Fintech Scoping in South Africa

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IFWG INTERGOVERNMENTAL FINTECH WORKING GROUP

G:ENESIS UNLOCKING VALUE

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Table of Contents

SA has a small but fast-growing fintech industry, presenting considerable benefits and risks. As a result, regulators need an understanding of the fintech landscape in South Africa in order to manage risks in a way that does not stifle innovation.

Financial technology (fintech) is transforming the financial services sector across the globe. It holds the potential to improve efficiency and reduce operating costs for providers, allow seamless, real-time customer transactions, and drive hyper-personalisation by improving an understanding of the needs and behaviour of customers. This presents significant benefits in not only improving the efficiency of the financial sector, but also enhancing the financial health of South Africans - including those in previously excluded financial segments, by meeting their needs to manage risk and grow their wealth. Supporting the development of fintechs provides an opportunity not only to solve for payment, credit and remittance problems, but also provide accessible and appropriate financial products such as investments, savings and insurance at scale.

South Africa's financial services sector is internationally recognised as one of the most sophisticated. In the last decade, this has been complemented by a small, but fast-growing fintech community. While South African fintechs are world-class – three being listed in the "fintech 100" list in 2016, incumbents continue to dominate the financial sector making it challenging for fintechs to find scale. This is further exacerbated by a risk-averse funding environment, a shortage of entrepreneurial skills and South Africa's complex regulatory environment.

This report seeks to map the current landscape of fintechs in South Africa and in understanding the sector, will serve to support regulators and policymakers as they make decisions to enable more solution-orientated engagement among the industry's stakeholders (e.g. incubators, venture capitalists, new fintech start-ups etc.). The analysis begins by capturing all active fintechs in the South African market and segmenting them by function. The fintech market size of each segment is then estimated and compared to the total segment size. International trends and fintech business models are assessed to determine the potential growth of each segment. A sample of fintech entrepreneurs were interviewed to understand their journey, the challenges they face, and their perceptions of the regulatory environment. Using this as an input, the analysis then focuses on financial services regulation in SA and concludes with recommendations on how regulators can support the fintech sector.

For the purpose of this report, "fintech" is defined as **advanced technology firms that have the potential to transform the provision of financial services spurring the development of new business models, applications, & whose products and services are directly applicable in the delivery of financial services.**[1] Our analysis covers firms which **originated as start-ups, founded from 2008 onwards and have a physical presence in South Africa**. The focus will be on small, start-up, agile and independent fintech businesses to understand drivers that support and challenge innovation in this sector.

Sources : 1. Adapted from IMF Policy Paper; The Bali fintech Agenda; August 2018.

The industry's market segments have been identified and defined according to the functions performed by the businesses that currently operate in that particular market segment.

Table of Contents

Segment	Description
Payments	Entities that perform part or all of the functions required to **send and/or receive value from one party to another via any digital channel.** This includes parties in the value chain that facilitate or enable clearing and settlement processes.
Lending	Entities that facilitate the **borrowing of money** or **financing assets** for individual consumers and/or small businesses with traditional and non-traditional financiers through internet, cloud or app-based platforms.
Savings & Deposits	Entities that are **deposit-taking** and provide **digital banking services** as well as **savings products and layby** arrangements using mobile technology.
Insurtech	Entities that provide part or all of the insurance value chain functions (e.g. communication, risk analysis, distribution) through the use of specific technologies (e.g. artificial intelligence, robotics) instead of traditional methods.
Investments	Entities that provide digital platforms for **investment and/or trading activity** (including cryptocurrency) or enable individuals to trade on traditional exchanges/platforms from their own device(s).
Financial planning & Advisory	Entities that use **artificial intelligence and/or robotics to provide financial advice** to individuals or small businesses by recommending suitable savings, investment or credit products and managing financial wellness.
Capital Raising	Equity or debt funding platforms that allow businesses or individuals to raise funds for investment purposes or charitable causes. This segment also includes digital due diligence service providers.
B2B Tech providers	Entities that create, or support white label platforms and/or products provided by other financial services providers, for use by other fintechs but do not provide financial services to the general public through their own brand name.

Segment framework

Each segment has been further divided into sub-segments to understand the particular products and services offered within each fintech segment.

Financial services segmentation

Payments	Lending	Savings & Deposits	Insurtech	Investments	Financial planning & Advisory	Capital raising	B2B Tech providers
mPOS (acquirers)	Online (alternative) lenders[1]	Digital community savings	Connected insurance[4]	Retail trading	Robo advisory	Crowd investing	Aggregators[6]
Crypto payments	Asset financing	Savings products	Peer-to-peer insurance[5]	Crypto currency trading	Personal finance management	Due diligence[3]	Open infra structure
Cross-border payments	Alternative scoring	Layby[2]	Automated risk analysis	Alternative exchange	Small business finance management		RegTech & risk management
Closed loop mobile wallets	Lending market places	Digital banking (issuers)	Digital distribution				Data applications
(Bill) Payments aggregators			Claims management				Security & ID
3rd party payment providers							Process automation
							White label platforms (solutions)

Notes:
1. Online lenders are distinguished from Lending platforms based on how the loan is funded. If it is funded from the fintech's balance sheet then it's an *online lender*, otherwise, it is a *lending market place*.
2. Layby includes fintechs that provide layby services online, allowing consumers to pay a fee and a deposit for a good. The good is then held by the retailer while the customer pays per an agreed payment plan.
3. Due diligence includes fintechs that provide a web-based tool that increases due diligence efficiency through alternative digital methods for entrepreneurs, investors and service providers through process automation.
4. Connected insurance includes fintechs that use internet of things to connect devices to insurance services.
5. Peer-to-peer insurance (P2P) is a risk sharing network where a group of individuals pool their premiums together to insure against a risk.
6. Aggregators are fintechs that collect related items or content and display them in one central platform, e.g. Hippo.

*Definitions of each sub-segment can be found in the appendix.

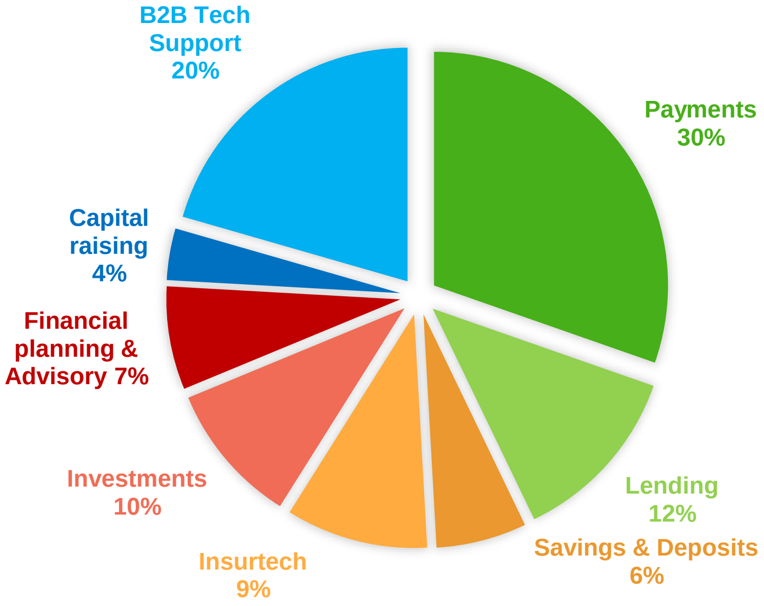
More than 200 fintechs operate in South Africa. This number is expected to grow through support from innovation hubs and the increasing adoption of technology in financial services.

The results of the market scanning exercise reveal a total of **217 active operational fintech companies** in South Africa at the time of analysis (May 2019). Some fintechs operate across more than one segment, in which case, they have been included under both segments, increasing the total number of fintechs to 224.

The fintechs included in our market diagnostic are those that were founded in the last 11 years, are not born out of the corporate structures of any incumbent financial services provider, and currently, have a physical presence to serve South African clientele.

The largest and most mature of these segments is the payments segment, with 68 entities actively operating in SA. This is aligned to international fintech trends, where payment solutions dominate the fintech landscape. In South Africa, innovative payment solutions can solve for the large remittance corridors into the Southern African Development Community (SADC region). The second largest segment is B2B Tech support with 48 active operational entities.

Segmentation of fintechs in South Africa
(2019 count)



* Double counting exists where a fintech falls under more than one segment.

Incumbents have felt the threat of fintechs and have realised the importance of re-evaluating their products offerings, customer journeys and internal processes. These companies are using technology, either developed in-house or through partnerships or equity stakes in start-up businesses, to increase speed, improve efficiency, and make financial services more accessible. Fintechs are therefore competing with these large incumbent financial services providers for market share.

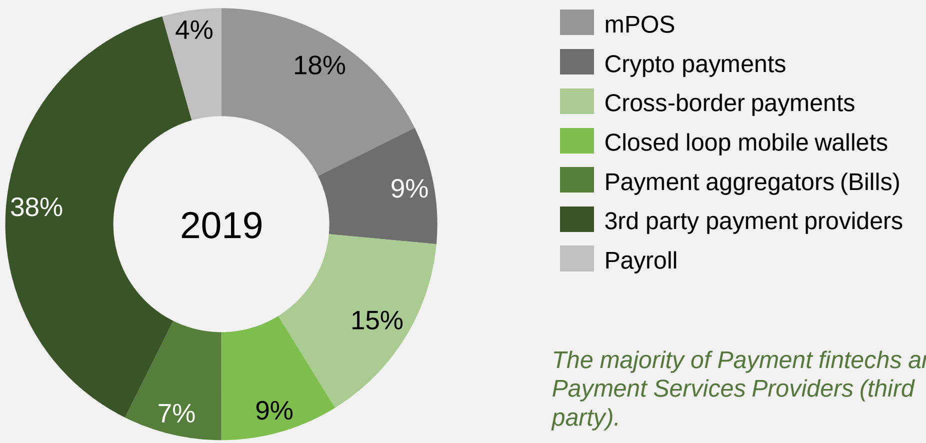
Technology firms such as Alibaba, Amazon, Facebook, Google and Tencent ("big tech firms") also present a threat to incumbent banks. Given their size and customer reach, big techs' entry into finance has the potential to spark rapid change in the industry. Although not currently active in the South African market, big techs have the potential to become dominant through the advantages afforded by their vast data-networks. Their entry presents new and complex trade-offs between financial stability, competition and data protection and regulators will need to think carefully about ensuring level playing fields for all participants.

Sources: 1. Genesis Analytics Team estimates and analysis

Payments Segment

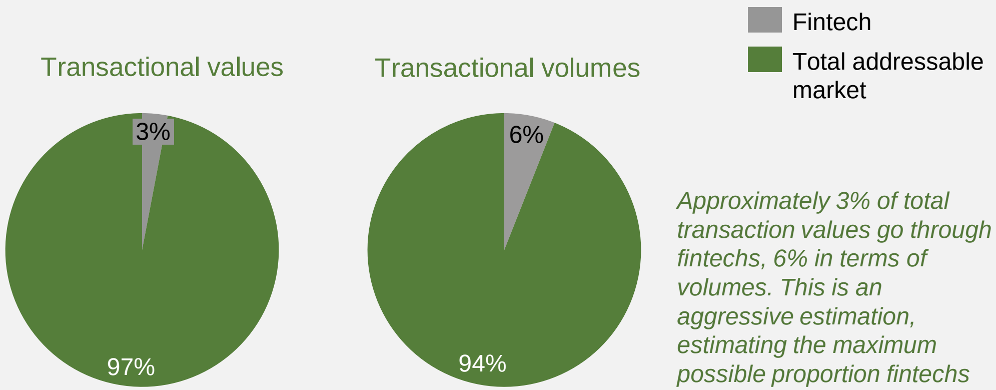
Like many developed markets, the payments segment in South Africa is the most mature segment as it offers consumers faster and more efficient ways for moving money.

Payments fintechs by sub-segment
(% share)



The majority of Payment fintechs are Payment Services Providers (third party).

Proportion of the addressable market served by fintechs



Approximately 3% of total transaction values go through fintechs, 6% in terms of volumes. This is an aggressive estimation, estimating the maximum possible proportion fintechs would capture, and is possibly lower in reality.

Sources: 1. Genesis Analytics Team estimates and analysis

The payments segment is the largest segment with 68 active fintechs and is considered one of the most mature segments, with an average age of 5 years per firm.

In line with global trends, the growth of fintechs in South Africa (SA) has mainly been in the payments segment. Fintechs have been able to disrupt a core "banking" service and offer simpler, faster solutions. Increased access to internet and the growth of e-commerce created the opportunity to facilitate and process digital payments. As a result, a large majority of payment fintechs are third-party payment providers or payment services providers (PSPs). These fintechs offer retailers the ability to accept electronic payments via a number of payment rails (e.g. credit card, direct debit, bank transfer, and real-time bank transfer). The third party sub-segment is relatively mature and can even be described as saturated with very few new entrants in the market in 2017 or 2018.

In addition to registering as a financial services provider, most payment fintechs must also register as a third party payment provider (TPPP) or systems operator (SO) (see following page) with the Payments Association of South Africa (PASA). **WiGroup** is one of the oldest PSPs; it launched in 2008 as a mobile wallet, and evolved into a facilitator of mobile transaction services. To date, the company has facilitated over R7 billion of transactions. Some of their customers include big retail brands such as Pick n Pay, Vodacom, and Woolworths. This fintech has grown from processing an average of R650 million in value (between the years 2008 to 2016), to processing R1.8 billion of transactions in 2017.

Some solutions have been designed specifically for the large remittance market; many workers who remit money back to families fall into low income segments and although they may have a banking product, they are reliant on cash. While most of the 11 remittance fintechs were developed in South Africa to service the South African market, **Zoona** was developed in South Africa but services markets outside the country. Zoona initially received funding to operate in Zambia, where financial inclusion is comparatively low, and has extended operations to Malawi and Mozambique. Zoona provides retail and wholesale savings products and payment solutions, such as to send and receive money (bulk payments, bill payments). Since inception, Zoona has processed over USD 2 billion (about R27.9 billion) in transactions. Banks in SA are addressing this market with innovative ATM solutions that allow customers to send money to family, who withdraw using a PIN at an ATM and do not need an account with the bank. They also have partnerships with retailers that allow customers to withdraw money at the till.

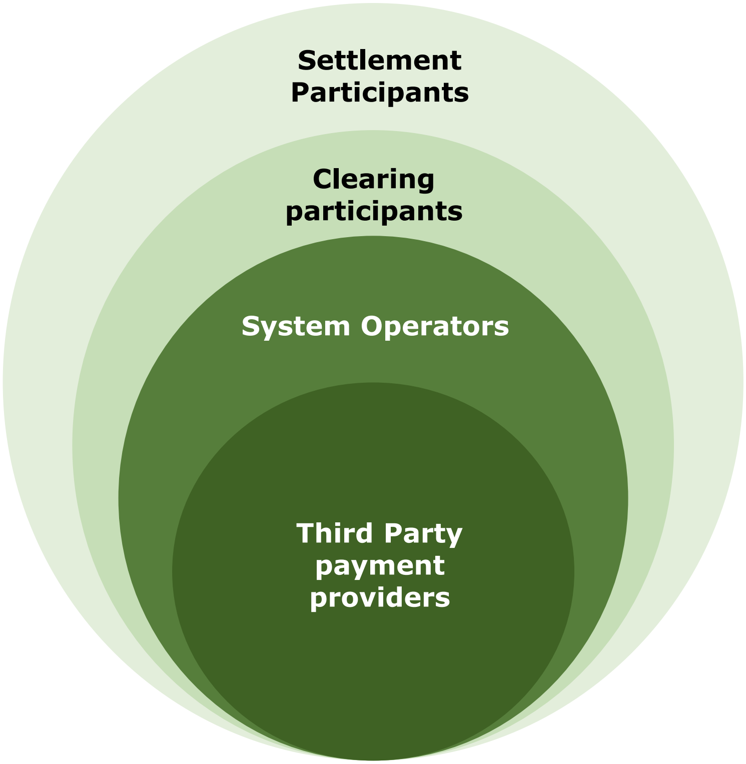
The crypto payments sub-segment in contrast is very immature. While platforms such as **Luno** and **VALR** provide crypto wallets, these fintechs are mainly considered crypto currency **trading** platforms. Their platforms have focused on the buying and selling of crypto currencies for investment purposes with very low payment transaction values and volume – there are few merchants that accept crypto payments.

Payments Segment

There are a number of “non-bank” entities that have been operational for many years and that are registered to facilitate digital payments. Some of these businesses are also offering innovative payment services and can be classified as fintechs.

The National Payment Systems Act, 1998 (NPS Act) regulates payment systems in South Africa, and established the **Payments Association of South Africa (or PASA)** as the body responsible for overseeing the participation of banks and non-bank role-players in the South African payment system.

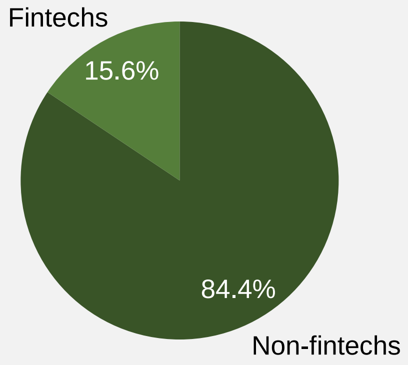
There are two categories of non-bank role-players dealt with under the NPS Act framework – SOs and TPPPs:



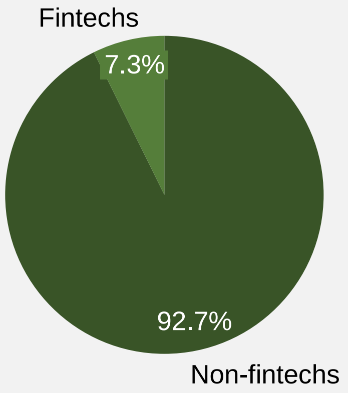
- SOs are non-banks that provide services in relation to payment instructions, i.e. they provide electronic means to persons to make or receive payments. SOs are authorised in terms of the SARB Directive 2 of 2007 by PASA and must be registered as members of PASA.
- Various entities which effectively facilitate the transfer of information between a payment portal and a payment provider or acquiring bank have been authorised as system operators in compliance with the NPS Act.
- A TPPP accepts money or payment instructions from persons for the purpose of making payments on behalf of those persons to third parties to whom those payments are due.
- For example, a merchant is able to accept money from customers for the payment of their utility bills.
- A TPPP may hold funds in its own bank account for a short period of time prior to paying those funds over to the third party concerned. This differs from system operators, which provide the technology behind payments but typically do not receive money or the proceeds of payment instructions.
- There is some overlap of fintechs, SOs and TPPPs. There are some SOs or TPPPs with innovative business models, providing new payment services that are classified as fintechs.[3]

Registered SOs and TPPPs that can be classified as fintechs

System operators
(% share)



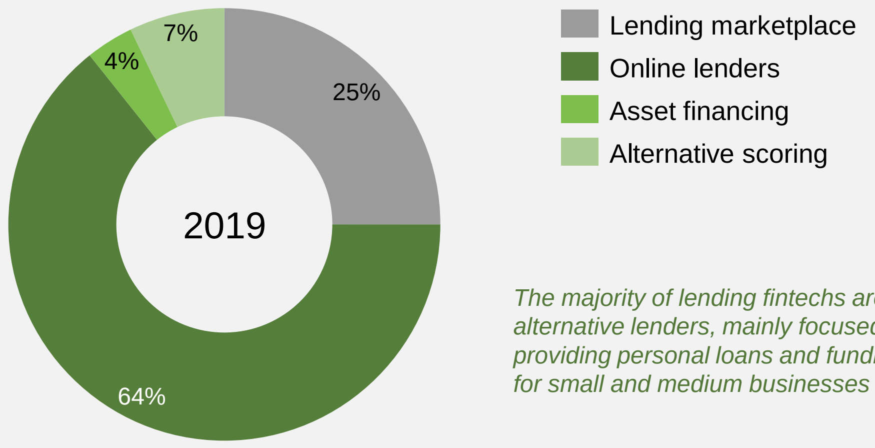
Third Party payment providers
(% share)



Sources: 1. Payments Association of South Africa | 2. Genesis Analytics Team estimates and analysis | 3. PASA defines fintech as technology and innovation that aims to compete with traditional financial methods in the delivery of financial services (Payments Study Tour Report, PWC, August 2019) | See appendix for list of all SOs and TPPPs

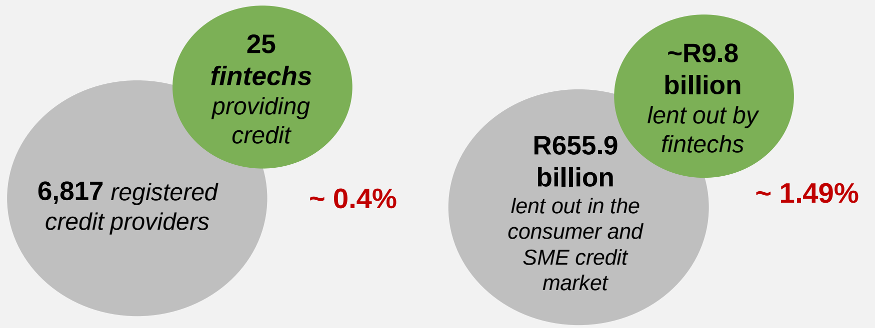
Lending fintechs in South Africa have shown significant potential with many new players entering the market, but the segment has only captured a small share of the addressable market to date.

