cater for the utilisation of customers’ bank recognised username and password.*

*Note: The views, opinions and information expressed in this case are sourced from case interviewees and printed with their permission.*



# Chapter 4

## Mobile payments

Since 2005, South Africa has seen accelerated growth in mobile subscribers, resulting in unprecedented change which has shaped and continues to reshape consumers' lifestyles and patterns of behaviour.

There are 88.8 million mobile connections in South Africa (the number of active subscriber identification modules [SIMs] attached either to multiple devices or machines). The total reflects the approximation of South Africa's mobile market as reported by GSMA Intelligence's 2018 update. According to the group, South Africa has about 89.4 million mobile connections, giving it a penetration rate of 157%. Of these connections, over 86% are prepaid, while 58% are broadband connections.<sup>19</sup>

No longer a luxury item, the mobile phone has become a necessity serving every demographic.

Coupled with increasing access to high-speed data connectivity, search engines and apps to serve every purpose, the "digital multitool" has made our world smaller, resulting in ever-increasing consumer expectations.

With smartphones becoming ubiquitous and providing access to an ever-growing array of "instant services", it has become difficult to imagine life without mobile devices. Mobiles have moved beyond being the key form of communication to serving a host of needs, including extending traditional payment mechanisms.

According to the GSMA 2017 *State of the Industry Report on Mobile Money*, since 2012, the mobile money industry has seen a high level of digitisation. This means that a larger proportion of money entering and leaving the ecosystem is already in digital form, rather than being through a cash conversion.<sup>20</sup>

However, a large portion of the South African banked population does not benefit from digitisation and mobile money. Cash is still the primary transacting mechanism.

### Constraints to growth in mobile payments in South Africa

#### 1. Banking and payment regulation

e-Money and deposit-taking regulation constrain the services which may be offered through mobile money in South Africa, including remittances and mobile payments. This is mainly due to the stipulations that force partnership with a bank. The business case in such a partnership becomes encumbered and costly, leading to failure of initiatives with great potential, such as Vodacom MPesa and MTN Mobile Money. The forced partnership models limit the ability to innovate and challenge existing models. The difference between a sponsored and licensed scenario is displayed in Illustration 5.

The structure of the NPS creates barriers to non-bank participation in clearing services, including the costs of "multi-layering". These barriers limit the launch of payment mechanisms that could compete with well-established ones in scale, cost and acceptance.



"Some regulations such as KYC and AML are hindering us from including excluded segments. We need to address how to bank foreigners. This is an industry conversation."

**Tshego Lesole,**  
Head: Alternative Payments, Absa

#### 2. Anti-Money Laundering (AML) and FICA regulation

AML and FICA regulation has complicated user registration and distribution efforts, which in turn has hindered the uptake of mobile payments. However, regulations do not establish a national standard with clear guidelines, nor a unified approach among the AIs (Accountable Institutions). This means that consumers need to deal with each AI on its own merits. Each AI sets derivatives of the standards based on

individual interpretation of the FIC Act. This results in repetitive disclosure of information required across multiple financial service segments, generating onerous processes and unnecessary red tape in financial service interactions for all concerned. There is no single FICA register, national digital standard for reporting, nor national API for banks, AIs, fintechs and third parties for referencing FICA status for individuals or businesses.

#### 3. Lack of mobile industry standards

The industry has multiple deployments of varied technologies in the mobile payments space. Multiple QR code standards and integrations are required at POS, such as Zapper, SnapScan, Masterpass and Wicode, with multiple Near Field Communication (NFC) standards, Samsung Pay, Garmin Pay and others to come. Each deviation from standards or new integration causes immense roll-out delays in implementations and leads to costly integration and deployment. In countries where there has been mass uptake in mobile payments, there is evidence of clear adherence to a single, national QR code standard and treatment at POS (WeChat and Alipay in China), or a clear, single, national integration point with standard interfaces (UPI in India).



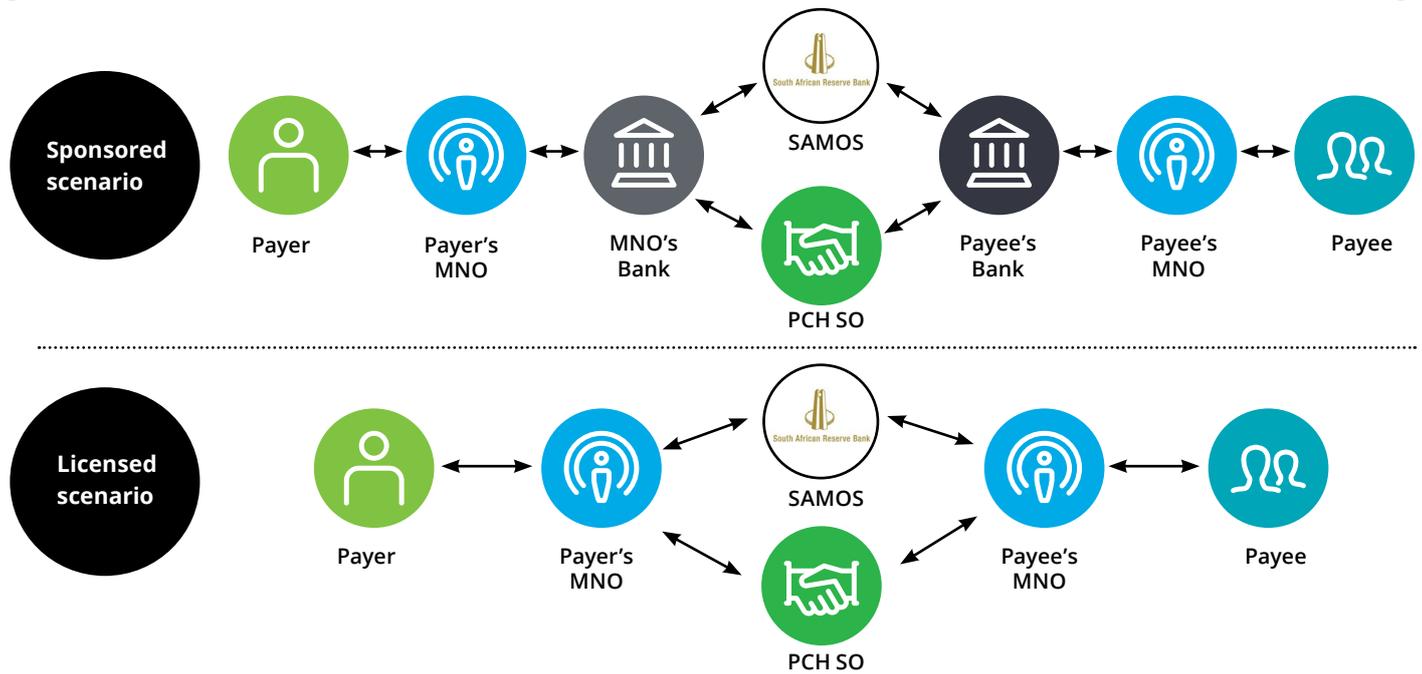
"The lack of interoperability between store of value mobile operators and varied standards is preventing the growth in mobile payments as tender. As Shoprite, we keep on needing to build over and over again. Each little project takes six months, costs millions and the return is not justifiable."