Lending fintechs by sub-segment
(Count)



The majority of lending fintechs are alternative lenders, mainly focused on providing personal loans and funding for small and medium businesses

Proportion of the addressable market served by fintechs



Approximately 0.4% of credit providers are fintechs. These fintechs are currently capturing an estimated maximum of 1.49% of the addressable market (measured as a % of total lending value), but the actual market share is likely to be lower than this upper bound estimate. Please see the appendix for details of the estimation.

Sources: 1. Genesis Analytics Team estimates and analysis

The average age of fintechs in the lending segment is three years, the oldest being 10 years and the youngest operating for less than a year, launched in 2019.

The lending segment is made up of 28 fintechs, with 18 providing online lending services. The segment is dominated by domestic fintechs. There is a balance between support for small and medium enterprises (SMEs) and individuals; nine platforms provide funding to SMEs and nine platforms provide personal loans. Online lender **Pollen Finance** is one of the biggest online lending platforms. The lender was established in 2015 to serve a growing need for SME funding to support business growth. This fintech managed to provide businesses with up to R20 million in short-term loans in 2017.

The customer offerings tend to be similar among these fintechs i.e. they offer customers short-term loans which are applied for over the internet. However, there are two distinct business models. Lending marketplaces connect borrowers and investors without lending out their own capital, and earning revenue from fees. Alternative (online) lenders lend capital from their own balance sheet, earning revenue from interest and service fees.

Only three fintechs provide funding to SMEs through invoice factoring. **Nisa Finance, ImaFin and Invoice worx** are financing platforms that enable financiers to issue invoice-backed loans to SMEs, fully-automating the application and invoice verification through ERP system integration. **ImaFin** is the oldest of these fintechs, launched in 2013, while **Nisa Finance** and **Invoice Worx** were launched in 2016 and 2015, respectively.

In the personal lending space, **Mobicred** offers a differentiated business model that allows consumers to apply for loans while shopping online. This targets consumers who do not want to use a credit card and are looking for a centralised credit facility for their online purchases. The service and transaction fees are comparable to standard credit card offerings from traditional banks.

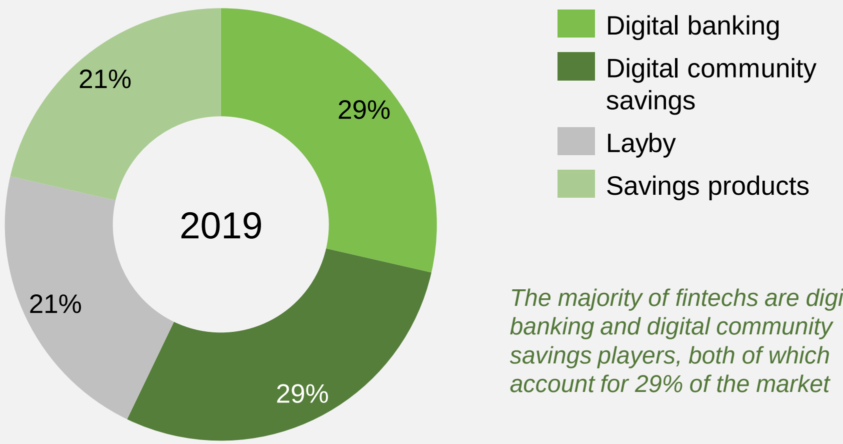
Like large incumbent lending houses, fintechs offering lending products are required to register as a credit provider with the National Credit Regulator (NCR). However, they are still relatively small compared to large incumbent lending houses.

Currently innovation in the lending space does not include alternative datasets for credit scoring, which has been successful in other African markets. For example, some mobile network operators calculate eligibility using telco-usage inputs such as tenure, air-time or data top-up for micro and "nano" loans. These models have allowed for the extension of credit to previously underserved markets.

Savings & Deposits Segment

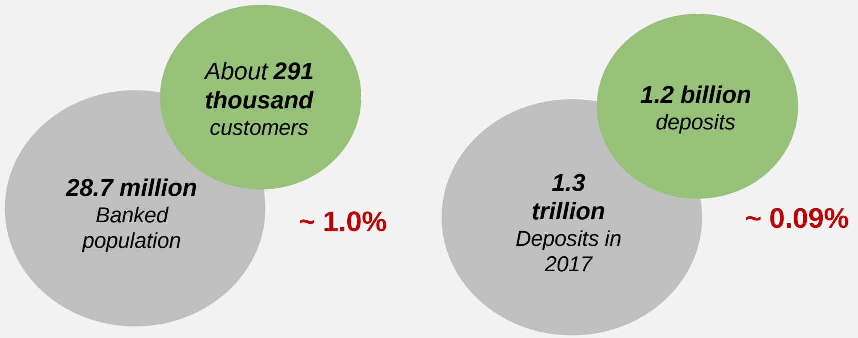
The Savings & Deposit segment is small in comparison to traditional banks, but there has been much activity in terms of new players entering the market.

Savings & Deposits fintechs by sub-segment
(Count)



The majority of fintechs are digital banking and digital community savings players, both of which account for 29% of the market

Proportion of the addressable market serviced by fintechs



Savings & Deposit fintechs in South Africa currently serve approximately 1.0% of the banked population, but only capture an upper-bound estimate of 0.09% of the total value of deposits taken.

Sources: 1. Genesis Analytics Team estimates and analysis

The entrance of new digital banks in the market is expected to change the landscape and provide strong competition to traditional banks.

The Savings & Deposit segment is made up of 14 fintechs, including four digital banks and digital community savings platforms. Deposit-taking is a heavily regulated function and this has historically protected the market from new entrants. Applicants for a banking licence are subject to obligations concerning capital and liquidity ratios and reserve requirements and are difficult to acquire.

In 2019, new digital banks are expected to disrupt the market and are already recording increasing consumer numbers. **Tyme Bank** is reportedly signing 5,000 new customers each week, with a reported total of 250,000 customers in April 2019, following its soft-launch in November 2018. **Hello Paisa,** which already provides payments solutions and has also launched a digital bank, is expected to leverage the 1.2 million users who use their payments platform. Early indications show that incumbent banks are taking the threat of fintechs seriously with a number of banks focusing on product innovation and lowering fees.

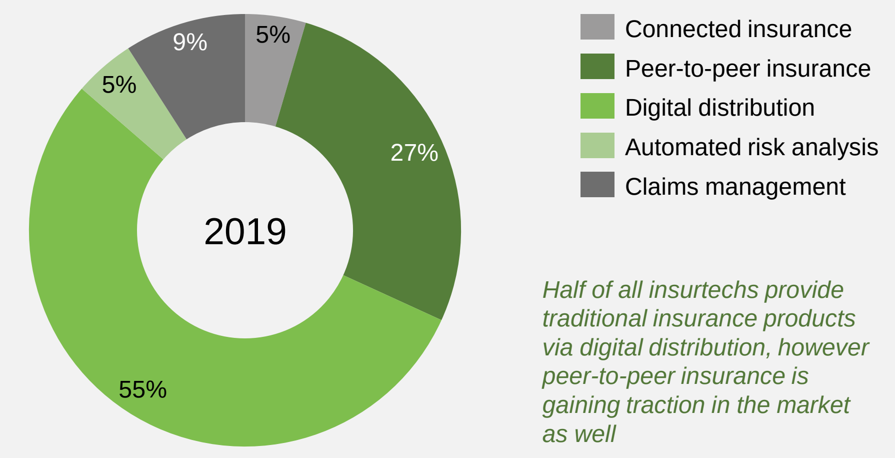
Fomo Travel, Layby Café and **Lay Up** are three fintechs that provide layby services online, allowing consumers to pay a deposit toward a good while the retailer in turn holds the good until the customer can pay the balance. Customers usually have a payment plan as part of the deal and are charged a fee. Layby Café has reported serving 2,350 consumers by 2015, only a year from being launched. Overall consumer numbers remain low for these platforms as most customers will have the option of a credit card which allows the customer to purchase the good immediately.

The savings product sub-segment includes fintechs such as **Jumo, Zoona** and **Prospa. Prospa** provides a mobile savings wallet for low-income earning South Africans that makes it easy to save small amounts infrequently using prepaid vouchers. Prospa then pools all savings on its platform, taking advantage of banks' higher interest rates for larger savings balances. The sub-segment is still young with only one fintech operating purely as a savings platform.

Insurtech Segment

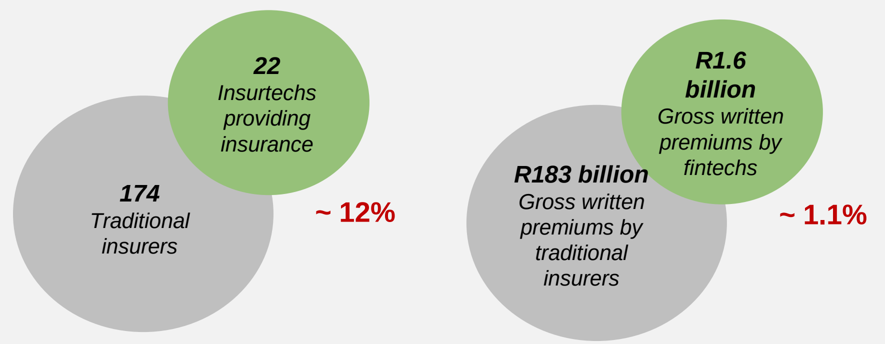
The insurtech segment is characterised by numerous fintech entrants, however, incumbents are responding to these entrants by digitising their processes in line with technological advancements in the sector.

Insurtech fintechs by sub-segment
(Count)



Half of all insurtechs provide traditional insurance products via digital distribution, however peer-to-peer insurance is gaining traction in the market as well

Proportion of the addressable market served by fintechs in 2019



Approximately 11% of insurance provers are fintechs. An estimated upper-bound of 1.1% of the addressable market is being captured by fintechs (measured as a % of total gross written premiums), but the actual share of the market captured by fintechs may be smaller.

The insurtech market in South Africa contains a diverse set of players ranging from traditional providers using digital distribution channels to new players with innovative business models.

There are 22 insurtech firms in South Africa, with most being digital distributors (12) and peer-to–peer insurance fintechs (six). Digital distribution refers to offering traditional insurance products through digital channels, such as mobile, web or app. This includes fintechs such as **Simply**, **Click2Sure**, **Root insurance** etc. **OUTsurance** and **MiWay** provide short-term insurance (**OUTsurance** also provides long-term insurance), where the application process and claims management platform is digital. Both companies are underwritten by existing insurance companies or financial institutions. **OUTsurance** is a member of the Rand Merchant Investment Holdings (RMI) Group, while **MiWay**'s major shareholder is Santam. With backing from traditional financial institutions, this segment seems more established than other segments, with many incumbents embracing digital distribution.

The digital distribution sub-segment, however, includes relatively young players such as **Click2Sure**. **Click2Sure** was launched in 2016 and allows customers to purchase high-value consumer items via an online e-commerce provider. During the checkout process, the customer is offered an insurance policy on the item they have just purchased. This allows retailers to promote insurance on their products and enables consumers to easily claim against their insurance policies using an online platform, with easy access to all relevant records.

Peer-to-peer (or social) insurance represents a new innovative business model in South Africa's established insurance industry. Peer-to-peer insurance players such as **FoSho Insurance** and **Pineapple Insurance** give consumers the choice of pooling their premiums to pay out claims when a member of the network encounters an insurable event and takes advantage of the notion that groups that have similar needs are willing to share risks with people with similar profiles. Some social insurers collect remaining premiums after expenses are paid and refund these to members, and even charities. This pricing model, tailored more specifically to an individual's risk profile, is making insurance more flexible and affordable and therefore more accessible to a segment of underserved consumers.

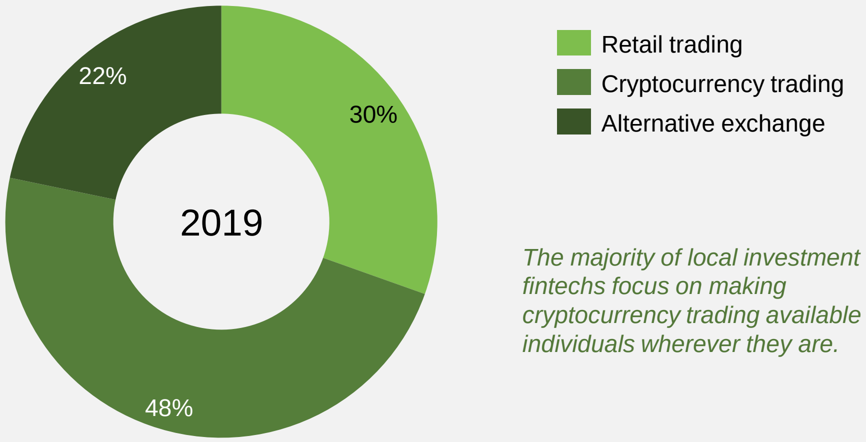
Insurtechs also provide B2B services such as automated risk analysis and claim management, but this sub-segment remains small. Automated risk analysis includes fintechs like **All life** which provides analysis for life insurance and routinely reminds its policyholders of their health commitments to alert them to potential health concerns. Claims management includes fintechs like **Spookfish,** which uses the latest computer vision technology to predict vehicle repair costs using photos of the damaged vehicle.

Sources: 1. Genesis Analytics Team estimates and analysis

Investment Segment

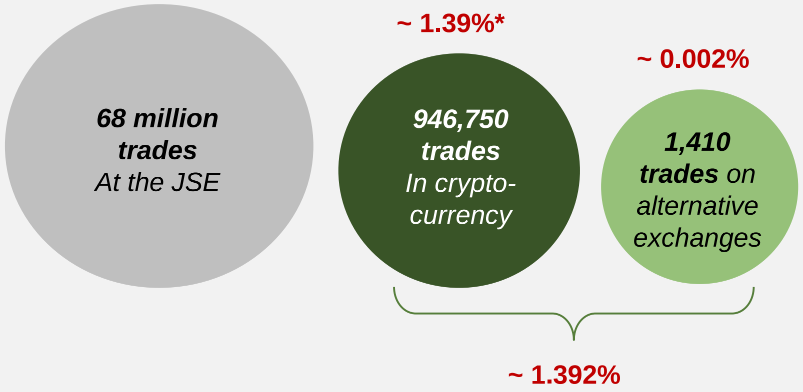
Equity trading and investing is a largely exclusive sector in SA, traditionally serving middle and upper income consumers. Fintechs are making these financial services accessible to the mass market.

Investment fintechs by sub-segment
(Count)



The majority of local investment fintechs focus on making cryptocurrency trading available to individuals wherever they are.

Proportion of the addressable market serviced by fintechs
(No. of trades per annum, 2018)



Cryptocurrency trading volumes are about 1.39% of all trading activity in the JSE, while alternative exchanges trading volume are about 0.002%.

*This only includes crypto-currency platforms in South Africa reporting to the South African Reserve Bank

The investment segment seems to be underdeveloped, but certain sub-segments such as retail trading are showing rapid growth as they become more appealing to the mass market.

Similar to insurance, investments are considered secondary financial services. As a result, investment products have been more attractive for middle to high-income earners who had the means and the intention to increase their wealth. This was further exacerbated by the high cost linked to transacting in traditional capital markets (e.g. portfolio management / investment advice fees, trading fees, etc.). However, the entrance of fintechs in the investment space is changing this landscape, making it more accessible for retail consumers to gain access to the equity trading and investment sector by providing investment services on a smartphone with a lower fee structure.

There are a total of 22 fintechs under the Investment segment, 10 being cryptocurrency trading platforms and eight retail trading platforms. The cryptocurrency market has offered investors a new asset class. Domestic cryptocurrency trading platforms such as **Luno** and **Project Ubu** make it easy and simple to trade cryptocurrency by buying and selling the currency on your mobile phone. The sub-segment also includes international players such as the American fintech **Bitcom.com** that has a similar business model. The majority of traders on domestic cryptocurrency trading platforms are domestic (about 86% in 2017), however, the number of international investors trading on domestic platforms has increased from 11.7% of trades in 2017 to 13.8% in 2018.

Retail trading platforms are making stock market trading cheaper and more accessible to ordinary South Africans. There are 175 JSE-registered stockbrokers which execute trades on various instruments on behalf of individual and corporate clients. Platforms such as **EasyEquities** allow customers to trade or invest without the need for intermediaries or brokers. This allows these platforms to decrease their costs, and hence able to offer lower fees to their consumers. The four large retail banks offer customers online share trading and international platforms such as **IG Trading,** is also present in the market.

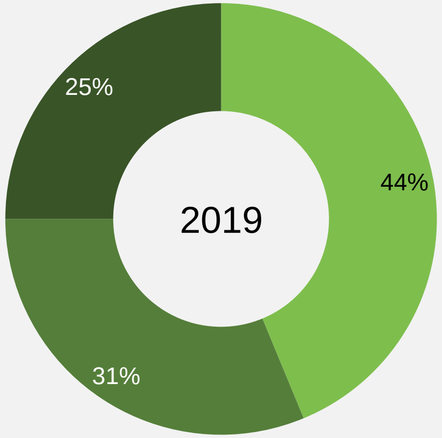
In 2014, regulators introduced stricter trading rules that limited smaller companies from trading their stocks privately. This has created the opportunity for new alternative exchanges to directly compete with the JSE. The FSCA has issued five licences to alternative exchanges such as **A2X, AltX, 4AX** and **EESE** since 2016, removing the oligopoly once held by the JSE and SAFEX (SA Futures Exchange). Smaller companies now have access to equity investors and large companies can decide to have a secondary listing for increased liquidity.

Sources: 1. Genesis Analytics Team estimates and analysis

Financial Planning & Advisory

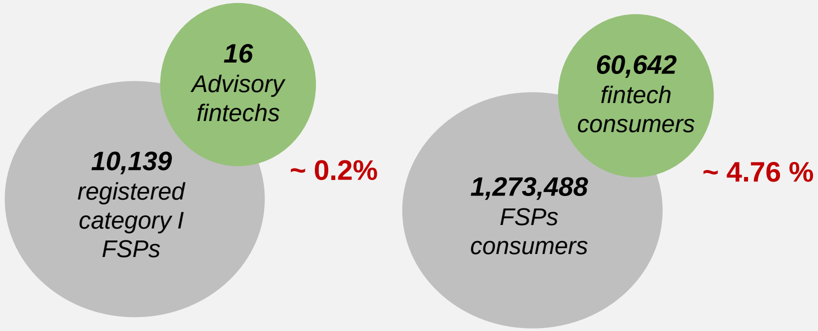
Financial planning & advisory fintechs empower individuals and businesses by enabling direct access to financial advice through the use of robotics and artificial intelligence.

Financial planning & advisory fintechs by sub-segment
(Count)



Advisory empowers individuals and businesses by enabling direct access to financial advice through the use of robotics.

Proportion of the addressable market serviced by fintechs in 2019



Approximately 0.2% of financial planning and advisors are fintechs. Approximately 4.76 % of the market is being captured by fintechs (% of consumers).

There are a total of 16 fintechs under the Investment segment, seven being robo-advisory, five personal finance management and four small business finance management. Robo-advisory includes fintechs that provide financial advice or investment management online with no human intervention. This sub-segment includes fintechs like **Arcus Capital** which is creating robo-advisors with advanced algorithms that analyse market performance and match this to investors' risk preferences to develop a portfolio to deliver against the investor's financial goals.

Finance management segments include fintechs that help consumers manage their finance, through financial advice or aggregating financial information. In the micro, small and medium enterprise (MSMEs) space, most fintechs focus on assisting with financial management, accounting, and working capital, e.g. **SMEasy** and **FitMoney.** In the personal finance management space, fintechs like **22seven** aggregate account information. **Pocketslip** has software that is integrated with point-of-sale devices so cashiers can send the receipts directly to a client.

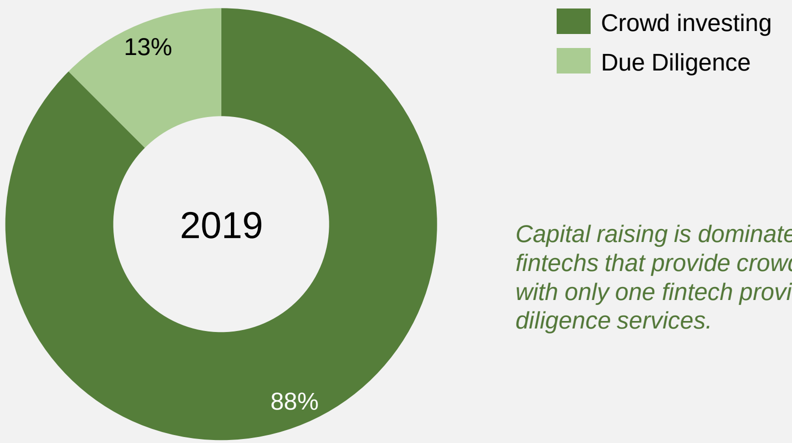
South Africa's traditional financial advisory firms still enjoy substantial scale and market share, however, the entry of advisory fintechs has forced them to improve their business models and adopt better technology to improve effectiveness. Under the Financial Advisory and Intermediary Services (FAIS) Act, services are defined as financial advice when they guide decisions within a set of alternative financial products, which includes robo-advisors. Firms using robo-advice are required to register as a financial services provider (FSP) with the Financial Sector Conduct Authority (FSCA). In March 2018, the FSB (now FSCA) had 10,139 registered category I FSPs, less than 0.2% of them being fintechs. The small number of fintechs in this space signals that, although artificial intelligence and robo-advisory technologies are gaining traction in the market, these technologies are being used by existing traditional financial planning and advisory firms to enhance their customer journeys and not being used by new, smaller players to enter the market.

Sources: 1. Genesis Analytics Team estimates and analysis.

Capital Raising Segment

Capital raising has the fewest number of fintechs. While there are a handful of crowd investing fintechs, only one facilitates equity crowdfunding.

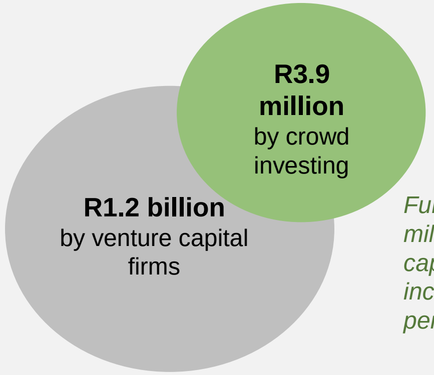
Capital Raising fintechs by sub-segment
(Count)



Capital raising is dominated by fintechs that provide crowd investing, with only one fintech providing due diligence services.

Proportion of the addressable market serviced by fintechs in 2017

Amount funded in 2017



Funding raised through crowd investing was R3.9 million, about 0.03% of investments from venture capital firms and Crowd investing. If this amount included reward-based crowdfunding platforms, the percentage would increase to approximately 54%.

Compared to South Africa's established venture capital sector, raising capital through crowd investing is in the early stages of development with only one true equity crowdfunding platform.

Although South Africa has a number of crowdfunding platforms, almost all of these support reward-based crowdfunding. Unlike equity-based crowdfunding where the investor receives equity, e.g. shares in the business, investors contribute small amounts of money to projects in return for some kind of reward, usually the product being produced. This includes platforms such as **FundFind, Jumpstart**, and **Thundafund**. In 2015, these crowdfunding platforms managed to raise funding that exceeded that of venture capital firms in South Africa (R429 million) and funded 4,581 projects compared to only 93 deals concluded by venture capital firms. This suggests that there may be an opportunity for equity crowdfunding platforms to support a greater volume of low value deals if the regulatory environment encourages it through policy amendments.

Equity-based crowdfunding has been slow to develop in South Africa due to the regulatory uncertainty in this space. Crowdfunding is not specifically regulated, however, if an entity raises funds through equity, that entity may be required to register as an exchange under the Financial Market Act 2012. This has deterred the growth of equity-based crowdfunding models. Currently, there is only one true equity crowdfunding platform in the market, **UpriseAfrica,** and a handful of other fintechs that facilitate collective investments in alternative assets such as property or livestock, such as **Live Stock Wealth, Wealth Migrate, or Realty Africa**. Uprise.Africa was launched in 2017 and managed to raise R3.9 million in that year, higher than its R1 million target. This only amounts to 0.03% of the value venture capital firms managed to raise in the same period, indicating that the segment is still in its infancy.

In addition to equity crowdfunding platforms, there are fintechs that support capital raising through automated due diligence tools. There is only one due diligence platform in South Africa to date, **YueDiligence**, which is an interactive web-based tool that increases due diligence efficiency for entrepreneurs, investors and service providers through process automation. The platform enables users to identify growth gaps in their business and prepare a pitch to potential investors and business partners.

Sources: 1. Genesis Analytics Team estimates and analysis

Capital Markets

The number of exchanges has grown in the SA market since 2016, providing competition to the incumbent JSE and offering efficiencies such as real-time settlement. Other areas that are seeing disruption include post trade processes.

Licenced exchanges in South Africa:

- **Johannesburg Securities Exchange** is the primary stock exchange in South Africa. In 2003, the JSE launched an alternative exchange, **AltX**, for small and mid-sized listings.
- **ZAR X** was granted a licence to operate a stock exchange by the Financial Services Board (FSB) in September 2016 and operates differently to the JSE, offering investors benefits such as real-time settlement and zero custody fees.
- **4 Africa Exchange (4AX)** was granted a licence in 2016 and aims to attract issuers and investors who are not served by current incumbents.
- **A2X Markets (A2X)** was granted an exchange licence in 2017 and competes directly with the JSE, providing an alternative platform for companies to secondary list and trade their shares.

Project Khokha is an award-winning innovation by the South African Reserve Bank. The SARB, in consortium with seven commercial banks, created a blockchain-based interbank network that processed more than the typical daily volume of payments with full confidentiality and finality in record time. Khokha exceeded the transaction performance target at 70,000 transactions in under two hours. This project proved that a blockchain-based system can deliver real-time gross settlement, and allowed SARB to fulfill its role without being a single central point of failure.[2]

"[While] most of the disruption [in the SA market] has been in the retail banking sector, the threat to investment banking and capital markets is imminent."[1]

Advances in technologies such as blockchain and artificial intelligence (AI) - including machine learning and data analytics - as well as increased computer processing power, data storage capabilities, and affordability will have a significant impact on disruptive business models in the capital markets space.

Core market infrastructure:

Technology can facilitate more transparent access to liquidity and allow for more efficient trading and clearing. South Africa's large and sophisticated OTC market developed a number of share-matching platforms, some web-based, that connected buyers and sellers in the OTC market. However, in 2014, the FSB ruled that these platforms constitute exchanges and must either be licenced as such or cease operations. Some of these platforms have shifted to information platforms without matching services (such as OTC Express) and others have become licenced exchanges (ZAR X; 4Africa Exchange; A2X and EESE).

Post-trade digitisation:

Technology offers the opportunity to automate manual processes that still exist within the compliance, regulatory, collateral management, and securities lending spaces. Strate (South Africa's Central Securities Depository) is also licenced to be an independent provider of post-trade products and services for the financial markets. Strate is working with Nasdaq in the US to use blockchain technology to improve corporate processes. The first use-case has been around automating shareholder meetings and voting processes. Using an app, powered by blockchain technology, shareholders can login remotely, share data securely, vote and trade shares with other shareholders in real-time. Transacting in real-time eliminates the need for inefficient reconciliation processes.

Smart contracts are an area where blockchain technology can significantly improve post-trade efficiency. Blockchain allows for actions to be coded and executed once a set of conditions is met. They have the ability to remove some of the more manual processes such as distributing dividends, executing stock splits, issue of rights, warrants, pay-ups, with a much lower margin of error. Custody is another area where blockchain can allow investors to have better control over assets and data.

Data & analytics:

AI allows for solutions that that utilise in-memory computing and machine learning to leverage the massive swell of structured and unstructured data to make predictions, and build analytics at the point of trade. Big data analytics will allow traders to analyse broader and deeper sets of data to inform trading strategies. There are a number of trading platforms (e.g. South African based company - Sharenet) that allow for algorithmic and high-frequency trading.

Sources: 1. The SA Fintech in Motion Report, RMB, 2019 | 2. Advancing Capital markets with Blockchain Technology, ConsenSys, April 2019.

The growth potential of each fintechs of fintechs is inherently linked to the state of the fintech operating environment. Several factors have been identified that collectively contribute to, or detract from, fintech growth in South Africa going forward. These are:

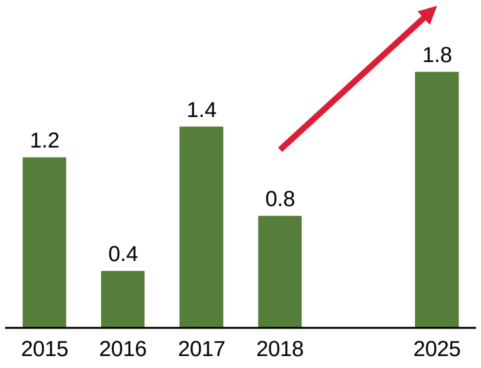
- *The macroeconomic environment*
- *Funding options*
- *The competitive environment*
- *Digital readiness*
- *The innovation ecosystem*
- *Regulation*

This section focusses on the evaluation of the current operating environment, considering the above given factors. These factors are expected to inform the future of the fintech market in South Africa.

Macroeconomic environment: despite weak economic growth in South Africa, projections suggest a turning tide and imply a slight increase in national income and use of financial services.

The state of the macroeconomy has a direct impact on the business environment for fintechs, but also determines national income levels. As demand for financial services is strongly linked to the rate of investment and business activity, improvement in South Africa's macroeconomic environment bodes well for the demand for fintech services.

Real GDP
(growth rate, %)



The IMF expects the South African economy to recover slightly in the next 6 years, however there are significant domestic and international risks to this growth projection

The South African economy has experienced a slowdown in the last decade amid persistent electricity supply constraints and political uncertainty. This was recently worsened by the weakness of the major global economies such as the United States introducing trading tariffs and China continuing to experience lower economic growth. As a result, business and consumer confidence was weak. Global growth has since slightly recovered and the appointment of .
Cyril Ramaphosa as President has seen a decrease in political uncertainty and expectations of rising investment during his term, improving perceptions of South Africa's business environment. As such, the IMF predicts South African growth as a slight upward trend, growing at 1.8% by 2025.

With real GDP growth expected to remain below 2% in the medium term, per-capita income will likely not rise significantly enough to make a serious dent in unemployment. Although President Ramaphosa has made job creation one of the key focus areas of his term, he has also acknowledged that significant job losses are expected as the economy transitions into the fourth industrial revolution. South Africa's "dual economy" of a relatively small middle class and poor mass market is a significant constraint to consumer demand for financial services that go beyond credit and payments. This suggests that local fintechs may have to look to regional expansion and demand in global markets in order to scale organically.

Sources: Genesis Analytics Team estimates and analysis.

In line with international trends, funding for fintech companies has primarily come from venture capital as most fintech start ups are considered high risk and require funds in the initial phases of operation.

Given the sophistication of the South African financial sector, the country does not have a shortage of funding channels available. However, many of these channels are not accessible to fintechs during the early stages of operation and expansion because they have yet to develop a proven business model, have not yet secured regulatory compliance, or have yet to scale – all of which make them relatively high-risk investments. Growing South Africa's angel investor network and improving linkages to foreign risk capital will be important developments in improving access to smaller-ticket risk capital required by early-stage fintechs. In addition, public sector financing channels aimed at addressing these gaps are not well coordinated and are not specifically tailored to fintechs.

Funding Options

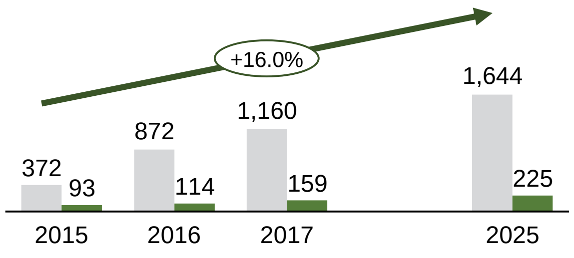
Venture Capital, Private Equity, and Angel Investors

South African start-ups have access to local capital across a range of investment instruments. A VC4A start-up survey found 49% of firms secured financing, at an average of USD 250k per entity. These are provided by 71 direct finance providers (of which 30% are foreign) including a maturing and well-run venture capital (VC) and private equity (PE) base and a growing angel investor network. The bulk of start-ups that receive funding (41%) source this capital solely from local players, however nearly 45% receive a combination of finance from international and local funders and 14% solely international funders. International interest in South African start-ups is growing positively. Local and foreign co-investment is important as foreign investors provide access to international markets while local funders are fundamental in identifying and grooming domestic start-ups to attract foreign partners. Despite this development, there remains a significant need for more risk capital to fund start-ups before the proposition is a proven business model.[1]

South Africa has a growing angel investor network which needs to be stimulated to increase support. There are a handful of visible angel investors in South Africa and angel investor associations such as the South African Business Angel Network (SABAN) and the Jozi Angels. These associations promote knowledge sharing, diversify risk and facilitate larger investments through pooling of resources. Angel investors tend to be high-net-worth individuals who may be seasoned and successful entrepreneurs that have exited their own tech ventures. More funding is needed from angel investors which could be stimulated by initiatives that deepen the culture of angel investment. Initiatives that attract and train new angel investors and bolster ties with international investors are further areas of intervention.

Expansion phase funding in the form of VC and PE is growing, however there are few funds that cater for the specific needs of ICT start-ups. South Africa's traditional VC and PE market is growing with a strong history of returns and exits. Access to VC funding is considered above global averages and in line with BRICS comparators with 42% of the R1,160 million invested in 2017 considered growth capital and 57% seed and start-up.[2]

Venture Capital investments in South Africa



Only 4.9% of VC funding went to fintechs in 2017, possibly due to regulatory restrictions (as highlighted later) and the dominance of incumbents in the South African market

Sources : 1. VC4A (2018) Startup Ecosystem Analysis South Africa | 2. SAVCA 2018 Venture Capital Industry Survey | 3. WEF (2017). Global Information Technology Report.

The Section 12J tax incentives to promote venture capital financing in small businesses excludes investments in financial services and advisory services companies, and the banking sector is not well equipped to cover early-stage firms.

Venture Capital, Private Equity, and Angel Investors continued

The PE market has grown at a 9.4% CAGR since 1994 to reach R158.6 million in funds under management in 2017. Nearly 30% of PE investments were targeted at start-up and early-stage firms while 27.5% focus on expansion.[1] There are only a handful of players dedicated to ICT and technology who have a grounded understanding of the specific needs of these kinds of businesses. RaizCorp incubates nearly 3,000 entrepreneurs a year and have seed funding available following proof of concept while Cortex Logic is introducing a VC arm and developing a network of service providers by taking partial ownership of and nurturing emerging technology businesses.

Section 12J venture capital funds are funneling investment towards employment-creating MSMEs and growing rapidly in popularity. The 12J tax incentive allows individuals, corporates and funds investing in qualifying venture capital companies (VCCs) to offset their income tax burden by 45% of the investment. In 2015, an estimated 30 funds were registered for the 12J incentive. This accelerated to over 100 in 2018, illustrating the attractiveness of the fund and its recent recognition among investors leading to an estimated R3.6 billion assets under management. However, VCCs are specifically restricted from investing in MSMEs in a number of sectors including financial services and advisory services, which covers most of the scope of fintech activities. As such, fintech access to financing is not being supported by this tax incentive and suggests that a broadening of the incentive mandate may be required. National Treasury's forthcoming review of the fund will determine whether the economic benefits outweigh foregone tax revenues and understand the degree to which funding is diversified. This comes amidst concerns of excessive use ('abuse') of the fund by individual investors and the potential for distorting investment decisions to the detriment of investment quality, but could include reviewing whether other mandates (beyond job creation) should be considered.[2]

The early-stage financing industry therefore remains nascent and entrepreneurs struggle to motivate for and secure funding. Funding would be bolstered significantly through government and donor investment in the VC sector, increased interest from institutional funders, and tailored tax incentives which cover investments in financial sector start-ups. This may increase availability of Series B Round funding and improve what tends to be an illiquid market with relatively few exits. Support can furthermore be provided to entrepreneurs seeking to source start-up finance. The bulk of entrepreneurs approaching VC and angel financiers are 'first rounders' who lack skills in pitching and deter investors through unrealistic expectations and valuations, insufficiently developed growth strategies, and a lack of detailed competitor and market analysis.

Bank financing

South Africa has a world-class financial system which ranks 18 of 140 markets in its efficiency, trustworthiness and confidence.[3] This quality is reflected in the deep availability of credit, with domestic credit provided to the private sector estimated at 144% of GDP – in line with OECD averages.[4] South Africa's banking sector is a key financer of this credit at 66% of GDP and nearly 10% above global averages. The banking sector is robust given its strong regulatory and legal framework and is globally competitive with a host of well-established and emerging institutions.

However, the banking sector is better set up to serve the financing needs of established firms compared to start-ups and smaller-scale firms. Considering the overall MSME market in South Africa, only 40% of their funding comes from banks. Approximately 75% of MSME credit applications are rejected, while only 2% of new MSMEs are able to access bank loans. Much of this relates to the methods banks employ to deal with credit risk – information on the MSME's cash flow, capital and credit history are used as indicators of their ability and willingness to repay, and the provision of movable and immovable assets as security against default. This tends to exclude a portion of the MSME market from accessing formal finance due to the lack of available information or access to collateral, particularly in the early stages of business operations.[5]

Sources : 1. SAVCA (2018). Private Equity Industry Report | 2. Ngwenya (2014). A study of the section 12J VCC regime as a capital procurement instrument for SMMEs. | 3. WEF (2018) Global Competitiveness Index. | 4. World Bank (2017). South African Economic Update: Innovation for Productivity and Inclusiveness | 5. IFC (2018) The Unseen Sector Report on SMME Financing.

Due to the funding gap, alternative funding sources like crowdfunding are emerging while several government departments have also introduced a number of funding programmes to address this gap.