**Tremaine Hechter,**  
General Manager of Financial Services, Shoprite

There is a need for standards, considering compatibility with POS, which allow for easy and reliable checkout processes in physical retail and online.

Illustration 5: Mobile money channel example of sponsored and licensed scenarios

Less agile; more costly; slower time to market; onerous reporting; higher compliance costs; many layers



More agile; less costly; quicker time to market; simpler reporting; lower compliance costs; fewer layers

Source: Deloitte analysis, 2019

**Regulation on barcode payments to solve e-payment scams and facilitate fair market competition in China**

In China, bar code payments (including QR codes) dominate the mobile payment market. Using a bar code to pay is easy, but comes with risks. In 2017, about RMB90 million (US\$14 million) was stolen via fraud. On 25 December 2017, the PBOC released new regulation to standardise bar code payments. The regulation came into effect in April 2018.

The new regulation focuses on five aspects of payment security:

- 1. Business licences:** Non-bank payment processors should get a specific Internet Payment Business Licence to provide a bar code payment service.
- 2. Clearing requirement:** Banks and payment processors should clear their inter-bank bar code payment business through the PBOC clearing system or a legally registered clearing entity and cannot use direct connections to clear payments.
- 3. Regulate business scope:** Payment processors cannot conduct security, insurance, loan, financing, wealth management, guarantee, currency exchange or cash deposit/withdrawal services based on their payment business.

- 4. Require fair market competition:** Banks and payment providers should price their fees by referring to bank card payment charges and should not subsidise or provide below-cost prices to eliminate competitors or distort the market.
- 5. Rank risk levels and limits according to verification mode:** The regulation states that banks and payment processors need to follow the new payment risk prevention standards and apply different payment limits according to verification methods.

**4. Lack of interoperability**

Mobile offerings in South Africa are divided, which means that no scale can be achieved because the customer value proposition is limited to the ecosystem within which the customer operates. To see the use of mobiles mimic cash, individual ecosystems need to create new methods of interchange and interaction across these established ecosystems. For example, FNB account holders can currently send money to non-account holders who are able to withdraw cash at FNB ATMs. Interoperability could mean an expansion of such a service to work on all bank systems, at all bank ATMs, at all bank POS devices and at national retailers.

Many consumers rely on cash because the infrastructure that would support alternative

payment mechanisms is not in place. For example, it took over seven years for all card-acquiring devices in South Africa to process chip and PIN for EMV acceptance. Deployment of new devices that are NFC enabled or allowing for multiple versions of the QR code to be scanned at POS could take just as long to deploy, which hinders any scope for broad-based national uptake of mobile payment services, keeping the need for cash in the system. Allowing interoperable services in payments has the potential to challenge the reliance on cash.

According to Brett White, Chief Product Officer at Zapper, countries like China and India have almost entirely eradicated cash and cards. Consumers pay for just about anything, anywhere, using their phones through apps such as Alipay and WeChat. He added that a cashless, cardless system could be a reality right here in South Africa, right now – all we need is for the retailers and banks to get on board.<sup>21</sup>

Interoperability needs to happen at various levels, including interconnection with:

- banks
- clearing and settlement
- other payment, service and utility networks
- relevant national databases for validation, authentication, reporting and compliance (e.g. South Africa ID and fingerprint database; FICA database; MNO cell number verification database, allied to RICA)
- loyalty systems, distributed ledgers for crypto currency, enhanced biometric data (such as SASSA, iris and facial recognition data)
- internationals (such as SADC – Mowali with MTN & Orange; M-Pesa; Ecocash; etc.).

Most markets in the Southern African Development Community (SADC) do not mandate interoperability. However, there are new provisions which encourage Mobile Money Service Providers (MMSPs) to create interoperable solutions in future. It has been recommended that SADC central banks include provisions that encourage interoperability amongst MMSPs irrespective of the MNO, channel and bank.

In 2013/14 a review was commissioned by the legal and payments sub committees of the Committee of Central Bank Governors (CCBG) in SADC to assess the laws, regulations, directives, circulars, guidelines and guidance notes directly applicable to the NPS in each of the 15 SADC countries.

The review highlighted that regulations for mobile money in the various SADC countries were significantly different. An in-depth study on mobile money in SADC was undertaken, resulting in the drafting of the Mobile Money Guideline for the SADC region. Known as the MMSP Guidelines, a framework for key regulatory aspects and performance criteria was drawn up.

At this stage, it is unclear how many countries in the SADC region have implemented these guidelines.<sup>22</sup>

### Further constraints that need a new approach

In creating an environment for ubiquitous digital payment acceptance, several non-payment-specific factors impact the use of mobile devices.

### Data costs must come down

Data connectivity costs, data coverage, and handset capabilities (such as onboard memory) can negatively impact growth in usage.

The GSMA states that in sub-Saharan Africa, mobile internet penetration has more than doubled in the last five years to 21% in 2017 (from 9.1% in 2012) with 280 million new mobile internet subscribers estimated to come online in the region between now and 2025 (40%).<sup>23</sup>

Smartphone adoption is helping to drive strong growth in data traffic. For example, Vodacom in Q1 of 2018 reported 65% year-on-year growth in data traffic across its international operations in the region. MTN reported a 56% increase in data traffic for the same period.<sup>24</sup>

Despite mobile operators' growth, there has not been a matching reduction in the charges. Data prices remain relatively high which causes a barrier to entry for lower income customers. This impacts access to all financial services via mobile, increases friction, reduces the uptake of digitisation and sustains cash usage.

Agreed national standards and reciprocal benefits established for MNOs to carry payments-related data at a marginal cost would enable payment integration into chat platforms, charged at little or no cost to incentivise uptake.

### South African payments industry views

#### Regulator view

- The regulatory framework that forces MNOs to partner with banks due to deposit taking law is a hindrance. The SARB is engaging with the regulator of banks to address deposit taking and is considering regulation aligned with India's Payments Banks for participants who only wish to provide payment services. The conversation includes the consideration

of activity-based regulations such as restricting mobile money to future payments due and excluding lending.