Crowdfunding

Alternative financing sources are gaining traction and offer an innovative solution to the finance shortfall. Crowdfunding platforms have emerged as possible sources of working and growth capital for early stage firms regardless of the regulatory uncertainty around them. The People's Fund targets black owned business and has raised over R1.5 million for 12 campaigns. This includes MySurfer – a provider of low-cost internet access solutions – that required capital to install wireless access in 175 buildings and have since been successfully paying out investors. The People's Fund is furthermore raising a working capital base for SMEs servicing government, that suffer from long payment lags. The nascent industry provides a much needed source of finance for SMEs.

Most crowdfunding platforms in South Africa, however, are reward or debt-based, with only one equity-based crowdfunding platform. This is mainly due to regulation – if an entity negotiates fundraising with an equity component, it may be required to register as an exchange under the Financial Market Act. Crowdfunding platforms are increasingly becoming a popular channel for funding fintechs through debt and equity instruments globally. In a speech in 2018, the Deputy Governor of The South African Reserve Bank, Francois Groepe, said that the bank would be accelerating actions including reviewing regulation on investment-based and lending-based crowdfunding service providers for businesses in South Africa.

Government financing

The government's role in enabling fintech financing is multifaceted, with a responsibility for policy coordination, supportive regulation, and potentially the provision of financing and capacity building support to start-ups. In addition, the government can have a more direct role to play in supporting the growth of fintechs through strengthening the capacity of institutions that support MSMEs, and providing targeted guarantees or deploying blended finance instruments that reduce the public or private risk of lending into the segment. Some of the specific institutions that play this direct financing role are discussed below.

Small Enterprise Financing Agency (SEFA)

SEFA is the main government financing arm with a dedicated focus on MSMEs. SEFA provides MSME financing through two channels: direct lending to MSMEs, and wholesale lending to other financial institutions such as MFIs, including credit guarantees and joint ventures. The majority of SEFA's funding goes toward its wholesale funding channel – only about 24% of SEFA's loan book goes to direct lending. SEFA has a difficult task of financing enterprises that are typically not served by commercial financing institutions, and so faces high rates of default and challenges with accurately pricing risk. SEFA's primary segment focus – informal and survivalist micro entrepreneurs – primarily gives rise to these challenges. Given the funding gap for tech-enabled start-ups in South Africa, expanding SEFA's mandate into growth-oriented businesses that cannot access commercial capital but wish to operate in the formal sector could improve both fintech financing and SEFA's risk profile.[1]

Small Enterprise Development Agency (SEDA)

SEDA is an agency of the Department of Small Business Development which offers support to small and micro-enterprises. It has introduced a technology programme that provides funding to a network of business incubators, promoting and facilitating entrepreneurship in industry, particularly in enabling small enterprises to access appropriate technology to become more competitive and grow their businesses.

Industrial Development Corporation (IDC)

The IDC is a state-owned development finance institution in South Africa focusing on promoting entrepreneurship through the building of competitive industries. While IDC funding has typically been associated with industries like energy, agro-processing and manufacturing, funding approvals also assist SMEs. The IDC has a new financing line focused on "new industries." This includes a component on the creation of 4IR technologies and business models, including the internet-of-things, robotics, and artificial intelligence; technologies that are being used to develop new fintech business models.

Sources : 1. IFC (2018) The Unseen Sector Report on MSME Financing | 2. Centre of Excellence in Financial Services, 2018, The impact of the fourth industrial revolution on financial services in South Africa.

Funding Options

Despite the multitude of funding channels available, the constraints apparent in many of these channels mean that many fintech entrepreneurs have to "bootstrap" to start their operations.

Government financing continued

Department of Science and Technology

The Department of Science and Technology (DST) manages the government's R&D spend and incentives, and has programmes focused on supporting technology innovation. Government accounted for 44.6% of gross expenditure on R&D in 2015[2] – aligned with the average of a sample of 68 countries including OECD benchmarks. This share has been growing since 2013, offsetting the slowing growth in spend from the business sector. Government prioritises R&D spending on sectors that provide broad national benefits such as agriculture, education and medicine. Government seeks to double the 0.77% of GDP spent on R&D to 1.5% by 2020. This target can be pursued through direct expenditure or through private sector tax incentives.[4]

South Africa's key innovation tax deductions – managed by DST, National Treasury, and SARB – are competitive relative to global leaders and BRICS nations. The Section 11D R&D tax incentive allows a maximum of 150% tax deduction on expenditure on research on an invention, or on new or improved product designs and functionalities and allows for accelerated depreciation of capital expenditure. This is a competitive policy when benchmarked to innovation leaders. Israel allows qualifying large enterprises a corporate tax rate of 5-8% and between 7.5% and 16% for SMEs; and the US gives a non-refundable tax credit to reduce income tax up to 9.1%. The 11D tax incentive has had a limited, though positive, impact on investment in R&D. Between its introduction in 2006 and June 2017, 292 companies received approval for the tax deduction.

The impact of the incentive is dependent on the DST's ability to efficiently process applications as qualification requires preapproval from the DST. The 2015 National Treasury budget review found severe backlogs in the process of approving applications, attributed to capacity constraints in the DST.

Department of Trade and Industry (the dti)

The dti and its subsidiary agencies are involved in promoting economic development, Black Economic Empowerment, implementing commercial law, promoting and regulating international trade, and consumer protection. The Support Programme for Industrial Innovation and the Technology and Human Resources Programme under **the dti** both provide grant funding to help tech entrepreneurs and support local innovation initiatives in South Africa.

National Empowerment Fund (NEF)

The NEF is promotes and facilitates black economic participation through provision of financial and non-financial support.

Bootstrapping

Due to the constraints in many of these funding channels, a number of entrepreneurs opt to fund their own fintech ventures. These individuals typically fund their start-ups for two to three years without profit in the hope of being purchased or partnering with an incumbent provider. Although this is not specific to fintech entrepreneurs, as a benchmark the 2010 FinScope survey found that 45% of small business owners fund their activities from savings or friends and family.

Issues:

- *Funding channels mostly require fintechs to have a proven business model that is scalable with high expected returns.*
- *Acquiring early-stage and growth financing often requires fintechs to be regulatory compliant in order to assure investors that they have a viable business model.*
- *Government support and incentives for tech financing can be better coordinated as they currently do not adequately cover sectors like fintech.*
- *Unclear regulation around crowdfunding limits scaling of alternative financing channels.*

1

Sources : 1. IDC Annual Report 2018 | 2. HSRC (2016) South African National Survey of Research and Experimental Development | 3. Deloitte (2018). Survey of Global Investment and Innovation Incentives | 4. National Advisory Council on Innovation (2015) Review of The White Paper on Science and Technology

Key issues discussed in recommendation slide (slide 42)

Competitive environment

The South African financial sector is dominated by traditional financial services providers with a large distribution network capturing the majority of the market, giving rise to high rates of financial inclusion.

The South African financial sector is sophisticated, supported by a large number of domestic and foreign institutions providing a full range of financial services backed by a sound regulatory and legal framework. As a result, traditional financial services providers dominate South Africa's financial sector. Digital adoption among traditional providers has limited the ability of fintechs to capture new customer segments using digital, and the comprehensive regulatory environment has created barriers to entry. However, despite high rates of overall financial inclusion, a relatively poor quality of inclusion products provides fintechs with an opportunity for customer growth through low-cost products that are simple and accessible and which solve problems specific to mass market customers.

Incumbent digital strategies

South Africa's favourable international financial sector rankings stem from a large amount of investment in financial infrastructure during the 1990s. The establishment of what is now called BankServAfrica in 1993 created a single processing hub and the country's first multi-channel payments switch. In 1994 the SARB and South African banks launched a modernisation project for South Africa's payment system which resulted in the formation of PASA, providing a robust institutional framework for payments system development and innovation. This led to South Africa being one of the first countries to implement real-time inter-bank clearing in 2006.

On the back of this progressive infrastructure development, South Africa's large incumbent banks and insurers have embarked on large-scale transformation projects in the last decade to improve customer experience, generate enterprise-wide cost reduction, and introduce product and channel innovations. The major South African banks all have a digital strategy in place – many have appointed a Chief Digital Officer and have invested in growing digital capability with a combination of domestic and foreign skills. This highlights the importance of digital in the banks' infrastructure. However, these banks have struggled to transition from legacy operating systems which has limited the speed and extent of digital transformation among incumbents.

As a result, investment in digital solutions to date has largely been in the retail banking space focused on improving the customer experience. The major South African banks all support internet banking channels, mobile apps and digital payment facilities and offer a cash remittance product that allows customers to transfer money to a recipient without a bank account. There has not been a great deal of differentiation between the banks' digital solutions. One reason for this could be the result of the way banks approach innovation compared to fintechs.

Fintechs are technologists by nature and consider how to leverage technology to revolutionise the financial system. Banks think about how to improve existing processes through the use of technology; their focus is on continuing to provide customers with reliable and secure banking facilities more efficiently. Therefore while the sophistication and appetite for digital adoption among incumbents has limited the disruptive potential for new fintech players, there is significant scope for fintechs without the constraints of legacy operating systems to carve out niche value propositions on the basis of nimble data-driven operating models. The emergence of digital banks TYME, Bank Zero and Discovery Bank are already signing up customers on the basis of quick application processes and lower fees, but it remains to be seen how disruptive this will be when incumbents like FNB also offer remote account opening and sophisticated digital channels.

An added challenge for new entrants is the highly concentrated nature of South Africa's financial sector. While the sector is large and sophisticated, it has high operational requirements.

Sources : 1. Centre of Excellence in Financial Services, 2018, The impact of the fourth industrial revolution on financial services in South Africa | 2. PWC, 2018, A marketplace without boundaries 2.0

Competitive environment

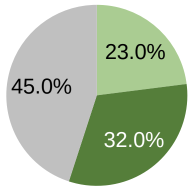
The low quality of financial inclusion products in South Africa creates an opportunity for fintechs to address consumer segments that are not currently served by traditional financial services providers.

At the beginning of 2017 the five largest banks continued to hold more than 90% of total banking sector assets, increasing from an average of about 80% between 1994 and 2002. While the sector remains stable and the SARB actively monitors the degree of interconnectedness from a financial stability perspective, this high degree of concentration means that incumbents have access to large financial resources, established networks, and a large customer base which might make it difficult for fintechs to secure a market share.[1]

Possibly as a result, the objective of many fintechs is to partner with or be bought out by incumbent providers in order to access their established customer base, distribution networks, or regulatory compliance experience. Incumbent providers in South Africa have active strategies in that regard with collaboration taking place through a number of models. The first is corporate venturing when banks acquire varying stakes in a fintech in order to incorporate their solutions and human capital into the bank's operations. An example is Standard Bank purchasing SnapScan (Fire Pay). The second is incubation and corporate acceleration where banks sponsor fintech accelerators providing start-ups with business skills, networking, support and potentially funding if a viable solution is developed. An example is RMI's Alpha Code fintech hub which supports emerging fintech start-ups and identifies partnerships with RMI's various financial service companies. The third model is partnering with fintechs as a vendor (largely in the B2B space) where an independent fintech has developed a proven solution to a specific bank problem. An example is Absa making use of Entersekt's services for the mobile authentication of customer's transactions. Lastly, fintechs and incumbents may collaborate through a consortium of multiple stakeholders, such as the South African Financial Blockchain Consortium.

Rate and quality of financial inclusion

South Africa has a high overall rate of financial inclusion with 77% of the adult population being formally included. When excluding SA Social Security Association (SASSA) i.e. grant recipients, this ratio decreases to 58%. This is supported by the well-developed nature of the financial sector and the large banking distribution network. Despite this high headline financial inclusion rate, the quality of financial inclusion in South Africa is low. The FinMark Trust's quality of financial inclusion measure indicates the extent to which individuals make use of a basket of financial services, and shows that the bulk of financially included adults in South Africa are only thinly served. [3]



FinScope quality of financial inclusion measure 2016

The Finscope survey attributes this to the low uptake of convenient transactional products, such as digital payments, and poor knowledge of financial products. Only 37% of adults use digital payments on a monthly basis and 56% of salaried adults do not have any retirement financial product. 5.5 million adults have the same type of funeral cover from two or more providers, evidencing poor levels of financial product knowledge and understanding.[3] One of the drivers of this problem is the high dependence on cash as a payments instrument, particularly within lower income segments. These consumer dynamics constitute a direct demand constraint for fintech services in the retail market and suggest that expansion into regional consumer markets and B2B services could be important sources of demand led growth for fintechs in South Africa going forward.

Issues:

- *Fintechs are competing with well-established and connected incumbents which have large budgets for innovation and are likely to receive favorable fees on outsourced business supporting services.*
- *Although South Africa has high account ownership, low account usage and financial literacy leads to a low transacting market that is heavily reliant on cash. This limits domestic revenue potential.*

2

Sources : 1. South African Reserve Bank, (2017), Financial Stability Review First Edition 2017 | 2. Centre of Excellence in Financial Services, 2018, The impact of the fourth industrial revolution on financial services in South Africa | 3. FinMark Trust, (2016), Finscope Consumer survey South Africa

Key issues discussed in recommendation slide (slide 42)

Digital readiness

With smartphone and internet penetration increasing, fintechs have the opportunity to scale their service provision to the majority of the population if the affordability of connecting digitally is addressed.

Smartphone penetration

South Africa's mobile phone penetration already exceeds 90% of the adult population with 69% using smartphones. Mobile phones are the most popular devices used to access the internet, with 72% of the population using a mobile phone as the sole device for connecting digitally. [3]

Approximately 61% of smartphone sales in South Africa in 2018 were low-end smartphones costing less than R1,500. South Africa has experienced a 41% price drop in the average price of smartphones between 2012 and 2017. Despite this fall, advanced smartphones are still unaffordable to the majority of South Africans. Imported smartphones are considered luxury goods by the South African revenue authority and subject to standard luxury good import duties as a result. A geographic divide also exists in terms of smartphone ownership, with 54% of the urban population owning smartphones versus 33% of those in rural areas. [3]

Financial and Digital literacy

Financial literacy is critical to an individual's ability to access and make meaningful use of the right kinds of financial services for their context. This includes accessing financial services through digital channels. According to the Organisation for Economic Co-operation and Development (OECD), the level of financial literacy in South Africa is relatively low. South Africans lack the ability to set financial goals and knowledge to use available financial products, both of which are important for demanding and successfully choosing more sophisticated financial products.

However, with increasing internet penetration from 46% in 2015 to 52% in 2017, the population is relatively "digital-savvy" with the highest levels of digital literacy in Africa. This provides fintechs with an opportunity to overcome financial literacy barriers using digital channels. By providing digital financial services such as financial planning and advisory, more consumers could have access to a broader range of digital financial services.

Cost of Data

Poor price competition among MNOs is driving the high costs of prepaid mobile data bundles. The cost of data is high relative by continental comparison – the cheapest domestic 1GB of prepaid mobile data bundle costs 600% more than the cheapest 1GB in Egypt and 134% more than BRICS nations. An oligopolistic market which leads to poor pricing competition between mobile operators contributes to the high data costs. The mobile network's Herfindahl-Hirschman index – a measure of market concentration – reflects a concentrated market with Vodacom's data revenue share at 40%, followed by MTN at 34% and Cell C at 30%.[4]

Low-income earners are paying disproportionately higher costs for small packets of data as per MB costs are higher for smaller data bundles. Individuals who are on contracts tend to spend less on data as a proportion of income, but low-income earners cannot obtain contracts due to credit constraints or being able to only pay as they use.

Issues:

- *The cost of a smartphone and of data in South Africa is still expensive for low-income earners, who cannot have a contract and buy data on pre-paid.*

2

Sources : 1. HSRC, (2016), *Financial literacy in South Africa: Results from the 2015 South African Social Attitudes Survey* I 2. StatsSA I 3. Pew Research Centre, Majorities in SSA own mobile phones but smartphone adoption is modest, 2018 I
4. https://www.cable.co.uk/mobiles/worldwide-data-pricing/

Key issues discussed in recommendation slide (slide 42)

For the fintech industry to grow, it requires South Africa's innovation ecosystem to be well developed so that access to skills and a well-coordinated policy response are not barriers.

The development of the fintech industry requires a number of enablers for tech innovation to be supported: technical skills and knowledge, an updated regulatory framework for IP and data protection, and a well-coordinated policy response to supporting tech innovation. To date, South Africa's innovation ecosystem has not performed highly on some of these aspects, despite policies for promoting innovation being in place. This suggests that an update to South Africa's innovation policy is required with better co-ordination between government departments in addition to a more supportive regulatory environment.

Innovation Ecosystem

Tech skills, migration and visa policies

Academic incubators

Academic incubators are becoming more prominent and will aim to provide the ideas, future skills and young entrepreneurs to the ecosystem. The University of Cape Town launched the first fintech degree in 2017 and fintech short courses for business in 2018. Stellenbosch University, through Launch Lab (in partnership with the government and Nedbank), provide their students with expertise to support new businesses and foster a culture of entrepreneurship.

Migration and Visa policies

The Immigration Amendment Act of 2011 compelled the Department of Home Affairs to compile a critical skills list required for South African development, some of which must be sourced internationally. However, applying for a work permit is cumbersome, requiring a large volume of documentation e.g. proof of post-qualification experience of at least five years. Migration lawyers have described their clients experiencing unexplained and unacceptable delays with many believing that they received unfair and incorrect decisions.

Intellectual Property & data protection regulation

Intellectual Property

South Africa's historical IP system has been fragmented and reliant on a 'depository' IP system. The depository system is believed to undermine genuine innovation as patents are granted when meeting thin formal requirements and only ever examined if challenged in litigation. As a result, the Intellectual Property Policy in South Africa is currently under review, with the aim of improving capacity to support applications and simplification of the process to reduce application costs.

Data protection

The introduction of the Protection of Personal Information Act codified the manner in which organisations can source and use entities' personal information, including digital information. While the act is considered to be in line with international best practice (e.g. the EU's GDPR), its enforcement is yet to be delivered, with the Information Regulator having only recently been appointed.

South Africa's cybersecurity regulatory framework is in the process of being updated, though impending legislation prioritises punitive measures without enforcing preventative action. This has led to the establishment of the National Cybersecurity Hub, which is the key point of contact for cybersecurity matters. It coordinates cybersecurity response activities and facilitates information and technology sharing.

Sources : 1. South Africa's massive immigration problem, SA Migration International 2019 | 2. Owusu-Sekyere et. Al. A critical skills attrition index South Africa, Human Science Research Council

Several government policies and initiatives have been introduced to support the innovation ecosystem through providing financial support and supportive policies for new ideas.

Government innovation policies and initiatives

National System of Innovation (NSI)

Innovation policies are coordinated under the NSI which was implemented in 1996. The NSI is supported by three key institutions: the National Advisory Council on Innovation (NACI), the Technology Innovation Agency (TIA), and the National Research Foundation (NRF).

- **The *NACI*** was created by legislation and the NACI Council is appointed by the Minister for Science and Technology for guidance. The Council provides guidance to the Minister and the Cabinet on the role and contribution of science, mathematics, innovation and technology, including locally produced technologies, in promoting and achieving national objectives.
- ***TIA*** is a national public entity that serves as the key institutional intervention to bridge the innovation chasm between research and development from higher education institutions, science councils, public entities, and private sector, and commercialisation. TIA's focus is on technology development, from proof of concept to the pre-commercialisation.
- The **NRF** is an independent statutory body established through the National Research Foundation Act and functions as a research funding agency.

The NSI can improve its offering through better coordination across government departments to avoid fragmented, dislocated and inefficient national efforts.

Financial center for Africa policy

The National Treasury has been trying to develop South Africa into a financial centre for Africa in order to improve inward investment flows, boost employment creation, improve financial revenue and support economic growth. With financial services changing as digital players enter this space, the strategy includes making South Africa a fintech or innovation hub for the region. Through this strategy, Treasury will introduce recommendations on making the South African financial sector conducive to fintechs scaling regionally, and improving local access to funding.