- Mobile payment offerings which use the device to access an account are not seen as true mobile payments.
- There is a need to embrace mobile payments in an interoperable form, with access to multiple service providers and multiples stores of value to address the high usage of cash. Social payments could be the catalyst for this.
- An inability to achieve interoperability will result in the continued proliferation of closed loop schemes and will not achieve the "big network effect" of being able to use mobile payments anywhere.
- A broader conversation with the Independent Communications Authority of South Africa (ICASA) needs to address the capping of data costs on mobile-originated payment transactions.



**"I believe that we will see traction in mobile payments when they are integrated with social media. If what is under consideration by PASA and BankservAfrica could have the support of the broader payment system stakeholders, the industry could put a valid solution together and the take-up would be natural, especially among the younger generation. We are living in a world that expects payments to be integrated into the service experience."**

**Tim Masela,**  
Head: NPSD, SARB

#### PSO view

- More and more, the expectation will be to offer "payments in the app" without expecting users to pay as a separate process (e.g. Uber).

- The biggest issue in achieving growth is a lack of coordination and a unified brand. A branded industry-wide USSD and app-based mobile solution that everyone understands would address the need to deliver critical mass.
- There is a need to reconsider the cost of routing electronic payments.

**Bank view**

- There is uncertainty about the SARB stance on issuing e-money and having a large store of value being anonymous. More clarity is required on what is allowed and what is not allowed in the e-money area.
- USSD is still prominent in the mobile market. There has been massive growth in banking app usage for various digital channels, including USSD. Current banking apps are probably too complicated and need to be simplified. In future, banks may have different versions of apps for differing purposes.
- For mobile payments in South Africa to achieve critical mass, adequate rails need to be in place and the solutions need to be affordable, real-time and “as good as” cash.
- Certain banks asserted that the lack of willingness among players to make solutions interoperable is preventing growth and that mobile wallet solutions should be interoperable in the future. Other banks asserted that forcing interoperability would add clearing, settlement and complexity costs (given the current structure of the NPS and interchange arrangements).
- Most banks felt that to address interoperability in its entirety requires discussion in the SARB, PASA, PSO and MNO environments to come up with a solution.



“Mobile will be the channel that will drive innovation going forward and will include card and EFT.”

**Charl Smedley,**  
Head: Retail Payment Innovation, Absa



“The underlying clearing and settlement mechanisms, namely our card rails and instant payment rails, are where we’ve got to create that national capability, so that our enabling environment becomes device agnostic, lending itself to the mobile and other channels to execute payments. If we get this right, the device is immaterial.”

**John Anderson,**  
Head: Industry Payments, SBSA

**Retail view**

- All retailers indicate that contactless payments are growing at a much faster rate than mobile payments.
- Retailers assert that while even in the deepest rural communities consumers have entry level smartphones, the most commonly used channel for communication is still USSD. Retailers thus recommend that mobile apps should be developed on USSD first, then Android and then iOS.
- Retailers have collectively discussed and agreed to support the principle of interoperable money transfers at PASA since 2016.
- In addition, retailers want interoperability between store of value mobile payment providers, as currently the integration costs of mobile payment solutions render the return unjustifiable.
- Retailers assert that interoperability at a bank level will only be achieved if mandated by the SARB.



“The biggest area of innovation has got to be mobile. Mobile payments must not slow down the operations at the till otherwise it simply won’t work in retail.”

**Rick Wheeler,**  
Group Retail Systems Manager, SPAR

**Fintech view**

- All fintechs interviewed agreed that while the underlying infrastructure is the enabler, attractive mobile payment offerings that address social aspects and consumer behaviour are paramount to success.
- Data costs are a factor in preventing the growth of mobile payments, referencing various other African countries as examples where data costs are not as onerous.
- The low entry level “smart” phones have insufficient memory and NFC, affecting the ability to download and make use of payment apps.
- The need for standards is required for mobile wallet cash-in and cash-out in South Africa.
- Regulation that allows non-banks to process e-money is necessary.



“We need to understand the social factors. Regardless of the rail (e-money, card, mobile), the offering needs to be inviting enough for consumers to want to pay via an electronic method.”

**Pieter Swanepoel,**  
Managing Director, Real Pay

Regional Learnings - Mobile Payments				
Solutions	Kenya – M-Pesa	China – WeChat	India – BHIM	RSA – Flash
<b>Subscribers</b>	30 million	902 million	32.4 million	16 million
<b>Services offered</b>	P2P/P2B/B2B/Prepaid/Bills	P2P/P2B/POS/B2B/Messaging/Voice/Video	P2P/P2B/B2B	P2P/P2B/B2B
<b>Store of value</b>	Wallet	Wallet	Wallet	Wallet
<b>Ecosystem</b>	Closed loop	Closed loop	Hybrid	Closed loop
<b>Mobile access method</b>	USSD/App/QR Code	App/QR Code	USSD/App/QR Code	USSD/SIM Toolkit (STK)/App
<b>Transaction fees</b>	2% to 0.2%	0.1%	Free	Free
<b>Incentives</b>	Agent regional awards schemes for operational excellence. Weekend financing to support and complement working capital. Entering partnerships with banks for long-term business loans; encourages formal contracts between the principal and sub-agents ensuring fair treatment of all classes of agents.	WeChat has built an ecosystem of services—carefully curated list of service providers; starting from the core (messaging/social) with different layers on top—expansion, related, and societal layers. Everything is right there in the app. A user doesn't have to exit WeChat interface to do different things. Payment processing through merely QR codes has made lives simpler. It is completely free for users. Merchants get paid for advertising opportunities in app.	Offering cash backs; promoting and incentivising cashless payments by waiving the merchant discount rates (MDR) on debit-card usage.	Traders earn profit from sale of prepaid airtime, data and prepaid electricity, bill payments and other services. Send money. One voucher for any network. Quick prints, pre-print and bulk print. Sell even when offline. Convenience and reliability is key. No credit cards and no fees.
<b>Interoperability</b>	M-Pesa network across 10 Countries	WeChat network	Interoperable across approximately 37 banks	Flash network; Pep Stores; PnP stores; Eco-cash; Absa; FNB (Limited)
<b>Launched by</b>	MNO	Internet and social media company	NPCI; Consortium of major banks	Entrepreneur and private sector
<b>Duration in existence</b>	7 years	12 years	2 years	10 years
<b>Enablers</b>	Lack of banking products for poor, enabling regulation and high mobile penetration	Lack of banking products for poor, social media and internet boom, high mobile penetration and access to immense funding	Lack of banking products for poor, social media and internet boom, high mobile penetration and enabling platform for interoperability (UPI)	Lack of low-cost digital banking and trading products for poor; high mobile penetration, STK Apps and sense of ownership
<b>Benefits</b>	Empowers, uplifts informal sector, facilitates trade, multinational, reduces cash dependence	Empowers, uplifts informal sector, facilitates trade, enables instant communication, multimedia	Empowers, uplifts informal sector, facilitates trade, multi-bank, reduces cash dependence	Empowers, uplifts informal sector, facilitates trade
<b>Economic growth</b>	Kenya's GDP growth at 5% per annum; mobile money transaction growth at 20% per annum	Represented 30.3% of the GDP and contributed to 69.9% of the GDP growth	Close to 15% growth contribution to GDP	135 000 traders in informal sector; R1.2 billion per month turnover

### Flavours of mobile payments



Mobile payments (also referred to as mobile money, mobile money transfer, mobile wallet and mobile banking) generally refers to payments services operated under financial regulation and performed from or via a mobile device.

1. **Mobile banking** – Customers access a bank account via a mobile phone.
2. **Mobile money** – Customers access financial services via a mobile phone.
3. **Mobile money transfer** – Customers use a mobile phone to move value from one mobile wallet to another mobile wallet and the value accrues in the receiving wallet.
4. **Mobile wallet** – An account that is primarily accessed using a mobile phone, typically faced with constraining rules surrounding its usage. For instance, it can only be used to purchase goods and services, may not earn interest, and its residual may not be withdrawn as cash (e.g. Venmo, Alipay, Paytm, Masterpass, Virgin Money Spot Wallet).
5. **Mobile payment** – Customers use a mobile phone to move value to or from a mobile wallet, or from a card, shadow account or bank account to make transfers, or pay for goods or services, either at POS (purchases) or remotely (bill payments).

### Enablers for mobile payments



1. **Mobile apps using “card proxy”** – The mobile device is used in place of the physical card issued by the bank. Once users load their cards into recognised apps, the smartphone camera can be used to scan QR codes for making retail purchases (e.g. Zapper, SnapScan, mVisa).
2. **Mobile with NFC** – The mobile device is used in place of the physical credit, cheque or debit card issued by the bank. Certain banks allow users to load and “associate” their cards with recognised apps for making retail purchases. To pay, any card-acquiring device is tapped with a contactless symbol using the mobile (e.g. Samsung Pay, Apple Pay, Google Pay).
3. **Mobile POS** – Devices connect via Bluetooth to mobile phones to enable card acquiring of magstripe cards and chip cards to meet EMV standards, depending on the market (e.g. Square, iZettle, SumUp, Yoco, iKhokha).
4. **USSD App** – This was typically used during the early evolution of mobile, for entry level devices and feature phones. Especially developed in Africa, USSD exploits the signalling channel of the GSM standard to temporarily invoke an “overlay menu” which runs on top of the mobile embedded phone menu. It is typically navigated using number selection to walk the user through a “dialogue”. It has proven very popular for airtime purchases and loads.
5. **STK App** – This functions much like USSD apps in the user experience and application. However, the menu of services and options is invoked by opening an app which is embedded in the SIM card of the mobile, either during SIM manufacture or via download later (e.g. Flash, SharedPhone, early versions of MTN Mobile Money).



# Chapter 5

## Digitising the informal sector

In December 2017 Mastercard released the *Insights into the Informal Economy Report*.<sup>25</sup> The intent was to understand trends in payments – from cash to card – to estimate the opportunity for cash displacement in the informal sector.

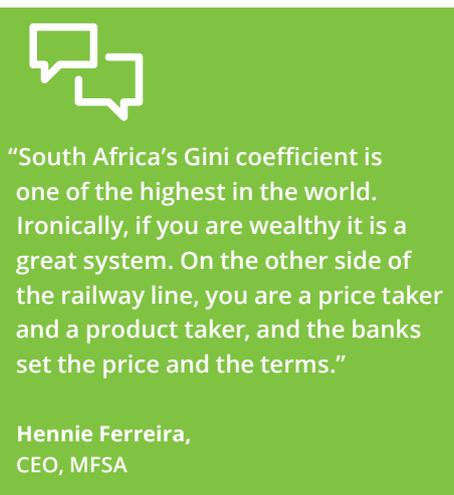
Findings indicated that more than 51% of South Africa’s informal enterprises had encountered strong customer interest in paying by card, yet around 90% of them continued to run as cash-only businesses. The report also found that rural and township residents used cards for 60% of their transactions at formal retailers, compared with only 4% of transactions being card based at informal retailers.

Apparently, this was due to these small traders not offering card or mobile payments as tender. According to Gabriël Swanepoel, Vice-President of Product Development and Innovation at Mastercard SA the lack of access to formal banking tools and understanding of available payment options limits their opportunity for growth.

During interviews formal retailers reported that cash purchases constituted roughly 80% of the total volume and 55% of the value of payments taken in-store. While accepting cash is the cheapest payment method for retailers, the cost of importing cash to support SASSA payouts, as well as cash withdrawals at POS, causes immense operational challenges, costs and risks for the retail stores. “Cash is a huge risk. Shoprite had 400 armed robberies and SPAR 150 during 2018. Retailers need additional security and have become the front line of the banks,” adds Rick Wheeler, Group Retail Systems Manager, SPAR.<sup>26</sup>

Based on interviews retailers anticipate new regulations being imposed on cash-in-transit companies, which will push up the costs of cash handling significantly. Without a reduction in the costs of card acquiring, retailers anticipate an overall increase in banking costs to affect their operations.

In 2018 the IFWG successfully brought together policy makers, regulators and the financial services industry for a focused discussion on the challenges impeding financial inclusion in South Africa. There was a call for more in-depth research on the dynamic between the declining usage of bank accounts and the increased utilisation of cash in the informal financial relationships.



“South Africa’s Gini coefficient is one of the highest in the world. Ironically, if you are wealthy it is a great system. On the other side of the railway line, you are a price taker and a product taker, and the banks set the price and the terms.”

**Hennie Ferreira,**  
CEO, MFSA

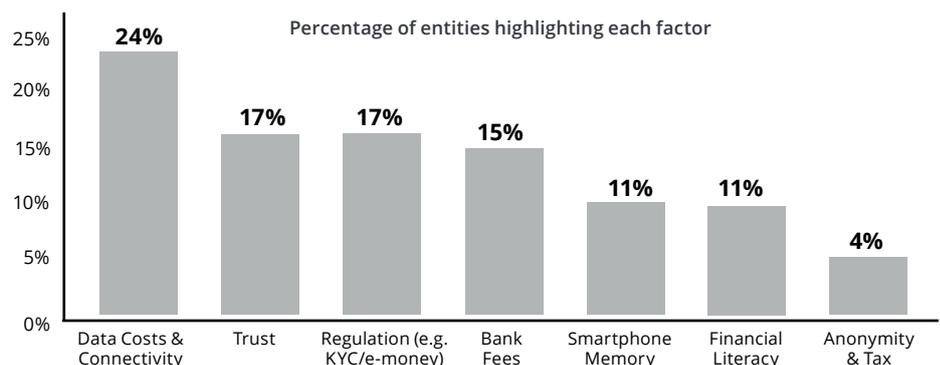
A Cenfri survey conducted on social grant recipients receiving funds digitally found that 90% withdrew all funds from the bank account as soon as funds became available.<sup>27</sup> To this point, John Anderson, Head of Industry