Presidential Commission on the fourth industrial revolution

The Department of Communication and Digital Technology has been appointed to convene government consultations on the 4IR. The President has convened a Commission on 4IR, comprising experts across a range of fields to advise on the development of a national 4IR masterplan for South Africa which is being developed and should be ready by June 2020.

Case study: International initiatives - The Bali fintech Agenda

The International Monetary Fund and the World Bank Group launched the Bali fintech Agenda, a set of 12 policy elements aimed at helping member countries to harness the benefits and opportunities of rapid advances in financial technology, while at the same time managing the inherent risks. The 12 policy elements include calling on governments to: embrace the promise of fintech; enable new technology to enhance financial service provision; reinforce competition and commitment to open, free and contestable markets; foster fintech to promote financial inclusion and develop financial markets; safeguard the integrity of financial systems; etc. The Agenda proposes a framework of high-level issues that countries should consider in their own domestic policy discussions and aims to guide staff from the two institutions in their own work and dialogue with national authorities.

Issues:

- *Lack of transparent, proportionate eligibility thresholds impede the successful application of skilled individuals seeking to migrate to South Africa.*
- *Impeding IP and data protections laws - still in review.*
- *Public sector efforts to create an enabling environment for tech innovation such as IFWG and Innovation Hub, and the employment of tech in digital business models, are currently siloed.*

3

Sources : 1. IMF Policy Paper; The Bali fintech Agenda; August 2018.

Key issues discussed in recommendation slide (slide 42)

Regulatory environment

Achieving a balance between supporting innovation and managing the potential risk they pose to the financial sector is imperative to support fintech growth while maintaining a stable financial system.

Fintechs are contributing towards hyper-personalised, customer-centric, digital offerings in the financial sector. Information is being gathered from multiple touchpoints, and analysed using advanced data analytics, which provides entities with accurate insight into the attitudes and behaviours of customers, as well as enterprise operations such as risk analysis. This presents significant benefits, but also comes with considerable risks. The opportunities for fraud and cyber crime are increasing as digital channels and products expand, and the rapid adoption of new technology by financial services providers can introduce systemic and conduct risk when the technology fails. Consumer protection is also an important element when dealing with unknown entities who may mislead consumers. Financial regulation is necessary to respond to the significant risk that rapid increases of technology use in financial services creates. Financial regulators are therefore faced with the challenge of managing these risks in a way which does not significantly stifle innovation.

Some potential benefits of a growing fintech industry

- *Provide more distribution channels and access to finance for more individuals as digital solutions are more accessible and do not require the physical presence to bring them into the formal sector.*
- *Fintech could also increase the number and range of product choices.*
- *Can reduce the cost of finance as new entrants are able to enter the market at lower costs than larger and more heavily-regulated traditional banks.*
- *MSMEs can access finance through innovative scoring models, therefore increasing economic activity and creating better wealth distribution.*
- *Allows savers and investors to earn higher yields in low interest rate environments.*
- *Insurance customers benefit from having more appropriate, customised cover to insure specific events/items and pay out when the need arises.*
- *Increase in competition (new entrants) within the financial services sector would increase stability.*

Some highlighted risks of a growing an *unregulated* fintech industry

- *Lack of regulation means depositors and investors can be exposed to higher levels of default risk.*
- *Lack of recourse on unfair outcomes to customers as fintechs are currently not formally regulated.*
- *Technologies such as AI and machine learning can potentially result in unfair customer profiling.*
- *Adverse impacts on financial stability, liquidity management and monetary policy.*
- *Increased risk of cybersecurity and other fraud prevention systems where fintechs become targets for cyber crime and fraud.*
- *Potential for regulatory arbitrage allows small financial services providers to by-pass regulation and undermines regulators' authority. This creates uneven regulatory playing-fields and can disadvantage incumbents.*

In South Africa, fintechs are constrained by the complex financial regulations that are aimed at protecting consumers and preventing systemic risk…

Regulation requirements and licencing

Financial Advisory and Intermediary Services Act (FAIS): financial services providers that render financial services in respect of a defined list of financial products are regulated by FAIS. Financial services include the furnishing of advice, buying and selling or otherwise dealing, managing, administering or servicing a financial product, collection or accounting of premiums or other monies payable by a client to a product supplier and the receiving, submitting or processing of claims. Any person that renders a financial service must obtain a ***licence to act as a financial services provider*** and are included as an accountable institution in Schedule 1 to the FIC Act. As such, they are regulated for AML/CFT purposes.

- There are ***five categories of Financial Services Provider licences***. The category of licence required will depend on the activities the institution seeks to perform.
- Financial Services Providers that are authorised to provide the advice through an electronic medium that uses algorithms and technology without the direct involvement of a natural person, must comply with additional operational ability requirements.

National Payment System Act: payment service providers must ***register as a payment service provider or third party payment provider (TPPPs) with PASA.*** Payment service providers provide the electronic means for parties to receive or send funds, while the TPPs accept money or the proceeds of payment instructions from two or more payers for on-payment to third persons to whom the money is due. In order for members to clear payment instructions there must be an understanding of the business rules, requirements and technical agreements that make clearing possible.

- A non-bank may participate in the national payment system via a sponsoring arrangement with a banking entity licensed for clearing and settlement.

Banks Act: not only requires digital banks to have a banking licence with the SARB, but applies obligations concerning capital and liquidity ratios and reserve requirements.

- Should the credit provider agree to pay back lenders at a later stage, it "may" be considered deposit-taking and the platform will be subject to the requirements of the Bank Act.
- Providers of digital wallets and e-money solutions may fall within the definition of deposit-taking and be subject to the requirements of the Banks Act and E-Money position paper of 2009.
- In terms of the Banks Act, section 6(5); banks are able to enter into outsourcing arrangements with alliance partners.

	Payments	Lending	Deposits	InsurTech	Investment	Advisory	Capital Raising
FAIS	✓	✓	✓	✓	✓	✓	✓
National Payment System Act	✓						
Banks Act	✓	✓	✓				

Issues:

- *The scope of the FAIS regulation as it applies to fintechs is unclear i.e. there is a need for transparency.*
- *The Banks Act provides a broad definition of the business of a bank (deposit-taking) and may provide obligations on a range of fintech business models beyond digital banks (e.g. mobile wallets), in addition to not having tiered requirements for digital banking models.*

4

Notes: 1. A licence for Association under the Collective Investment Schemes Control Act might be necessary based on the business model of the equity crowd funding platform . However, there is no evidence of such a case in South Africa.

Key issues discussed in recommendation slide (slide 42)

SA current regulation

…Regulations need to become more transparent and an enabling regulatory environment for fintech should be put in place.

Applicable regulation requirements and licencing

National Credit Act: All lending entities must ***register as a credit provider*** with the NCR regardless of the value or volume of funds lent. As such all online lenders and P2P lending platforms are required to register. The determination in 2016 to reduce the minimum threshold for registering as a credit provider to R0 (nil) has had implications for limiting the operations of P2P / debt-based crowdfunding platforms in South Africa as each participant on the platform may be required to register as a credit provider.

Insurance Act: ***Insurance company must be licenced as a short-term, long-term, micro insurer or reinsurer***. Amendments in the Insurance Act allows micro-insurers to offer life and non-life insurance. Insurers will be able to offer new innovative products subject to product standards.

Financial Market Act: governs capital market activities and institutions. A platform connecting buyers and sellers of equity may be considered an exchange and need to ***be licenced as an exchange*** with the FSCA. The application process does not guarantee the approval of a licence.

Other pertinent legislation:

- A business is required to register as an external company in terms of the Companies Act, 2008, within 20 business days after it first begins conducting business within SA.
- Direct marketing to customers in South Africa is stringently regulated in terms of the Consumer Protection Act, 2008 and the Protection of Personal Information Act, 2013 ("POPI"). The Consumer Protection Act establishes the right of consumers and the responsibilities of product and service providers. POPI codifies the manner in which organisations can source and use entities' personal information, including digital information.
- Money laundering is regulated by the Financial Intelligence Centre Act, 2001, (FICA). "Accountable institutions" under law are subject to compliance requirements when accepting new customers. Not all fintechs fall into the category of "accountable institutions" making it difficult to screen transactions for potential money laundering activities.
- South Africa still has a system of exchange control and, as a general rule, persons wishing to remit money cross-border would have to apply for permission.
- The Financial Intelligence Centre Act & Amendment Bill governs KYC regulation to monitor money flows to prevent money laundering, the financing of terrorism and organised crime.
- In June 2019 FATF announced a note to R.15 (new technologies) that establishes "binding measures," which require countries to, among other things, (i) assess and mitigate risks associated with virtual asset activities and service providers; (ii) licence or register service providers and subject them to supervision; (iii) implement sanctions should they fail to comply; and, (iv) ensure that service providers implement the full range of AML/CFT preventive measures under the FATF Recommendations.

	Payments	Lending	Deposits	InsurTech	Investment	Advisory	Capital Raising
National Credit Act		✓					
Insurance Act				✓			
Financial Market Act					✓		✓
Other pertinent legislation	✓	✓	✓	✓	✓	✓	✓

A number of regulatory bodies are responsible for the interpretation and the implementation of financial sector legislation, with some having directly or indirectly responded to the emergence of fintechs in the financial sector.

Members of the Intergovernmental fintech Working Group (IFWG): National Treasury, Prudential Authority (within SARB), Financial Sector Conduct Authority, Financial Intelligence Centre, National Credit Regulator

	National Treasury	Prudential Authority (within SARB)	Financial Sector Conduct Authority	Financial Intelligence Centre	National Credit Regulator	JSE limited	Payments Association of South Africa
Role	National Treasury is a legislative arm of the South African government tasked with overseeing national finances.	The PA operates within the administration of the South African Reserve Bank (SARB). It is responsible for bank regulation & supervision to achieve a sound, efficient banking system.	The recent promulgation of the twin peaks regulation has given rise to the FSCA which has the primary function of overseeing market conduct of financial institutions that are licenced in terms of financial sector law.	The FIC has the mandate to collect financial information in order to identify the proceeds of crime, money laundering and terror financing and report this to the relevant domestic and international authorities.	The NCR is responsible for the regulation of the South African credit industry. It has been tasked to promote the development of an accessible credit market.	The regulatory activities undertaken by the Johannesburg Stock Exchange (JSE) and alternative exchanges, monitoring of trading in the various markets to identify possible market abuse and oversight of JSE members' compliance with their regulatory obligations.	PASA is a self-regulated body that develops rules, criteria and governance structures to manage its members' specific payment activities through legal constructs such as payment clearing house (PCH) agreements, PCH clearing rules and service level agreements.
Jurisdiction	Works closely with the SARB and FSCA to ensure a sound financial services sector.	The PA is responsible for regulating banks, insurers, cooperative financial institutions, financial conglomerates and certain market infrastructures.	Includes: banks, insurers, retirement funds and administrators and market infrastructures, capital markets, payment providers, financial advisory and intermediary services.	The FIC Act obliges all businesses to report to the FIC various suspicious and certain other transactions. All accountable and reporting institutions are required to register with the FIC.	Registering credit providers, credit bureaus and debt counsellors; and enforcing compliance with the Act. Registers Payment Distribution Agents in terms of the National Payment Systems, and the Alternative Dispute Resolution Agents for consumer credit disputes.	Stakeholders trading in the various JSE markets including alternative exchanges.	Banks, system operators or third party payment providers.
Legislation	• Financial Sector Regulation Act[1]	• Banks Act (of 1990) • Mutual Banks Act (of 1993)	• Financial Sector Regulation Act • The Conduct of Financial Institutions Bill	• Financial Intelligence Centre Act (2001)	• National Credit Act (2005)	• Financial Markets Act (2012)	• National Payment System Act (of 1998)
Recent activity related to innovation	• Consideration of fintech strategy	• SARB established a unit with related fintech programme. • Vison 2025 strategy to enhance safety & efficiency of the national payment system.	• Investigation into equity crowdfunding, regulation of alternative exchanges, FAIS requirements for automated advice.	• Amendment to FIC act with regards to digital KYC.	• Revision to NCR, consumer protection laws.	• Supervision of the JSE's alternative exchanges.	• PASA is involved in the SARB's Vision 2025.

Notes: 1. Financial Sector Regulation Act references several Acts that will guide the mandate of FSCA: Pension Fund Act, Friendly Societies Act, Financial Advisory and intermediary Services Act, Collective Investment Schemes Control Act, Financial Markets Act, Long-term Insurance Act and Short-term Insurance Act: 2. The Financial Sector Regulation Act (2017) or "twin peaks" established the Prudential Authority under the SARB and renamed the Financial Services Board to the Financial Sector Conduct Authority

Several regulators have collaborated to form the Intergovernmental fintech Working Group, a combined effort to develop a deeper understanding of the local fintech industry and identifying an appropriate regulatory response.

Members of the IFWG

- **National Treasury**
- **Financial Intelligence Centre**
- **South African Reserve Bank**
- **Financial Sector Conduct Authority**
- **National Credit Regulator**
- **South African Revenue Service**

As a result of the growing interest and rapid innovation in fintech, the IFWG was established to co-ordinate, track and develop a common response to fintech regulation in South Africa. The IFWG was formed by members from National Treasury, the SARB, the FSB (now FSCA) and the FIC at the end of 2016. During 2019, the NCR and South African Revenue Service (SARS) became members of the group.

Objective:

To enable policymakers and regulators to understand, more broadly, the fintech developments and relevant policy and regulatory implications for the South African financial sector and economy in order that a coordinated approach to fintech policy making could be developed and adopted. The overall objective is to foster fintech innovation while ensuring a continued efficient functioning of financial markets, financial stability and protecting the rights and interests of customers and investors.

Activities since inception

April 2018 **-** *Hosted the IFWG fintech workshop*

November 2018 **-** *Crypto Asset working group within the IFWG had a workshop*

January 2019 **-** *Published a consultation paper on Crypto Assets: the paper highlights the benefits and risks of the related activities, reviews the approaches by other jurisdictions, and presents recommendations for dealing with crypto assets from a South African perspective, taking into account the FATF developments in this area*

As part of this coordinated approach, the IFWG hosted its inaugural workshop on 19 and 20 April 2018, with the objective of providing a platform for regulators and policymakers to engage with industry, identify key considerations, (risks and benefits) and develop a harmonised approach to fintech-driven innovations for the benefit of all South Africans. The conference was attended by a mix of fintech firms, incumbent financial institutions, academic institutions, regulators and policymakers, and other stakeholders with a vested interest in the financial services sector in South Africa. The 2018 agenda focused on Private crypto-currencies, Financial inclusion, Innovation facilitation, and Regulatory and Policy Responses.

The 2019 fintech conference took place on the 3rd and 4th of September and focused on the following topical issues:

- *Digital identity*
- *Innovation*
- *Artificial intelligence (AI)*
- *Central bank digital currency*
- *Open banking*
- *Cyber risk*

Regulators such as SARB and FSCA have been proactive in monitoring new technologies to understand the way in which they may impact the underlying economic activities.

SARB's fintech Programme

The SARB has established a fintech programme to strategically asses the emergence of fintech and consider its regulatory implications. The fintech programme has three objectives:

- Review the SARB's position on private cryptocurrencies to inform an appropriate policy framework and regulatory regime.
- To investigate possible innovation facilitation mechanisms e.g. regulatory sandboxes, innovation hubs and accelerators for SARB.
- Launch ***Project Khokha*** which will contribute to the global initiatives which assess the application and use cases of distributed ledger technology (DLT). The project involved developing a proof-of-concept (PoC) wholesale payment system for interbank settlement using a tokenised South African rand on DLT.

SARB's Vision 2025

The main goal of the SARB's Vision 2025 is to enhance safety, efficiency and accessibility of the national payment system. In its Vision 2025 the SARB states that they support increased competition in the payments system value chain. This includes the emergence of fintechs in the space, to foster the development of innovative solutions. As such, they promote collaboration between fintechs and traditional payment services providers. Their strategy is to review and assess the potential impact of new technologies such as APIs, DLT, the IoT and fintech offerings.

FSCA's Regulatory Strategy

The FSCA released its ***Regulatory Strategy of the Financial Sector Conduct Authority*** in which they described their supervisory approach to emerging financial sector trends and risks. For the next three years the FSCA highlighted their focus areas, which includes financial inclusion and fintechs. The key outcomes of these priorities are to establish a fintech department that is suitably resourced and actively engaged with fintech start-ups and incumbents using fintech.

FSCA's fintech strategy seeks to create an appropriate balance between innovation and risk management to ensure good outcomes for consumers. As a result, they plan to work closely with innovators to understand fintech start-ups through innovation hubs and regulatory sandboxes.

Key dates:

July 2017 - The SARB announced that it will review its stance on crypto assets.

2018 - The FSCA drafted a position paper for internal consultation regarding the most appropriate regulatory and supervisory framework for equity crowdfunding. This was not a public document but a guideline for internal use, the outcome of which was communicated to relevant stakeholders.

June 2018 - As part of Project Khokha, SARB published a paper on DLT which investigated whether confidentiality could be achieved at scale, i.e. with production-level volumes, and whether multiple node types, each configured by a participating bank, could be accommodated.

Jan 2019 - SARB joins the Global Financial Innovation Network (GFIN). The GFIN, as a network, provides an efficient conduit for innovative firms to interact with regulators and to help them navigate between countries as they look to scale new ideas in the interest of consumers.

2019 - The SARB is currently investigating the possibility of a central bank digital currency (CBDC) backed by the rand, and hopes to experiment with at least three different designs and/or deployment models during 2019.

- SARB and FSCA announced that they will establish an innovation hub for regulation of fintechs and innovative financial products in the first half of 2020.

Sources: 1. Regulatory Strategy of the FSCA 2018 | 2. SARB media statements, 2018 | 3. SA to get fintech innovation hub, 2019.

Internationally, regulatory approaches to capture the benefits and manage the risks of fintech innovation have been categorised along a spectrum from proactive to reactive approaches.

Regulatory approaches to fintech and digital innovation

Active *Most regulators fall in between the spectrum and might even take different approaches for different business models* **Passive**

Regulators work closely with fintechs – both startups and incumbents – to understand new fintech developments and regulatory obstacles to innovation and help startups to address these challenges

Key features:
- A government agency has been identified as a champion for fintech engagement and development within the country.
- There are government-led innovation hubs that provide innovative businesses with technical support, regulatory guidance and access to finance.
- A form of a regulatory sandbox is present that provides innovative firms with an opportunity to test new products and services on customers while regulators test what the regulatory impact may be.

Benefits and risks:
- ✓ fintech is encouraged and well-supported meaning there is more innovation and competition within the market.
- ✓ Regulators are better able to keep track of innovation within their market and take measures to address the risk it presents, minimising uncertainty and giving confidence to the market.
- ✓ Allows for an agile approach to the development of regulation.
- ✓ Focused policy changes signals that the market is open for innovation
- × Regulatory authorities are at risk of being overloaded and unable to meet other policy mandates.
- × This approach is resource-intensive and carries the risk of ”regulatory capture” – when regulators set the interests of specific companies ahead of the public interest.
- × Participation in a sandbox does not guarantee full legal approval and customers are not assured of the regulatory compliance of these companies.
- × There is a tendency to use sandbox participation as marketing tools to gain potential investors and customers, and less for aiding the creation of fit-for-purpose regulation in a test environment.
- × Reputational risk to the regulator if the sandbox fails to reach set outcomes.

Regulators do not take an active role in the development and scaling fintechs to succeed but also do not introduce barriers to innovation and adjust regulation when necessary

Key features:
- While financial regulators and government departments may have internal working groups on fintech, there is no clear overarching strategy for the development of the sector.
- Financial regulation tends to follow innovation and advanced guidance is not actively provided on new and emerging technologies.
- Innovation hubs are private-led rather than being initiated by government, although there may be varying degrees of government involvement in these hubs.

Benefits and risks:
- ✓ Resource-scarce regulators are able to focus their attention on the most pressing issues which may not be fintech-related.
- ✓ Innovation can take place without the need for regulatory involvement, but this comes with the risk of not complying with existing regulation.
- × Regulators may not have a comprehensive understanding of technological innovation and its impact on the market.
- × The pace of innovation in the market may be outstripped by financial markets where a more proactive regulatory approach is taken with negative consequences for consumers.