Payments at SBSA, explains, “Financial inclusion is not about having a bank account, it’s about financial deepening, it’s about a transition away from cash.”<sup>28</sup>

Interviewees shared various ideas why cash continues to be the dominant tender type for low income individuals and factors that hinder financial inclusion:

- data costs and connectivity required for electronic payments
- a lack of trust in the banking sector, worsened by the ongoing debit order abuse
- the need for electronic payments that are designed and implemented to replicate the cash value proposition with a focus on low cost, immediacy and ease of use
- channels that deliver electronic payments not being designed for the social dynamics of the end user
- regulation that is too stringent, for example, KYC
- education regarding the real cost of cash (the misconception that cash is free)
- the fear of becoming known in relation to the enforcement of tax payments.

**Figure 4: Factors that hinder financial inclusion the most**



Source: Interviews with 22 South African payments entities, October to December 2018, Deloitte analysis

### Cash rules

According to the 2017 Mastercard study, South Africa had around 1.5 million informal enterprises generating turnover of around R75 billion a year. Absorbing 12% of the country's labour force, they provide a valuable source of employment and income for some of the country's most financially vulnerable.<sup>29</sup>

Information presented by Pick n Pay and calculations by Moneyweb in May 2018 indicate that the informal food sector was valued at about R404 billion, holding 40% of the total food market in South Africa.<sup>30</sup>

The above-mentioned Mastercard study identified six major reasons why cash still rules the informal economy:

- the perceived costs of accepting mobile and digital payments
- a lack of knowledge and awareness about the solutions available for card acceptance and the benefits of going cashless
- lack of formal banking facilities
- a belief that cash makes it simpler to budget accurately when handling small amounts of money
- tax evasion
- a relatively high percentage (45%) of consumers receiving salary payments in cash.

### Opportunity knocks

In 2004 Brian Richardson, CEO and founder of WIZZIT, launched mobile banking solutions to service the informal sector.<sup>31</sup> He asserts that for years traditional banks have been claiming that there is no money to be made at the bottom of the pyramid. Bricks and mortar banking is expensive to run. The critical elements of success required for financial inclusion are embodied in what he calls the "3 As":

1. Affordability: account and transaction costs
2. Accessibility: branch location, design and staff availability/skills
3. Availability: operating hours, queue time, ability to resolve matters in one visit, information to address intimidating and onerous requirements.

According to Richardson, technology solves all these issues and dramatically reduces the client acquisition cost, processing costs and ensures 24/7 availability for the customer. He adds that financial inclusion means having a safe place to keep my money; being able to access my money when I need it; being able to make payments and send money; having access to credit should I need it. It clearly goes way beyond simply having a convenient way to buy airtime. Trust is critical.

Richardson predicts that we are going to see a big move in the use of mobile for retail transactions and a dramatic rise in e-commerce. Customer needs and requirements will need to drive strategy.

Strategic insights expert and author of *KasiNomic Revolution*, GG Alcock says of the so-called township economy, "[Kasi] is a vibrant, eclectic mix of mansions, shacks, spaza shops, premium taverns, hawkers, taxis and hot wheels. To say I am a kasi boy or girl now has a sense of urban cool. It is said with swagger; you're a survivor, a trendsetter, one of the mass majority of South Africa, with its majority of urban and peri-urban populations."<sup>32</sup>

Alcock asserts that those brands that still believe townships are slums are making a huge mistake: "In this kasi market, there are vibrant businesses, energetic people, a tight, networked social community, abundant hope and a glimpse of what our future is really like."

Flash founder, Peter Berry, agrees. His modus operandi is to engage intimately with informal traders and learn about their customers, business models and needs. Inspired by their entrepreneurship and drive, Berry proceeded to deploy meaningful solutions to address the constraints of cash in the informal marketplace, giving informal merchants and communities support.

A bank that is taking an interest in this market is FNB. Michael Vacy-Lyle, CEO of FNB Business, explains that, "With 50% of South Africa's urban population living in townships, the ecosystem supporting these communities warrants significantly greater focus from the banking sector." He refers to this opportunity as the "Unseen Economy" – the opportunity space that most call the informal sector or the township economy. "At FNB Business we

are of the view that this business segment of the South African economy has been ignored for far too long," he adds.<sup>33</sup>

FNB believes that these businesses are underserved from a banking perspective, mainly due to cash being the predominant form of payment for them. According to Vacy-Lyle, "There is a clear need to provide cost effective and safe financial solutions into the Fast Moving Consumer Goods (FMCG) space – spaza shops and other retailers."

FNB has partnered with a South African fintech start-up, Selpal, in the hope of unlocking the country's township economy. The partnership between Selpal and FNB will seek to provide cost effective financial solutions to the spaza shops. Selpal has developed a system that connects spaza shops with FMCG suppliers, wholesalers and brands.

### Can digital acceptance reduce cash in the informal sector?

The Mastercard study found the use of smartphones among informal enterprises and their customers to be relatively high, driven by the decline in the cost of smartphones and the strong demand for digital messaging services and social media platforms.

The study found that merchants who introduced card acceptance reported an average increase in turnover of 50%, while those that introduced mobile payment acceptance via QR codes saw their revenues climb by 10%.

Spaza owners who can digitise their commercial activities are able to build a track record of their trading activities and use this to raise loans and gain access to financial services that help them grow their businesses.

"The informal economy is key," adds Hendrik Pelsler, Head: Payments Regulatory and Interbank, Absa.<sup>34</sup> Enabling card transactions in the spaza environment, for example, would enable informal traders to compete more effectively with the large retailers, enabling growth in smaller economic centres. At this stage the preferred tender is cash, driving consumers to larger economic centres to withdraw cash, as ATMs are not economically

viable in small commercial centres. Such funds are normally then spent in the larger centres with the larger retailers.

Like South Africa, India and China were cash-heavy economies. They also had a well-banked top demographic and large numbers of financially underserved people who typically had a mobile phone. In 2009, over two-thirds of all e-commerce payments in China were cash on delivery, while today mobile payments account for over 70% of all e-commerce transactions in China. India is also winning with mobile payments. Cash reduction is happening more gradually. *The Economic Times* reports that in just four months of Google launching its own mobile payments service, Google Pay has been processing the same number of digital transactions as one of India's top private banks, Axis.<sup>35</sup>

There are signs that South Africa's transition to a cashless environment could happen quickly. Locally, QR code app-based payment services such as Zapper and SnapScan already have over 50 000 merchants across South Africa. In addition, Samsung Pay launched in August 2018.

However, these solutions make use of existing card rails and some merchants believe that they come with the existing complexities, costs and accessibility issues associated with card products.

In addition, Deloitte's view is that the cost of data and lack of interoperability between store of value mobile payment providers, coupled with varied standards, is preventing true retail penetration and the acceptance of mobile payments in-store.

Could the regulator and banks consider adopting bold moves that shift the South African payments landscape into rapid adoption of mobile and social payments? Is there a clear policy and plan on how to reduce the reliance on cash and drive digital payments in the informal market? Is the industry in South Africa doing enough to drive industry standards and true interoperability?

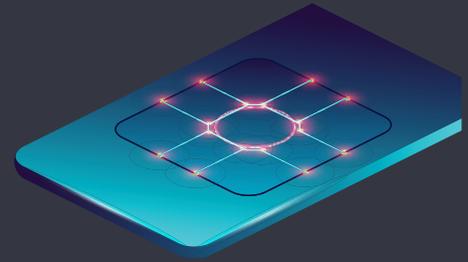
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**Deloitte's view is that the cost of data and lack of interoperability between store of value mobile payment providers, coupled with varied standards, is preventing true retail penetration and the acceptance of mobile payments in-store.**

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## Case Study:

### Digitising cash in a Flash



Founded in 2008, Flash connected a R190 mobile phone, which operated on a zero-rated USSD1 signalling layer of the network, to a printer. The device took any prepaid SIM, vended airtime and electricity, and processed bill payment. It cost R600 and was advertised for R799 in the Daily Sun. The solution challenged competitors who were selling devices for between R5 000 and R10 000 and skated around the regulatory blockages which prevented small shop owners from vending electricity.

Uptake flourished with a sign-up in the region of 1 500 customers per day and over 5 000 vendors in the City of Cape Town. The company set up a call centre in Delft, in a refurbished school, which they audaciously secured for a rental fee of R1 per annum from the Cape Town City Council.

Flash took a huge leap of faith and delivered devices to customers based on their word, not their deposit. This was further extended to the advancement of working capital on a next day repayment basis. Flash knew and trusted their customers and expedited the implementation of its service to get shop owners up and running.

Locals could now purchase airtime and electricity and pay their bills simply and without transport costs. Increased foot traffic in-store and access to trade had shop owners generating an average monthly turnover of R20 000 to R30 000. Flash had created a cashless ecosystem that kept money in the community with access points on a national scale.

The market need for a cash out solution, savings and loans products propelled Flash to apply for a co-operative banking licence in 2010. Despite multiple attempts, the application was declined on the basis that shop owners as a collective did not qualify as a common bond.



**“I don’t think there is fundamentally an unbanked problem. There is a trust problem, a debit order problem, a loan problem. Until this is addressed by the banks, an individual who gets paid on the 25<sup>th</sup> will continue to withdraw their salary and their loan money in full. They need the reassurance that they have all their money up front so that they can survive the month.”**

**Peter Berry,**  
Founder of Flash

Focused on its quest to make micro entrepreneurs self-sufficient, the company partnered with Pepkor Group in 2014 to extend its footprint significantly and continued to innovate.

Flash launched a remote account load voucher which took shop owners out of the queues. For the first time, Flash customers no longer had to leave their businesses to recharge their accounts at the bank branch or in-store, provided they had access to connectivity.



**“There are problems with connectivity. Data is expensive, the deals offered by the networks are difficult to understand and the low-end devices provided pose as smartphones but don’t have sufficient memory.”**

**Peter Berry,**  
Founder of Flash

In executing its philosophy that focused on enabling customers on a basis of mutual trust rather than being driven by the bottom line, Flash had a significant impact.

**Strength:** Provides a merchant enabling solution and a cash replacement solution at near to zero cost.

**Weakness:** Constrained by e-money regulation and limited access to connectivity, customers are required to go in-store to recharge their accounts.

*Note: The opinions and strategy expressed in this case represent the views of Peter Berry as the founder of Flash. Peter sold Flash to Pepkor and left the group in 2017 to start Shop2shop, a business that helps small shop owners access more products at the right price.*



**“If you can get a shop owner to be successful, then it’s good for everybody.”**

**Peter Berry,**  
Founder of Flash

**Illustration 6: Digital payment use case**

This illustration demonstrates how the daily life of a South African could be enhanced if the NPS offered interoperable mobile payments, real-time payments at low or no cost, open APIs and a unique national central digital ID.





# Chapter 6

## Enabling change

The global trends in payments show that an evolution from traditional to digital payment solutions is being achieved and accelerated, via the adoption of modernised messaging standards, and featuring rich overlay services and renewed regulation. This trend relies on the implementation of a regulatory environment that informs and enables the successful collaboration between banks and non-banks, innovation and new technologies and the need for protection, fairness and rigour to all.

Banks such as the PBOC are succeeding by remaining focused on the activities, related policies, stability and integrity of the core financial services. At the same time, fintechs in the private sector, like WeChat and Alipay, can innovate swiftly, delivering massive uptake and achieving a win-win solution.



**“Fintechs add huge value when it comes to the development of overlay services, channels and front-end products. We have a number of fintechs that we work with and it’s all about complementing each other.”**

**John Anderson,**  
Head: Industry Payments, SBSA

In Africa and South Africa in particular, fintechs have proven that they are motivated to go door-to-door and sign up merchants for low fees. They are also geared to process high volume, low value transactions, showcasing a willingness and capability to close gaps in the payment system.

No two countries are the same, and central banks are finding themselves increasingly

challenged by the inherent prospect of the Fourth Industrial Revolution. The SARB is keeping its principles intact as is evidenced through the SARB NPS Vision 2025, the NPS Act review and the establishment of the National Payment System Strategy Body, put in place by the Payments Council and chaired by the Deputy Governor of the SARB to actively monitor progress of Vision 2025.

Through these initiatives, the SARB is showing the industry that it recognises the need for change. There is a dependence on open collaboration and the responsible and active incorporation of fintech providers and payment service providers in the form of non-banks.

With the South African NPS requiring a delicate policy balance between regulation and market forces, the continuing role of the SARB as expressed in Vision 2025 is to balance the interests of all participants in the market, inform the market of what is needed to adhere to public policy, and provide a framework for participants to innovate, design, develop and implement for the benefit of the South African public.



**“We need to be open to change, collaborate on emerging complex issues and develop policy transparently and iteratively (with adequate feedback loops) to ensure robust and appropriate policy development.”**

**Arif Ismail,**  
Head: Fintech, SARB

Concurrently, Project Future, a PASA initiative, is underway to review and propose changes

and enhancements to the NPS architecture to support stability and fast-track innovation. “We need to balance the risk with inclusiveness. Our NPS can’t be so secure that no one can use it and it can’t open up so much that the entire system collapses,” says Walter Volker, CEO, PASA.<sup>36</sup> The approach is to focus on the design and the technology will follow.