Several regulatory mechanisms have been developed, with the approach taken by countries largely depending on the capacity investment regulators are willing dedicate to monitor and support development.

Regulatory mechanisms

Regulatory Sandboxes

- **Regulatory sandboxes** enable businesses to test out new products and services in a semi-controlled environment that functions in the market under a temporary licencing regime. The UK was the first country to launch a sandbox in 2015, followed by Australia.
- Several countries have expressed intention to introduce a sandbox, including Canada and the USA in 2018, and India in 2019.
- Kenya became one of the first African nations to launch a regulatory sandbox in 2019, followed by Sierra Leone, with Mauritius announcing its intention to launch regulatory sandboxes.

- **SA:** SARB announced it is reviewing the potential of a regulatory sandbox

Cooperation Agreements

- Agencies championing the fintech regulation process frequently enter into cooperation agreements with regulators in other markets to facilitate knowledge sharing as well as instituting collaboration that may help establish regulatory and enforcement best practices.
- The UK has signed cooperation agreements to share information on market innovations and trends with China, Singapore, Korea, Australia, Hong Kong, Canada and Japan, among others.
- Similarly, Kenya has signed cooperation agreements with the Australian Securities and Investments Commission and the Abu Dhabi Global Markets Financial Services Regulatory Authority.

- **SA:** SARB has joined the Global Financial Innovation Network (GFIN)

Innovation hubs

- **Innovation hubs** provide innovators with direct support and guidance, offering fintechs direct access to regulatory personnel who help the business understand how best to navigate current regulation applicable to their product or service.
- The UK and Australia have set up an innovation hub.
- Australian Securities and Investments Commission (ASIC) has also set out a regulatory framework to assist fintechs considering the use of blockchain.
- In Kenya, Nairobi is known as the Silicon Savannah, due to the burgeoning number of tech start-ups that are being formed and the number of hubs supporting technological innovation.

- **SA:** SARB and FSCA to establish an innovation hub in the first half of 2020

Tax incentives

- Tax relief assists in reducing the cost burden and investment risk of start-ups.
- The UK provides relief for VCs involved in small companies, capital gain tax relief for entrepreneurs, R&D expenditure relief and tax-free accounts for P2P lending platform users.
- In Australia, the government is proposing to remove the 'double taxation' treatment for digital currencies.
- In India, tax exemptions and relief include three years of exemption for start-ups.

- **SA:** 12J Venture Capital tax incentive (although currently does not include investing on fintechs)

Inter-regulatory working groups

- Several countries have established inter-regulatory working groups with a mandate to study and understand fintechs, assess opportunities and risks and investigate the necessary changes to align regulation with the market.
- In Brazil numerous private/public working groups are working together with the securities exchange and organisations such as the Brazilian Payments Association, the Brazilian Association of Digital Credit and Brazilian Association of Fintechs.
- Digital Financial Advisory Committee in Australia is a cross-section of finance experts to supplement the ASIC's knowledge and support the fintech community.

- **SA:** Established the Intergovernmental fintech Working Group (IFWG)

Sources: 1. International Comparative Legal Guide 2017 | 2. Ernst & Young, 2016

Compared to the UK, South African fintech regulation remains more reactive. However, certain regulatory responses have surpassed other leading markets in African, like Kenya.

Case study:

UK- international leader

The UK is considered an international standard setter when it comes to fintech regulation. Project Innovate under the FCA is the cornerstone of an enabling fintech strategy that assists fintechs to navigate regulatory policy. The project includes a regulatory sandbox, innovation hub and an advice unit which provides regulatory feedback for firms developing automated models to deliver lower-cost advice and guidance to consumers. The UK also has various policies such as the UK Angel co-fund, a publicly-backed venture capital loan and loan fund which help ease the start-up process.

The implementation of open banking standards is expected to be the next international standard setter. Open banking enables bank customers, both consumers and businesses, to use third-party providers to manage their finances. Consumers then use fintechs to make payments and analyse their finances, while still having their money safe in their bank account, as banks are obligated to provide these third-party providers access to their customers' accounts through open APIs. This will enable third-parties to build financial services on top of banks' data and infrastructure. This has significant consequences for banks, who will not only be competing with other banks but any other financial services providers. This poses a great opportunity for fintechs to scale advisory and payment services, using the transactional data collected by incumbent banks – which typically hold the largest customer networks.

Case study:

Kenya - regional leader

Kenya is one of the world leaders in mobile money and home to perhaps the most well-known example of FinTech-based financial inclusion, M-Pesa. In Kenya, regulation has significantly lagged behind the development of technology. In 2007 when M-Pesa was launched, the central bank issued a 'Letter of No Objection' to Safaricom and only enacted the National Payment System Act in 2011 and the National Payment System Regulations in 2014. Hence, despite the recent introduction of the regulatory sandbox, the Kenyan approach has mainly been reactive to the development of technology.

There are aspects of the Kenyan regulatory framework that are somewhat underdeveloped. Kenya does not have any statute dealing with the handling of personal data, however, the Data Protection Bill has been pending before Parliament for the last six years. There is no restriction on the transfer of data outside the country provided that the transfer does not infringe on the individual's right to privacy.

Similar to South Africa, crowdfunding is not regulated in Kenya. As a result, a number of regulators can have the authority to regulate various forms of crowdfunding, including the Central Bank of Kenya, the Capital Markets Authority and the Communications Authority of Kenya. In 2015, the Central Bank of Kenya issued its declaration concerning cryptocurrencies. The bank declined to recognise virtual currencies such as bitcoin and issued a public notice against dealing with virtual currencies.

Sources : 1. Regulation and supervision of fintechs 2019 | 2. PSD2 - the directive that will change banking as we know it 2019 | 3. Centre of Excellence in Financial Services, 2018, The impact of the fourth industrial revolution on financial services in South Africa

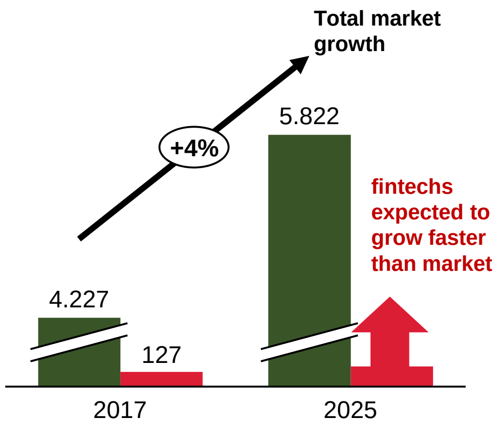
With the operating environment in mind, the projected future direction of each segment is based on three additional drivers, namely international trends, level of consumer adoption and competitive environment.

- ***International trends**: considers markets where fintech development is currently more accelerated than South Africa.*
- ***Customer adoption** considers customers' access to digital platforms and behavioural trends such as the level of use of these digital services.*
- ***Competition:** considers whether the emergence of fintechs will impact the presence of traditional financial services providers within the market, (e.g. banks, insurance companies) and how the sector is expected to grow their proportion of the addressable market.*

With payment fintechs are increasingly creating efficient and affordable payment platforms, more collaboration is expected between fintech and traditional banks.

Payments

Value of retail payments
(R billion)



The Payment fintech segment is likely to grow above the market annual growth rate of 4% from 2017 to 2025. However traditional banks are expected to continue to capture the majority of the market, with the payment system in South Africa being highly regulated and fintechs not providing a fundamentally different payment rails.

Implied growth direction

Factors considered

International trends: About 20% of fintechs globally are payment solutions. In the UK, contactless payments are increasingly preferred by consumers with 85% of consumers claiming that a diverse range of payment methods makes a company appear more modern and progressive. However, too many payment options will cause customer confusion. As a result, innovations like ApplePay saw lower than expected adoption rates when launched as customers did not see this as a significant value add given that they could use their credit card for contactless payments.[1]

Consumer adoption: Almost 80% of all transactions in South Africa are cash-based, providing an attractive market for payment innovators to convert this base to digital payments. Given the high mobile adoption rates, along with the benefits of digital payments such as security and real-time transactions, consumers are expected to continue to take advantage of the seemingly ever-expanding choice of payment options available to them.[2]

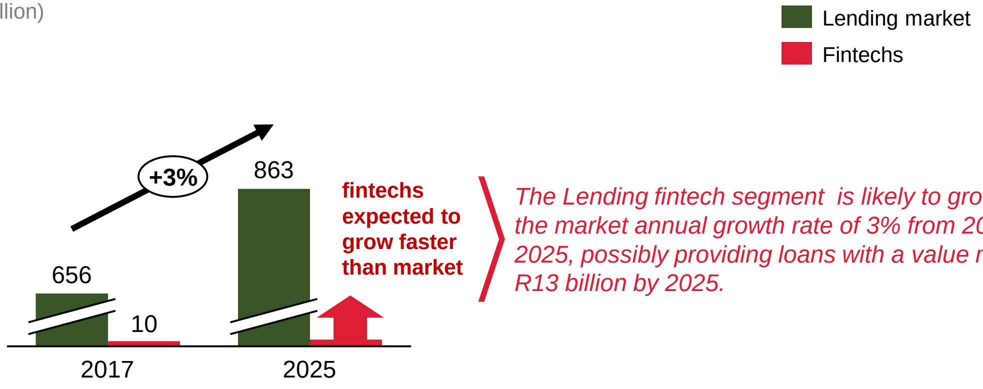
Competitive environment: In SA, payment innovation is taking place on existing payment rails (Card or EFT), which allows banks and other card associations to be major players in the payment innovation space. New fintech players are expected to enter the market but at a decreasing rate. The focus of payment innovation is likely to be around real-time transactions and interoperability.

Sources: 1. 2017 Payments Landscape Report | 2. Genesis Analytics Team estimates and analysis

Both the Lending and Savings & Deposits segments will see growth, however growth in Savings & Deposits is expected to slow in the medium term as traditional banks continue to digitise their operations.

Lending

Value of loans extended in the market
(R billion)



The Lending fintech segment is likely to grow above the market annual growth rate of 3% from 2017 to 2025, possibly providing loans with a value more that R13 billion by 2025.

Factors considered — *Implied growth direction*

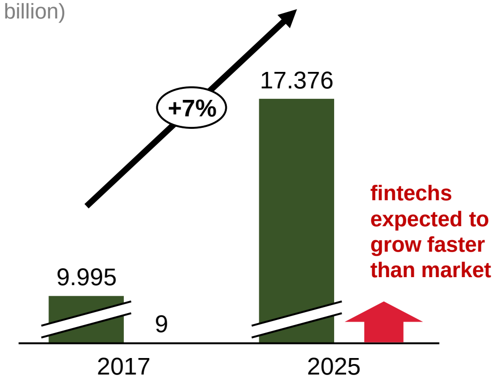
International trends: The lending segment is one of the first segments to disrupt financial services, entering the market at a time where big banks pulled back on making small business and personal loans in the wake of the financial crisis. They have since experienced high growth rates in a world where consumers are increasingly using internet searches to find credit and where alternative credit rating models and advanced data analytics are including a market of low-income consumers often overlooked by traditional lenders. In Asia, alternative lenders experienced a CAGR of around 79% between 2015 to 2016 and 43% between 2014 and 2017 in the UK. Globally, digital lending is projected to increase by a CAGR of 48% between 2018 and 2023.

Consumer adoption: Traditional lenders have historically viewed lo- income consumers as an unprofitable segment. Poor credit history and a lack of data have led to these consumers being classified as risky. Similarly, SMEs without financial data find it difficult to secure credit. The digitisation of data has allowed fintechs to use unstructured and external datasets to calculate credit scores. This has allowed lending fintechs to service consumers that would otherwise be excluded; thereby growing the overall size of the market.

Competitive environment: The extension of credit is often seen as a “hook” or anchor product by financial institutions (FIs). As a result, banks have been more willing to partner and collaborate with fintechs to improve their product offering and customer experience, increasing the investment in this area.

Savings & Deposits

Value of deposits taken in the market
(R billion)



The Savings & deposit fintech segment is likely to grow above the market annual growth rate of 7% in the next few years, however, by 2025 this trend should slow down. The proportion of deposits taken by fintechs will increase slightly by 2025.

Factors considered — *Implied growth direction*

International trends: There has been an increase in digital banking offerings globally. However, due to regulation, traditional banks have managed to retain their competitive advantage, capturing most of the market. In Hong Kong, however, regulators issued digital banking licences in March 2019, allowing traditional financial institutions and Chinese companies a chance to compete for the retail banking business. In the UK, New Banks Start-up Unit introduced over 20 new banks, both digital as well as brick and mortar banks have been authorised, changing the landscape significantly.

Consumer adoption: By moving away from physical to digital distribution channels, and investing in digital core banking systems, digital banks have managed to provide banking services, often with unique value propositions (such as real-time account opening) and more intuitive customer journeys while keeping costs low. Lower fee models and innovative products have attracted consumers away from traditional banks.

Competitive environment: 2019 will see three new digital banks entering the South Africamarket and there has been much media hype around their innovative business models. Tyme Bank has managed to grow from 80,000 consumers in March 2019 to 250,000 a month later. These players are expected to increase the competition for traditional banks. However, given that digital banks are still required to apply for a banking licence (both an expensive and time consuming process), it is not expected that there will be continued growth in this sector.

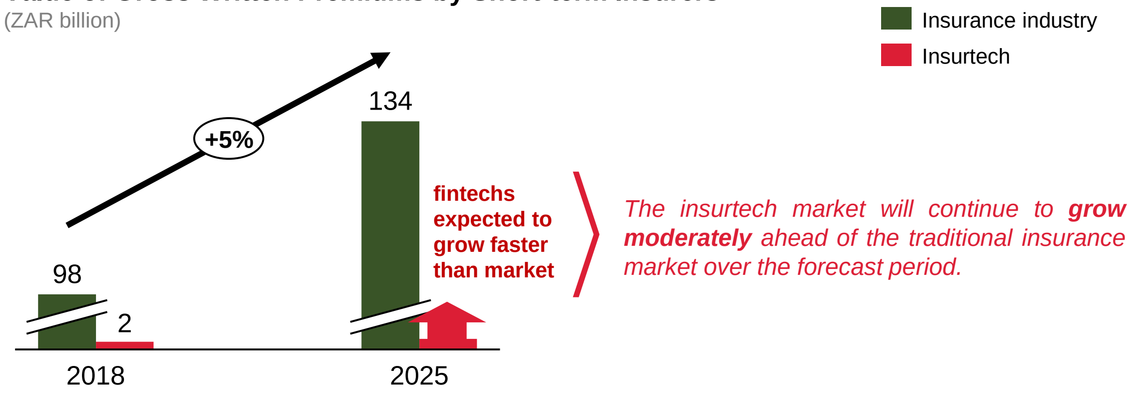
Sources: 1. 2020 Global lending industry Trends Be& Do value consulting Report | 2. Digital lending Report by the Boston Consulting Group | 3. The future of fintech and financial services EY Report | 4. Redrawing the lines: fintech's growing influence on Financial Services PWC report | 5. Financial Times: Hong Kong hands out its first digital banking licences | 6. Genesis Analytics Team estimates and analysis

Insurtech is predicted to grow slightly ahead of traditional insurance providers, due to a large number of new entrants and technology adoption of traditional insurers, whilst the Investment segment is expected to grow in line with global markets.

Insurtech

Value of Gross Written Premiums by Short-term Insurers

(ZAR billion)



fintechs expected to grow faster than market

The insurtech market will continue to ***grow moderately*** *ahead of the traditional insurance market over the forecast period.*

Implied growth direction

Factors considered

International trends: The EMEA general insurance industry is predicted to grow between 3-4% between 2016-2022. Insurtech evolution is expected to remain on a positive trajectory, having grown at 7.81% in 2017.

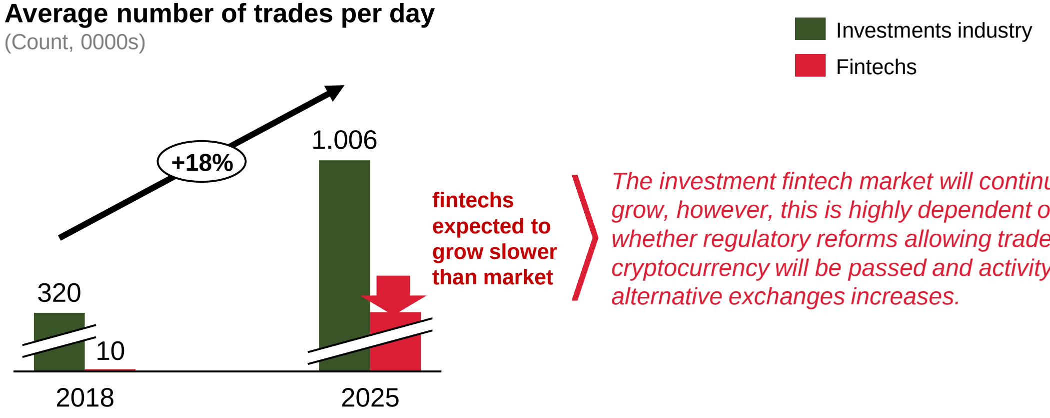
Consumer adoption: Digital awareness is higher among South African insurance customers (41%) compared to other developed markets like the UK (38%), but uptake of insurtech is low. Insurance penetration, in general, is low in South Africa (12.6% of GDP in 2017) and has been on a decline due to the tough economic environment and lower discretionary spending of consumers. New business models that reduce costs and offer lower premiums could be successful. Peer-to-peer insurance could result in a significant shift in the attitudes of consumers, where members can select their network and their premiums can be used for paying claims of people whose behaviours are more aligned to their own. South Africa has a large funeral insurance market, largely facilitated through burial societies that could benefit from digitisation.

Competitive environment: The insurtech market is dynamic and competitive, with numerous new short-term insurers entering the market in 2017 and 2018 and more players anticipated to launch in 2019. Traditional insurers are also taking advantage of technology to increase efficiency and improve the speed and quality of service in order to maintain their relevance in the market.

Investments

Average number of trades per day

(Count, 0000s)



fintechs expected to grow slower than market

The investment fintech market will continue to grow, however, this is highly dependent on whether regulatory reforms allowing trade in cryptocurrency will be passed and activity on alternative exchanges increases.

Implied growth direction

Factors considered

International trends: Cryptocurrency and crypto assets are leading the growth in the global investment market; the sector is estimated to grow at a CAGR of 31.3% between 2017 to 2025. Initial Coin Offering (ICOs), a mechanism for investors to crowdfund crypto-assets, has recently been replaced by Initial Exchange Offerings (IEOs) which moves the administration of fund-raising to a crypto exchange allowing investors to sidestep legal requirements themselves. Europe and North America are the two largest markets for cryptocurrency investing supported by advanced bitcoin mining capabilities.

Consumer adoption: South Africa and Nigeria are the largest cryptocurrency markets in Africa, however trading volumes are very low in comparison to global market leaders. As the global price of bitcoin increased, many South Africans invested in the cryptocurrency, while the subsequent crash in the price of bitcoin has subdued the market. In a recent survey, more than 60% of respondents were unaware of what cryptocurrency is.

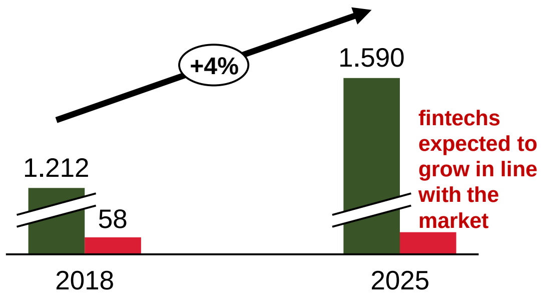
Competitive environment: Despite the fact that the FSCA, previously the Financial Services Board, has granted five licences to alternative exchanges since 2015, activity on these exchanges remains low. Cryptocurrency payments, wallets and mining are gaining traction, with more international cryptocurrency exchanges looking to enter the South African market. Cryptocurrency is not considered legal currency in South Africa but is considered in the same class as promissory notes, futures contracts, and derivatives based on underlying commodities for tax purposes.