Banks, retailers and fintechs shared their views on collaboration, regulation, pain points and expectations of the NPS.

### Bank view Collaboration

Certain banks expressed the need for a regulatory environment and a collaboration model whereby the regulator mandates what needs to be done and the collective deliver on mandates for the national good. Global examples included Nigeria and India. Referring to Nigeria, Brad Gillis, Head of Payments, Rest of Africa, SBSA commented, “The environment is non-competitive, but on a platform level, the banks are able to compete. Finding that balance is key.”<sup>37</sup> India was also mentioned, with the UPI being used to illustrate a more aggressive regulatory approach, with the regulator enforcing mandates and deliverables, setting the standard and dictating the price at the core. Other banks argued that the NPS participants should lead the strategy for the industry, with the SARB providing the rules of engagement.

Some banks asserted that the current format for collaboration is not effective, highlighting the Banking Enquiry by the Competition Commission from 2006 to 2008 as a turning point that inhibited them from brainstorming openly as a collective.

Banks also recognised the need for closer engagement: “Absa can’t do anything on its own. There is a need to drive the industry conversations, the NPS conversation, the SARB Vision 2025,” says Hendrik Pelser, Head: Payments Regulatory and Interbank, Absa.<sup>38</sup> To achieve a responsibly inclusive payments system and economies of scale in the interoperable space, banks proposed the introduction of a mechanism to enable them to collaborate freely without being deemed to be anti-competitive.

Another issue that hampers collective innovation is that banks are operating in individual ecosystems and are on different evolution paths, with some more ready than others to entertain the adoption of new standards and industry solutions. According to Quintin Marneweck, Head: Product Wholesale Payments of Nedbank, “We need a mind shift to say that we’re doing strategic long-term 20-year investments in an environment that we want to create value in for the next 20 years. The problem is the current five-year bank business case view.” He adds that, “In Vision 2025 we see greater efficiency, greater interoperability and lower costs. We all know that none of that can happen without an increase in transaction volumes and that won’t happen in individual ecosystems alone.”<sup>39</sup>

### Regulation

In the main, banks require legal certainty regarding the NPS stakeholder roles, their participation and access and how Vision 2025 will be applied structurally as tabled in the NPS Act review.

While it was agreed that Vision 2025 provides an ideological framework, clarity is still needed on how it relates to the broader policy objectives with areas such as reducing the reliance on cash still in question.

In addition, with the imminent entrance of fintechs to the core payment systems, there is a need for equitable regulation and directional leadership which levels the playing field and addresses the proportionate shift of risk and costs to non-banks. The current sentiment is that “banks pay all the costs and fintechs get to play”.



**“We need to improve the regulatory environment. In 1994 the NPS formalised with banks adopting a self-regulating model on the back of a commercial competitive principle. This has proven to be less than ideal and needs to be firmed up with a regulatory model that applies equally to participants in the payments ecosystem. When it comes to fintechs, there is currently no licensing or withdrawal of licensing, something that is required for a standardised effective framework.”**

**Hendrik Pelser,**  
Head: Payments Regulatory and Interbank, Absa

Furthermore, concern was raised that more regulation results in less innovation, emphasising the need to not overregulate. In addressing this concern, certain banks offered a more practical approach to the drafting of directives, suggesting that a pilot environment be used for participants to consult, collaborate, implement and test, the outcome of which could inform policy. Others suggested a review of the intent of policies and that policies should be drafted using a risk-based approach. An example provided was the review of the FIC Act which was amended to allow non face-to-face FICA. This mitigates risk through the implementation of transaction limits, which opens the money transfer and remittance market, while keeping the risk factor in check.

### Architecture

Banks asserted that the NPS architecture needs to be modular and service-oriented to protect the core, meet regulatory compliance requirements and enable industry participation, innovation and technological growth. Considering the industry effort and costs, the core architecture should not be

changed more than once in a generation. This highlights the importance of getting the design right from the start.

There is also a view that the modernisation of the core SAMOS system currently underway at the SARB will assist the industry with modernisation efforts and provide for rich data messaging requirements. The implementation of ISO20022 messaging standards during DebiCheck will also fast-track the modernisation build.

### Projects

DebiCheck and Project Khokha were highlighted as projects that have yielded important learnings. Regarding DebiCheck, many of the banks asserted that a staggered approach rather than a big bang implementation would have been of greater value to the industry, saving large scale frustration, time and money. Project Khokha was seen as a framework for project delivery, with banks commending its execution and the delivery time frame. Banks stated that any future projects should be broken into stages, with long, medium and short-term goals, putting in place sanity checks and testing performance regularly.



**“Our learnings from Project Khokha have shown us that the best way to accelerate change and enable decision-making for new policies is to trial proof of concepts involving all stakeholders, that don’t take too long or cost too much.”**

**Arif Ismail,**  
Head: Fintech, SARB

**Retail view**

**Collaboration**

Interviewees raised the importance of working closely with regulatory bodies. For example, rules that address messaging have been implemented without consultation, resulting in a negative impact at a store level. The issue started with the move from dual messaging to single messaging and the sending of confirmation messages to customers before the transaction has been approved. This has caused problems in-store, with tellers having to convince customers that the payment has not yet gone through.



**“As brands we are trusted by consumers. The currently unbanked have more trust in the major retail brands than they do in banks. For us to provide banking services makes a lot of sense but it is not so simple and doesn’t form part of our core business.”**

**Rick Wheeler**  
Group Retail Systems Manager, SPAR



**“The reason why South African Retailers’ Payments Issues Forum (SARPIF) wants to work closely with the regulators is we don’t want banks making decisions on behalf of retailers and delivering something that causes problems for us.”**

**Rick Wheeler,**  
Group Retail Systems Manager, SPAR

**Regulation**

The retailers feel the need to become designated acquirers and to share in interchange fees such as balance enquiries. Their reasoning is that retailing has evolved with retailers having their own POS terminals, switches and paying scheme costs, which comply with PCI DSS and effectively serve as physical ATMs. The difference between interchange rates determined by the SARB on ATM withdrawal fees (R4.07 plus 0.53% of the withdrawal amount) and cash-back at POS (R1.11 fixed) was also highlighted as another area of concern.

**Standards**  
Retailers interviewed expressed the need for the NPS to inform standards. For example, the current lack of standards for money transfers (domestic) and remittances (cross-border) impedes integration in the retail environment.

In addition, interviewees raised the need for biometric standards in relation to social grant pay-outs to address the 2.5 million grant recipients who do not have cards. The industry-approved biometric standard could be the starting point for the national biometric database.

Furthermore, standards would enable interoperability between retailers, whereby a customer would be able to originate a money transfer at one retailer and cash out at another.



**“Payments shouldn’t be a competitive advantage. It should be an enabler for the customer to pay for what they’re buying.”**

**Jacque du Toit,**  
Chief Accountant, Pick n Pay

### Fintech view

#### Collaboration

Fintechs were encouraged by the imminent changes and their growing influence in the NPS. Confidence in the regulator was also emphasised, with an example being the establishment of the IFWG. However, the current process in addressing market needs was described as long, cumbersome and lacking in agility.



“I remain optimistic that the strengths of our NPS including the infrastructure and strong legal foundation, combined with the opportunities presented by local digital technology and innovation, outweigh the risks of stagnation and slow progress. For the South African NPS, collaboration and openness are key aspects to unlock this potential and regain its global position in payments.”

Pieter Swanepoel,  
MD, Real Pay

#### Regulation

As it stands, fintechs feel that their lack of legal standing means they are hampered by regulation. They highlighted the need to partner with a sponsoring bank, as one of their key constraints. “Vision 2025 shows a loosening up of the NPS, but the shape and form won't change much if we are forced to go through a bank,” says Ahmed Cassim, MD, Hello Paisa.<sup>40</sup>

Most fintechs argued that value would be derived from connecting directly to the NPS in order to avoid complexities such as sending a file in a predefined format to meet the cut-off time as opposed to doing a file upload. Instead, connecting directly to the

NPS through overlay services such as instant payments would yield the greatest value in delivering real-time payment solutions – with the caveat that the rules would also need to change to allow for inclusivity and innovation. The request is for the regulator to solve inefficiencies and provide mandates so that fintechs can “play responsibly” rather than forcing the market in a narrow direction.

#### Architecture

The need for a low cost, low value, efficient instant payment capability was expressed, with fintechs referring to the current rails as “limited”.



“Payment needs to be convenient and immediate. When I want to pay with an email I can, when I want to tap I can. It's about enabling all the journeys and using rails that are fit for purpose. The current challenge is the limited nature of the rails.”

Gerhard Oosthuizen,  
CTO, Entersekt

Like the rest of the industry, fintechs agree that the technology is secondary, with the design taking priority, to ensure stability, scalability and security, while meeting the customers' ever-changing needs.

#### Projects

The Payment System Stakeholder Forum (PSSF) proposed the implementation of incubator models such as those adopted in Singapore. These facilitate the reciprocal sharing of content and knowledge, with solutions tabled to the right forum and with the capability to escalate to the regulator.

# Case Study:

## Collaborating to include

Started in 2005, the Hello Group focus on solving otherwise ignored problems for underserved customers in innovative ways.

In 2010 and in partnership with Cell C, Hello Group launched Hello Mobile, a prepaid SIM card that removed the international calling costs incurred by its customers.

Driven to financially empower underserved merchants and the public, the company designed a low cost and comprehensive banking solution in 2013. Faced with a sector which at the time was hesitant and unwilling to collaborate, delivering the solution proved to be a challenge.

Nonetheless, Hello Group turned to solving the challenges faced by customers in moving their money across borders.

In 2014, Hello Paisa became the first non-bank to receive SARB approval to operate as a Category 3 ADLA (Authorised Dealer in Foreign Exchange with Limited Authority).

Empowered by the regulator, Hello Paisa went to market with a secure, affordable and accessible app-based foreign exchange product. Today, Hello Paisa remits to 41 countries and delivers funds within seconds of settlement (where not restricted by the domestic clearing stream in-country).

Committed to inclusion, the company, which describes itself as a “solutionist”, worked with the SARB to address FICA and AML regulation. In 2016, in another first for the industry, Hello Paisa successfully launched a fully compliant digital registration process that replaced the need for a face-to-face FICA.



**“We are not a fintech we are ‘solutionists’. We commit to understanding our customer and delivering products through a platform they trust, in a language they understand and ensuring we execute in minute detail.”**

**Ahmed Cassim,  
MD, Hello Paisa**

In 2019, the Group employs 1 000 people and enjoys a customer base that constitutes 600 000 prepaid SIM card users and 400 000 remittance customers. Hello Paisa has now launched its banking solution in collaboration with Sasfin Bank.



**“We service hundreds of thousands of customers who traditional players cannot reach. They make a huge difference, grow small businesses and create jobs.”**

**Ahmed Cassim,  
MD, Hello Paisa**

The collaborative and unique relationship addresses regulatory compliance requirements and leverages the strengths of both the bank and Hello Paisa to achieve a collective goal – financial inclusion.



**“What Hello Paisa is doing is what should be done. How we have collaborated is the way banks should engage, where there is a real need.”**

**Rodger Dunn,  
Head: Transactional Banking, Sasfin Bank**

With Hello Paisa as the trusted market brand, the solution boasts a fully interoperable bank account coupled with a debit card that runs on traditional banking rails and offers a sound cash alternative to a receptive market waiting for payments to work for them.



**“We offer our customers a SIM card to phone their family, remittance solutions to send money home, a bank account to keep their money safe and a debit card to transact – anywhere and everywhere.”**

**Ahmed Cassim,  
MD, Hello Paisa**

The high tech, high touch company has straddled the anonymity bar and overcome what the market believes is unachievable, through sincere customer interaction and education, pricing transparency, performance, speed and effective collaboration.

**Strength:** *Offers comprehensive and transparent banking services for the underserved.*

**Weakness:** *The implementation of the solution is dependent on a bank’s banking licence, which introduces additional costs and administrative complexity.*

*Note: The views, opinions and information expressed in this case are sourced from case interviewees and printed with their permission.*

# Endnotes

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# About the report

## About the Authors

Stephen Ley is a partner and heads up the Deloitte EMEA payments practice out of the UK. Akiva Ehrlich is a partner in Risk Advisory South Africa and heads up the Deloitte Africa payments practice. Paula Buchel is an Associate Director and Albertus Nel a senior manager in Deloitte South Africa and subject matter experts in payments.

Rob Noel and Danielle Shein are partners in iCombine, a company that specialises in providing payment consulting services including the development of payment products and services.

## About the payments research

The Deloitte South Africa Payments team in conjunction with iCombine conducted extensive research in addition to interviewing 34 payments experts from 22 different institutions ranging from the regulators and the PSO, through to the retail banks, neo-banks, payment service providers, financial technology providers, e-commerce payment service providers and large physical retailers. As part of the interviews, respondents were asked about the current state of the South African NPS, global trends and their relevance in a South African payments context, the burning issues and common challenges experienced. The interviews were conducted between October and December 2018. The objective was to understand their perspective on what change is required and how the industry should respond.



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