Sources: 1. BisReport.com, 2018 I 2. ResearchandMarkets.com, Dec 2018 I 3. PWC Africa Insurance Report, 2018, I 4. Accenture SA Insurance Survey, 2018 | 5. Transparent Market Research 2018 | 5. ResearchandMarket.com | 6. Old Mutual Savings & Investment Monitor, 2018 | 7. Genesis Analytics Team estimates and analysis

The Financial Planning & Advisory segment is expected to grow in line with global markets, whilst the future growth of crowd investing is uncertain as it is largely dependent of regulatory reform.

Financial planning & Advisory

South Africans using paid advisory Services
(Count, 000s)



Incumbents will continue to invest in innovation to reduce their operational costs but it will be difficult for a start-up to disrupt this market

Factors considered

Implied growth direction

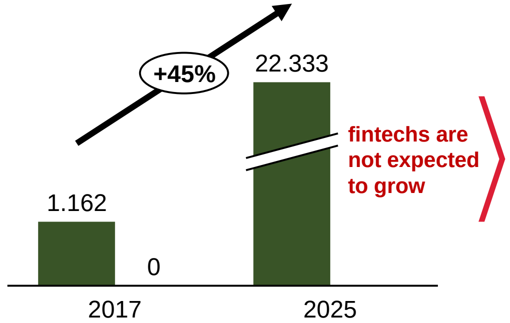
International trends: The global robo-advisory market is expected to grow at an overall CAGR of 53.54% from 2018 to 2023. Advanced data analytics, AI technology and rising internet penetration have increased affordability and accessibility of financial advice.

Consumer adoption: Currently, adoption of automated financial planning & advisory services is low and limited to segments of the market (middle to high-income segments) that already have access to formal financial services and have the option of traditional financial advice. The low savings rate make adoption of new, convenient and cheaper ways to manage finances slow. However, fintech that promotes financial education and wellness for mass-market consumers has great potential to step change the status quo.

Competitive environment: There have not been frequent new entrants into this segment. The majority of the activity is with incumbent financial advisory service providers who are using the advancements in technology and collaborating with fintechs to lower their costs and provide innovative services to their client base. Trust is an important element for consumers when selecting an FI to assist them to manage their money, thus it is expected that competition will largely be with incumbents and trusted brands adopting fintech in a way that resonates with the financial needs and goals of consumers.

Capital raising

Value of funds raised by Venture Capital firms and crowd investing platforms
(R million)



Growth in Crowd investing is ***expected to be flat,*** *possibly growing lower than the market due to the current regulatory environment*

Factors considered

Implied growth direction

International trends: Prior to 2015, crowdfunding was most prevalent in North America and Europe. However, it has become increasingly popular in developing markets including Sub-Saharan Africa where crowdfunding is expected to register a CAGR of 33% from 2016 to 2023. However, most of the platforms in the region direct funds to start-ups through credit and donations (many recipients include social causes and charity projects). The popularity of equity investment in developed markets has also been driven by low market yields; in developing markets (where yields are higher) individuals may be more reluctant to invest in high-risk models based on assumption-heavy valuations.

Consumer adoption: Crowdfunding platforms usually appeal to entrepreneurs, looking for smaller amounts of capital who may fall below the threshold of venture capital firms. Registering on a crowdfunding platform could have the added benefit of marketing a new venture's products and services, and loyalty/rewards propositions create advocacy for the brand.

Competitive environment: The number of future entrants will depend on regulatory reforms. Despite providing a more accessible service for entrepreneurs, South Africa has only one equity crowd investing platform, Uprise.Africa. Raising equity investment is a highly regulated area thus crowdfunding platforms will most likely remain reward-based or debt-based.

Sources: 1. Transparency Market Research, 2018 I 2. ResearchAndMarkets.com, 2017 I 3. Old Mutual Savings & Investments Monitor, 2018 | 4. Crowdfunding in Emerging Markets: Lessons form East African Startups | 5. Crowdfunding in Africa Afrikstart Report | 6. 2017 Payments Landscape Report | 7. Genesis Analytics Team estimates and analysis

Most of the segments are expected to grow, however, there are several factors that might limit growth within the segments.

	Payments	Lending	Savings and deposits	InsurTech	Investments	Financial planning & Advisory	Capital Raising
Projection	The Payment fintech segment is likely to **grow above the market** annual growth rate of 4% from 2017 to 2025.	Lending fintech segment is likely to **grow above the market** annual growth rate of 3% from 2017 to 2025.	Savings & Deposit fintech segment is likely to **grow above the market** annual growth rate of 7% in the first few years, however, by 2025 this trend should slow down.	The insurtech market will continue to **grow moderately** ahead of the traditional insurance market over the forecast period.	The investment fintech market is expected to **grow slower that market**.	Fintechs are expected to **grow in line with the market.**	Growth in Crowd investing is **expected to be flat, possibly growing lower than the market**.
Growth factors	Global regulatory trends are opening up the payments space by requiring banks to share data with fintechs. It is reasonable to assume these trends will filter into the South African market. Consumers will increasingly prefer the convenience of digital payments.	Growth is likely to be driven by high **consumer demand** as these fintechs resonate with previously underserved consumer segments not being catered for by formal financial services providers**.**	Digital channels, new product features, 24/7 access to providers and innovative value propositions (such as instant account opening) will encourage customer adoption of new entrants.	**Niche or tailored risk and pricing models** will likely drive the growth of this segment, as products will be priced more competitively. Digital channels will make products more accessible and will improve customer experience on processes like claims.	Digital access and the removal of intermediaries will improve customer adoption by reducing fees and making investment products more accessible.	Robo-advice is being used to replace the high cost of personal advice. There is a wide range of business use for this type of technology ranging from retirement planning to portfolio selection.	Underserved MSMEs could be a valuable market for crowdfunding platforms as well as start-ups currently bootstrapping their business. There is also a market for investors looking for alternative investment channels, where small amounts can be invested at and higher returns.
Limiting factors	Given that payment innovation is taking place on existing payment rails and banks remain major players in the payment innovation space, the main challenge for payment would be competition with incumbents. **Partnership with banks will be important for the growth of the sector.**	High levels of indebtedness amongst low-income citizens in South Africa has led to Parliament's consideration of a legislative **drive to write off debt of overburdened consumers. Amendments to the NCA** will make the lending processes more difficult which could hamper growth.	Traditional banks dominate this highly regulated space. New players, which will launch during 2019 and 2020, will disrupt the market. However the **high regulatory requirements** remain the biggest constraint. Consumers also tend to **trust** a recognised brand with their money. Incumbents with multiple product offerings have the advantage of cross-selling and **bundling products.**	Traditional insurers have a higher client and asset base. As a result, they are able to use this position to price competitively. **Sustainability of fintechs underwriting low value assets** is the biggest risk for growth in this sector.	Investment products are regarded as a secondary financial need. Difficult economic conditions, and a poor savings and investment culture, will make this a challenging area to grow. In addition, consumers have high trust in incumbent FSPs when thinking about investing long term.	The biggest constraint is **regulation,** as financial services providing advice through an electronic medium that uses algorithms and technology without the direct involvement of a natural person must comply with additional operational ability requirements.	With no specific regulation for crowding funding, these business are required to comply with numerous regulations (e.g. Financial Markets Act, FAIS, NCA etc) that were developed for traditional investment firms or FSPs.

Factors such as funding, market readiness and innovative incentives to develop the innovation ecosystem have implication for all segments.

* Please note, views expressed in these interviews are of Genesis Analytics, based on independent research and analysis

Understanding which segments are likely to make the biggest impact on the financial services sector will aid policymakers prioritise initiatives.

The prioritisation framework builds on the findings of the market diagnostic. Commercially successful segments that have the potential to yield important development benefit in the South African economy are identified based on success factors/features of fintech business models that policymakers and regulators would want to encourage.[1] The results of that assessment are presented below.

	Payments segment	Lending segment	Deposits & Savings Segment	Insurtech segment	Investment segment	Financial planning & advisory	Capital Raising	B2B Tech providers
Scalability	4	3	2	2	1	2	1	4
	Basic financial services that can be easily integrated with channels outside of banking e.g. social media	High customer demand, with new credit scoring models to include previously excluded clients	Success of Capitec demonstrates that there is a market for lower fees, simple products and better interest rates	Image processing tools and digital platforms for sales and claims processing make insurance more accessible	Secondary financial product for middle income consumers	Providing financial advice for the mass market which is otherwise unable to access traditional channels	The incumbent exchange (JSE) is likely to maintain market share but new exchanges may attract smaller investors	Large market for tech solutions to support incumbent financial institutions or other fintechs as white label solutions
Improve quality of financial services	4	4	2	2	2	3	2	3
	Making payments more efficient (real-time), improving the cost of remittances, and reducing the reliance on cash	Seamless credit application process with short loan application turnaround time	Innovative products and CVPs are incentivising savings behaviour	Improving risk management models by allowing consumers to tailor their risk exposures	Simple and easy to understand system will help inexperienced investors navigate the sector	Provides information on product availability and suitability to the consumer's portfolio	Competition improves trading and settlement fees and offers investors more choice	Building solutions that that improve security, automaton and customer experience

Notes: 1. Explanation on factors included in the next slide

The Financial Planning & Advisory segment has a high overall score with Lending and Capital Raising segments showing highest potential to provide economic and developmental benefits.

Factors considered:

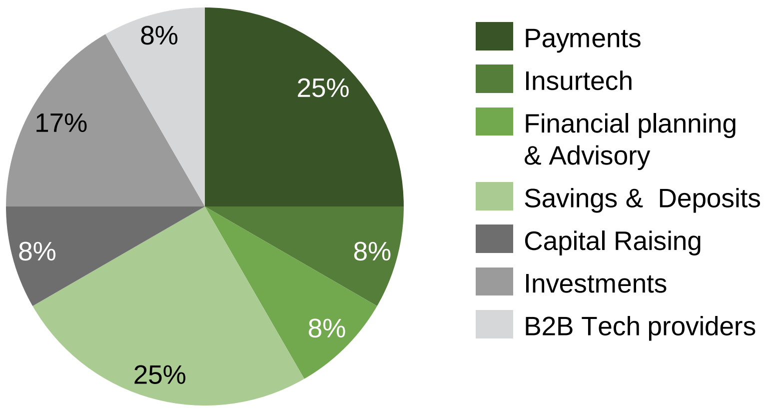
- ***Scalability:*** *Considers whether fintech business models are likely to succeed, grow, attract customers, improve efficiency, and be sustainable.*
- ***Improves quality of financial services:*** *Considers the level of innovation that can bring new products and services to market with greater efficiency within the financial sector.*
- ***Improves financial well-being:*** *Considers how fintechs help consumers make better financial decisions, including providing services at a low cost.*
- ***Economic development:*** *Considers how the development of the fintech sector could contribute to the economy.*
- ***Risk factors:*** *Considers potential risks that may deter the progress of each segment.*

	Payments segment	Lending segment	Deposits & Savings Segment	Insurtech segment	Investment segment	Financial planning & advisory	Capital Raising	B2B Tech providers
Improves financial well-being	1	1	3	2	2	3	1	N/A
	Processing payments at lower costs Digital payments are safer than cash transactions	Responsible lending provides liquidity for SMEs and individuals to cover economic shocks	Access to savings provides liquidity for unforeseen circumstances	Allowing consumers to protect against potential financial loss at low premiums	Allows consumers to realise long term savings goals and improve wealth	Providing financial information at low cost, improving consumers' financial decisions	Access to investment opportunities will encourage more investors to participate but there are investment risks	
Economic development	2	3	3	1	2	2	3	1
	Digitises cash in the economy	Access to credit is a fundamental part of growing the economy	Higher savings rates have a positive impact on economic growth	Helps MSMEs and individuals mitigate risk	Higher savings and investments improve economic growth	Encourages long term savings which has a positive impact on the economy	Allows smaller companies / MSMEs to benefit from access to equity capital	Facilitates innovative financial solutions
Risk factors	-2	-3	-3	-2	-2	-2	-2	-2
	Customer preference for cash Competition with traditional banks who are digitising payments	Increasing regulation will make it difficult to grow this sector Poor economic conditions could increase non-performing loans	Dominance of incumbents with stringent regulation may deter segment growth Historical low savings rates could impede growth	Uncertainty around sustainability of covering low-value assets	SA's low financial literacy and savings rate makes investment less viable	Consumers prefer face to face advice for more complex financial decisions Design and testing of algorithms for accuracy must be monitored	Uniform regulation that applies to all platforms will limit the number of crowdfunding platforms	Partnership models – many incumbents prefer to buy a stake in fintech B2B business or limit them to an exclusivity arrangement
Overall impact	9	8	7	5	5	8	5	6

Highest - Lowest priority segments

We also conducted interviews with fintechs to understand the challenges and bottlenecks posed by regulatory requirements to their businesses.

Respondents:



Methodology

To triangulate findings from the secondary qualitative and quantitative data, we also interviewed a sample of ten fintech entrepreneurs. These interviews aimed to provide in depth qualitative data regarding fintech entrepreneurs' experiences in navigating South Africa's regulatory framework.

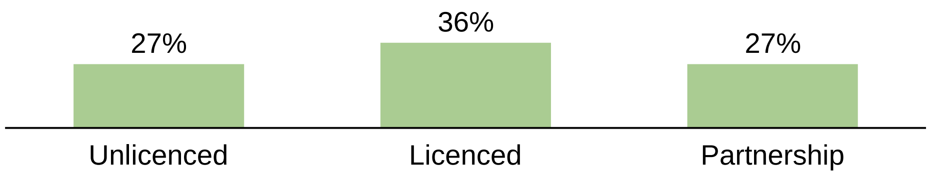
Given the purpose of the interviews, the determination of an appropriate sample size was not guided by establishing statistical significance. Instead, the sample size aimed to achieve sufficient data to determine the extent to which regulatory experiences are shared across fintechs, while avoiding data saturation. As the unit of analysis is 'fintechs' rather than their sub-segments, a sample size of ten was determined to be sufficient. [1]

***Nationality**: The majority of interviewees are South African, with only one being an international-based firm*

Average age of interviewees (founders): 30 years

Gender spread: 9 male, 1 female

% of Respondents with licences:



In order to avoid the expensive and time consuming regulatory requirements, many fintechs have formed strategic partnerships with incumbents who already hold the necessary licences. These fintechs therefore make use of a "sponsor licence."

1. A key principle in sampling for qualitative research is that "the quality of the data and the number of interviews per participant determine the amount of usable data obtained.' There is an inverse relationship between the amount of usable data obtained from each participant and the number of participants. For more information on sample sizes in qualitative data, please refer to Patton, M. Q. 2015. Qualitative Research & Evaluation Methods - Integrating Theory and Practice. Minnesota: Sage Publishing.

Industry Insights

Engagement with industry players revealed that their concern included insufficient access to regulators and lack of scalability of their business model(s) to ensure sustainability.

1 ***Insufficient funding options for start-up capital***

1. Interviewees consider the South African venture capital (VC) market to be very small, risk averse, and conservative in comparison to other markets with vibrant fintech industries.
2. Interviewees require longer-term seed capital funding in order to grow their businesses and start generating returns for investors. However, local investors have a limited understanding of fintech business models and the necessary funding requirements require some level of surety that the business will turn a profit.
3. Many of the entrepreneurs had to fund the early stages of their business operations through private savings, whilst a small minority accessed equity capital from international investors.

2 ***Challenges to reach sufficient scale***

1. Interviewees consider the South African market too small to reach sufficient scale to make their businesses sustainable. Many are looking to expand into other neighbouring African markets in order to grow their customer base.
2. Interviewees are challenged by inadequate support structures available to them in the early stages of operations. They require corporate services such as legal, compliance and HR services during the unprofitable stages of operations.

3 ***High barriers to market entry***

1. Incumbents still have a significant share of the financial services sector. This is due to a combination of factors such as holding the required licences and capital to develop tech solutions internally, squeezing out the need for fintechs.
2. Some interviewees described the operating environment as protectionist.
3. Interviewees felt that incumbents are not accustomed to partnering with fintechs and usually require an exclusivity agreement for up to five years or an equity stake in the business. During the exclusivity period they replicate the technology internally and competitor institutions have time to catch-up, leaving fintech entrepreneurs with limited exit options.

4 ***Competition and role of incumbents***

1. Incumbents tend to price fintechs out of the market in order to retain customers as they can fund these discounts from retained earnings. Interviewees felt they were unable to match these discounts due to limitations of anti-inducement laws.

5 ***Stringent compliance requirements***

1. Interviewees stated that acquiring the correct licences to operate is costly and time consuming.
2. Some legislation is outdated and needs to be revised in line with technological advances (e.g. e-money regulation last updated in 2009).
3. Interviewees find regulation to be complex and onerous, as overlaps in functionality require multiple licences for the same entity. Some stated that it took between 3-6 months to receive a licence, others up to three years.
4. To avoid the lengthy, complicated licencing requirements, some interviewees have partnered with incumbents who already have licences in order to increase speed to market and avoid expensive licencing fees and capital requirements.

6 ***Lack of contact with regulators***

1. Interviewees said they found it difficult to access information about the compliance requirements for their ventures as there is no central, accessible portal to find information about the regulatory process and which legal bodies to contact.
2. Poor engagement and the lack of clarity on the policy stance of regulators leave entrepreneurs uncertain about the prospects of the operating environment.
3. Interviewees find the pace at which regulators are formulating and communicating their approach to fintechs is not conducive to the growth of the industry.

7 ***Limited interaction with industry peers***

1. Fintechs in South Africa do not have a central body for fintech entrepreneurs to network, share learnings and resources, validate business models, and formulate opinions on policy that can move the industry forward.
2. Interviewees find that innovation hubs and accelerator programmes focus on training entrepreneurs and providing workspaces, however, they do not cater for the needs of entrepreneurs to gain access to markets, provide sufficient seed capital, and resources required to run a corporation, such as legal, compliance and HR shared services.

* Note, insights captured are based on the particular entrepreneurs interviewed and do not represent the industry as a whole.

Key issues discussed in slide 49 followed by recommendations

The recommendations proposed in this section of the report are based on research on international trends as well as interviews with entrepreneurs that are currently operating in the market and have had to ensure that their businesses are compliant.[1]

Interactions with fintechs together with the analysis of the current market reveal a number of key issues that inhibit seamless entry into the local financial services sector.

Themes of key issues

1 Funding & support	• *Funding channels mostly require fintechs to have a proven business model that is scalable with high expected returns.* • *Acquiring early-stage and growth financing often requires fintechs to be regulatory compliant.* • *Government support and incentives for tech financing are poorly coordinated. There is unclear regulation around crowdfunding limits scaling of alternative financing.*
2 Market opportunity	• *Traditional financial services providers still hold the lion's share of the market due to the high costs and complex regulatory requirements to run a financial operation in SA.* • *The cost of a smartphones and of data in South Africa is still expensive for low-income earners, who cannot have a contract and buy data on pre-paid.*
3 Innovation Ecosystem	• *Cumbersome bureaucratic processes impede the successful application of skilled individuals seeking to migrate to South Africa.* • *Impeding IP and data protections laws – still in review.* • *Poor coordination across government departments results in fragmented, dislocated and inefficient national efforts.*
4 Regulation	• *Fintechs find licencing requirements complex, time consuming and expensive. Regulation usually requires a fintech to define their business and activity, placing them in a box that can be limiting.*
5 Communication	• *South African regulators have been slow to formulate and communicate a clear stance on the fintech industry.* • *Fintechs need better avenues to contact regulators and enquire about compliance issues.* • *Fintechs cite the limited peer-to-peer interaction with similar businesses as another factor that makes the business environment difficult to navigate.*

1. Note the recommendations outlined in this section are those of Genesis Analytics, and not that of the IFWG members, the World Bank Group, or SECO.

Recommendation

Regulators and policymakers have a role to play in facilitating funding mechanisms and providing tools. In countries such as the UK, the government has gone as far as supporting publicly-backed VC and loan funds to address market failures.

1 Funding & Support

Issue	Gaps	Existing structures and initiatives	Recommendations to address gaps
Regulatory support	Policymakers have relatively limited levers to pull regarding the operation of VC and PE funding. However one avenue that has a large impact is regulatory transparency and clarity. VC and PE firms tend to have risk-adverse outlooks and look for indicators of success. They also prefer investments that are unlikely to face future issues around regulatory compliance.	• SARB innovation hub • IFWG regulatory sandbox in development	Regulators need to come up with streamlined, accessible and transparent processes to assess and mitigate the risk of a start-up business model. One method is by leveraging regulatory tools available to the regulator within their mandate such as those highlighted below. This will provide confidence to both investors and consumers of fintech solutions. This could the form of: • Letter of no objection; • Conditional licences; • Entry into regulatory sandbox for testing; or • Provision of a basic fintech start up licence.
Facilitating public financing	Fintech entrepreneurs face funding challenges; their options are either to secure private investments, partner with an incumbent (with the risk of losing independence) or using personal savings. There is little direct public sector support for fintech entrepreneurs. Indirect support, for example the section 12J tax incentive scheme, excludes fintech investments entirely.	Currently no publically-announced actions to specifically support fintech funding.	There are public financing arms such as the SEFA and the IDC that could be engaged to develop dedicated financing lines for tech entrepreneurs. National Treasury, as a member of the IFWG, could broaden the mandate of Section 12J beyond job creation to include sectors like financial services and financial technology. Similar to the model employed by the UK government, create and support publicly-backed venture capital and loan funds to address a market failure and support MSMEs or start-up firms. These funds should have an innovation focus.
High regulatory thresholds around alternative financing	Crowdfunding platforms have proven to be an important facilitator of private investment to support tech entrepreneurs. The development of equity / debt-based platforms in South Africa has been muted. This has denied fintechs a valuable source of funding.	No known actions to develop this sector at present.	Use the current equity-based crowdfunding platform as a case study or "sandbox" to evaluate the risk of the business model with the intention to properly regulate equity-based crowdfunding in future.

* Please note, the recommendations listed in this document are those of Genesis Analytics, and not that of the regulators, World Bank, or members of the IFWG

Recommendation

Entrepreneurs need to scale their solutions in order to create sustainable business models and enable consumers to benefit from a competitive market. Creating a regional market can help fintechs build scale and establish South Africa as an innovation hub.

2 Grow Market Opportunity

Issue	Gaps	Existing structures and initiatives	Recommendations to address gaps
Competition from incumbents	South Africa has a high banked population, where almost 80% of the population have an existing relationship with an incumbent bank. High barriers have created high market concentration in the retail banking market. Incumbents invest heavily in digitising and including innovation in their product offerings and channels. Incumbents often buy out start-ups to include in their own operating models	• Past reviews by the Competition Commission on the banking sector highlights the sector's uncompetitive nature. • The regulator has granted licences to five new banks that are expected to launch between 2018 and 2020.	A tiered licencing regime would reduce barriers to entry for fintech players especially in the sectors of retail banking, insurance, investment and capital raising. These licences have clear restrictions and limits to protect market stability. In the longer term, regulators could consider implementing open banking requirements (such as PSD2 in Europe) to mandate data sharing between fintechs and incumbents.
Data affordability and smartphone costs	The cost of smartphones (all imported technology) and the cost of data is still expensive for low-income earners, who typically buy pre-paid data. Without access to affordable data, many are excluded from innovative solutions that could improve their daily lives.	• Independent Communications Authority of South Africa (ICASA) compelled mobile operators to allow customers to roll over unused data from March 2019. • ICASA has cut mobile termination rates – the price operators charge each other to carry calls between their networks. This is part of its broader programme to reduce the cost to communicate. • The Competition Commission has conducted a data services market inquiry (not yet enacted).	Although out of the scope of the financial services sector, the ICT infrastructure is a key component of facilitating digital innovations. To that end policymakers could broker zero-rated data agreements with MNOs for fintech services. Government could increase the roll out public WiFi hotspot trials (e.g. Tshwane) that have already proven successful. There should also be a review of the luxury tax definition and its impact on the price of smartphones.
Scalability with high expected returns	Although South Africa has high financial inclusion, it also has low financial literacy that leads to a low transacting market that is heavily reliant on cash. This limits domestic revenue potential. There are also few examples of support mechanisms for regional expansion	• South Africa is currently a member of the Common Monetary Area and SADC. • Social grants have been moved to digital channels (money is distributed by card) but there has been little action to encourage behaviour change, with most recipients immediately withdrawing the grant in cash.	To continue the development of the SADC region, regulators could consider the implementation of a regional sandbox, thereby increasing the market for entrepreneurs. There should also be better cooperation agreements between regulators and passporting arrangements to attract innovators to the country and encourage cross learning. There is also the opportunity to develop an inter-regulatory regional body to facilitate innovation development in financial services (e.g. SADC CCBG).

* Please note, the recommendations listed in this document are those of Genesis Analytics, and not that of the regulators, World Bank, or members of the IFWG

Recommendation

Improving the broader innovation ecosystem by alleviating critical skills shortages.

3 Innovation Ecosystem

Issue	Gaps	Existing structures and initiatives	Recommendations to address gaps
Critical skills and work visas	South Africa's current migration policy can be improved to develop the enabling environment; while a critical skills list has been developed, this list is outdated. Detailed bureaucratic processes impede the successful application of skilled individuals seeking to migrate to South Africa. Additionally, South Africa lacks proactive programmes and mechanisms for profiling, targeting, attracting and recruiting critical skills.	• A revised critical skills shortage list was supposed to be implemented in April 2019. The list was expected to be shorter (with some positions being removed) but could be more up to date in terms of tech skill shortages. The revised list has not yet been published and it is not clear whether the revised categories are being used	The World Bank should engage with the Department of Home Affairs and the Department of Higher Education and Training to start a dialogue regarding an overhauled migration policy and work visa process for South Africa. This needs to first address the revised critical skills shortage list as a priority, making sure that the list adequately reflects current shortages in the technology and ICT sector. Mechanisms for proactively encouraging skilled South Africans to remain in the country need to be considered to reduce reliance on foreign talent. This could include creating an attractive environment for local graduates, creating incentives for local graduates exploring foreign markets to return home, and drawing expatriates back to South Africa. While countries such as Vietnam, India and China are actively seeking to recruit people from their diasporas, there are no such activities in South Africa.
Government coordination	Public sector efforts to create an enabling environment for tech innovation, and the employment of tech in digital business models, are currently siloed. There is no cohesive national strategy on supporting tech innovation.	• The National System of Innovation (NSI) is out of date and is not being adequately executed. • The new Presidential 4IR Commission has been convened and is being run by the newly rebranded Department of Communication and Digital Technology. • The inaugural 4IRSA Digital Economy Summit was the start of discussion on a national 4IR strategic response for South Africa.	The World Bank and IFWG need to keep track of the new initiatives that are being designed to formulate a national strategy on tech innovation in South Africa. In particular, the Department of Communication and Digital Technology has been mandated to develop a masterplan for South Africa, and it is critical that financial sector policymakers and regulators have a seat at this table in order to influence the national planning process. Although many of the issues pertaining to fintechs as digital businesses may be covered, incorporating a financial sector perspective into the strategy is important to ensure that financial inclusion is part of the strategic objective and to cater to fintech-specific issues.

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Recommendation

Frequent communication between regulators and fintechs will increase activity in the sector as entrepreneurs have clear directive(s) on when and how to address regulatory concerns. This in turn will spur interaction in the sector and assist in creating an enabling environment for doing business.

4 Regulation

Issue	Gaps	Existing structures and initiatives	Recommendations to address gaps
Regulation that does not support innovation	Fintechs find licencing requirements complex, time consuming and expensive. The broad nature of some financial sector legislation means that fintechs are subject to the same regulatory requirements as traditional service providers, and the legislation has not been updated to provide exemptions or specific requirements for new digital models of financial services. While early guidance or discussion documents have been provided in a few areas, there are still specific pieces of regulation that have been identified as stifling innovation: • NCA limiting P2P lending: All credit providers as defined by the act must be registered. The act was amended to include any entity that lends, regardless of the value or quantity of loans provided. By this definition, individual lenders on P2P platforms may be considered credit providers. • Various regulations limiting equity crowdfunding: Investment-based crowdfunding may be construed as falling under the activity of a number of additional regulations. If the platform’s due diligence and risk-rating services are interpreted as an intermediary service connecting investors and entrepreneurs, the platform may be subject to the FAIS Act. Additionally, if the act of connecting the buyers and issuers of securities together are considered to meet the definition of an over-the-counter exchange, the platform would be required under the Financial Markets Act to obtain a licence as a registered exchange. By restructuring the platform as an investment vehicle, the platform would fall under CISCA • Banking Act: the act has a single and broad definition of banking activities with high hurdles for new entrants.	• Financial sector regulators have already established the IFWG to collectively address fintech regulatory issues. • The IFWG has hosted an inaugural conference to collect data on regulatory bottlenecks and discuss solutions. • The FSCA has mandated specific requirements for FSPs offering robo-advice through the determination of fit and proper requirements under FAIS. The FSCA is also is in the process of considering revisions to FAIS to regulate equity crowdfunding (a discussion paper has been generated but not published). • The IFWG has published a consultation paper on the regulation of crypto assets and has started collecting voluntary transactional data from crypto exchanges. • The IFWG has announced plans to establish an innovation hub that will include a regulatory sandbox – planned to be operational by early 2020	The IFWG should establish a website that provides information on regulatory guidance and revisions to regulation in a central platform with simple and easy to follow instructions and contact points to assist fintechs with the complexity of regulation in South Africa. The group expanded its membership to other financial sector regulators, such as the NCR and SARS, to ensure adequate coverage of IFWG activities. The licencing process for the SARB, PASA, FSCA and NCR should be reviewed and automated (where it is not already) to address inefficiencies and time lags associated with paper-based application processes. This could be linked to an IFWG web portal that centralises the licence application process and provides information on regulatory requirements. The NCR, FSCA, and PA (SARB) as the custodians of the NCA, FAIS/FMA/CISCA, and Banking Act respectively should urgently review their regulatory frameworks and consider the implementation of tiered licences, regulatory exemptions, and regulatory guidance notes to create clarity on how fintech business models will be regulated within the existing regulatory landscape. The SARB could prioritise the launch of its planned innovation facilitation tools, in particular the innovation hub and regulatory sandbox, to evidence its commitment to fintech development and ability to rapidly respond to industry developments.

* Please note, the recommendations listed in this document are those of Genesis Analytics, and not that of the regulators, World Bank, or members of the IFWG

Recommendation

Interaction and communication with fintech businesses is important for regulators to be able to assess evolving technology and business models while peer networks will help fintechs collaborate and navigate complex processes such as licencing.

5 **Communication**

Issue	Gaps	Existing levers and recommendations	Target
Supporting business services	Fintech start ups find it expensive to procure support services required for the licencing processes such as legal and compliance advisory.	Private sector incubator hubs include this in the description of their model but fintech entrepreneurs do not feel like this is realised.	As part of an innovation hub operated by regulators, include access to regulatory and legal advisory services.
Peer-to-peer interaction	Entrepreneurs feel that there is limited peer-to-peer interaction with similar businesses. They believe that more collaboration with peers would help transfer knowledge, solve market issues and help navigate complex issues such as licencing.	• There are pockets of informal networking that exist among entrepreneurs who know one another socially. • Private incubators facilitate networking opportunities.	Fund the formation of a fintech industry association in South Africa. In the set-up stage, this association will need guidance and policymakers can leverage their networks to create links with similar international bodies. There should be a plan to hand this over to a sustainable member-fee revenue model within three years.

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Table of Contents

The "test-and-learn" market diagnostic methodology identified that one of the key challenges to understanding the fintech sector lies in the lack of trading information available on fintechs. The methodology proceeding according to the following stages.

1. Define segmentation framework

1. The first task was to develop a fit-for-purpose segmentation framework that identifies the various fintech segments to be sized. Based on the available academic and industry literature, including IFWG publications, the World Economic Forum, World Bank/IFC, BIS, Venture Scanner and various research houses, a bespoke segmentation framework was developed with the following guiding principles:

- Preference was given to financial service functions, rather than technology, to future-proof the framework against further tech innovation.
- Segments were mutually exclusive and collectively exhaustive, noting that some fintechs fit into more than one segment.
- All segments, other than B2B support services, involve customer-facing fintechs – customers being either individuals (B2C) or businesses (B2B).

2. Market scanning and segmentation

1. The next task was to review the following data sources to scan the market to identify as many fintechs in South Africa as possible. This scan included IFWG publications and workshop attendees list, start-up database forums such as Crunchbase, Ventureburn, AlphaCode and Pitchbook, social media pages including LinkedIn, conference papers, industry reports, liaising with our industry contacts, news articles and key word desktop searches.
2. After extensive desktop scanning, and confirming the existence of the entities identified, a full list of fintechs in South was collated along with any available trading data that was available.
3. Each identified fintech was then sorted into its respective category in the segmentation framework. This was used to identify the spread of fintechs across segments. Where fintechs performed functions across more than one category, the fintech was counted in each segment to ensure an accurate view of distribution by function. This "double counting" was accounted for in the overall count of fintechs.

3. Estimate market size of each segment

1. The final task was to estimate the market size of each segment. Market sizing is typically undertaken in two ways: counting the numbers of firms in each segment, and estimating the portion of the addressable market that firms in each segment are capturing.
2. The first method was easily achieved by tallying the number of identified fintechs operating in each segment. The second method required collecting data on indicators, such as customer numbers or transaction values, for both fintechs and the whole industry to estimate what portion of the market fintechs are capturing. Due to the dearth of information regarding the operations of fintechs in South Africa, a large component of the work was finding reliable numbers in order to compare fintechs to their incumbent counterparts. Industry reports from entities such as PASA, FSCA, SARS and NCR helped inform the formulation of sound assumption.
3. Where data was missing, a set of assumptions were developed to estimate the size of the market that fintechs are serving. This was compared with the total size of each market to estimate the portion of the addressable market that fintechs are serving.
4. The analysis also includes case studies of particular fintechs that have operational data available to give a directional view of the potential for growth in their respective segments.

To identify the fintechs included in this directory, a process of market scanning and desktop searching was followed.

1. Desktop internet search, news articles & network referrals

The team perused the following websites, corporate and social media pages to compile a list of names of fintechs to include:

- Google Search
- LinkedIn search
- AlphaCode
- Ventureburn
- PASA
- Matchi
- BusinessTech
- Memeburn
- Startupbootcamp
- LaunchLab
- fintech news

The team also approached industry contacts to advise of their knowledge of new or existing fintechs in the market.

2. Conference Invitee lists & industry reports

Reviewed guest list of various fintech related conferences such as:

- IFWG fintech workshop, March 2018
- Digital Finance in Africa's Future: Innovations and Implications, October 2018

The following independent industry articles provided additions to the list of fintechs:

- Fintech South Africa (Bowman Attorneys)
- Bank to the future: Finding the right path to digital transformation (PWC)
- South African fintech Landscape (Irrational Innovations)

The below academic articles also reference some lesser-known fintechs:

- Unicorns and Fortresses: The barriers and enablers to effective fintech startups collaboration with South African Banks.
- Strategic implications of fintech for South African Retail banks.

3. Validate existence of fintechs

The team conducted a mystery shopping exercise to ensure each fintech company identified is contactable by phone, website or confirming that the app is downloadable and available on various app stores.

3. Exclude non-operational entities

Entities without physical office presence, active website and/or downloadable app removed from sample.

3. Exclude non-operational entities & finalise list

Our final list of fintechs included in the sample was reduced to only those that had a functional app or website. The team also considered that the fintechs must have physical operations in South Africa (head office or satellite office), were of start-up in nature and were incorporated in or post 2008.

Market sizing assumptions and calculations by segment

<table>
<tr><th>Methodology</th><th>Data required</th><th>Data collected and/or be estimated</th><th>Data for estimation</th><th>Sources</th><th>Assumptions</th></tr>
<tr><th colspan="6">Payment segment</th></tr>
<tr>
<td>• The proportion of transaction values and volumes made through fintechs: Transaction values through fintechs as a percentage of total transaction values as well as transaction volumes through fintechs as a percentage of total transaction volumes.</td>
<td>• Total transaction volumes
• Total transaction values
• Fintech transaction volumes
• Fintech transactional values</td>
<td>Data collected for 2017:
Total transaction volumes
Total transaction values

Estimated:
• Fintech transaction volumes
• Fintech transactional values</td>
<td>Wi Group data:
• Worth R1.8 billion transactions in 2017.

Yoco:
• R4 billion worth transactions in 2017 and 1.8 million transactions.

Easy Pay:
• R2.4 billion worth transactions in 2017 and 1 million transactions.

Channels for remittances in South Africa – mainly through taxis and approximately 5% through banks. Total remittances were R16.6 billion in 2016.</td>
<td>• Bank of International Settlement: Total transaction volumes and values.

• Fintech web sites and news articles.

• Updating the South Africa – SADC remittance Channel estimates: Channels for remittances in South Africa.</td>
<td>• The biggest fintech in the sub-segment indicates the highest transactional values and volumes fintechs in that sub-segment can have in a year.

• Remittance numbers were estimated based on the value of total remittances and some assumptions on the percentage that would be represented by fintechs (approximately 0.75%).</td>
</tr>
<tr><th colspan="6">Estimation</th></tr>
<tr><td colspan="6">Estimation was based on the maximum:
Each sub-segment has a big fintech (WiGroup, Easy Pay Yoco) and were rewarded the same numbers of these fintechs to indicated the maximum value or volumes they can perform.
• Bill Payments were rewarded the numbers for Easy Pay of R2.4 billion in transaction value and 1 million in transactions volumes.
• Closed loop mobile wallets were assumed to have similar features as MPOS payments and hence rewarded the values for Yoco which is R4billion worth of transactions with 1.8 million transactions made.
• MPOS fintechs were given the same values as Yoco
• 3rd Party payment providers were given WiGroup numbers with transactions worth R1.8 billion. It was estimated that transaction volumes would probably be close to Easy Pay at approximately 1 million.
• For remittances, 5% of R16.6 billion (R830 million) was through banks. Fintechs are assumed to account for significantly less at 0.75% which is approximately R126 million. Given the percentage of SADC migrants that live in South Africa the volume of transactions is assumed to be 7% of Easy Pay’s volumes. These numbers were rewarded to all fintechs in this sub-segment.
• Payroll payments were assumed to be the same value as WiGroup with volumes only 5% of Easy Pay volumes.

The summation of these numbers was the total transactional value and volumes fintechs performed.</td></tr>
</table>

Market sizing assumptions

Market sizing assumptions and calculations by segment

Methodology	Data required	Data collected and/or be estimated	Data for estimation	Sources	Assumptions
Lending segment					
• **Proportion of credit providers that are fintechs:** The number of lending fintechs in South Africa as a percentage of the total number of credit providers in the overall market. • **Proportion of credit lent out by fintechs:** The value of credit lent out by fintechs as a percentage of the value of total credit lend out in the overall market.	• Number of credit providers • Number of Lending fintechs • Value of total consumer credit • Value of loans lent by fintechs	**Collected for 2017:** • Number of credit providers • Number of Lending fintechs • Value of total consumer credit **Estimated:** • Value of loans lent by fintechs	**Collected lending values for Rainfin (per day):** • 2014 = R400,000 • 2015 = R1 million • 2016 = R1.16 million • 2017 estimated using growth rate form 2015 to 2016 (16%, more conservative than 150% of the previous year) **Pollen Finance lending values** • 2017 = R200 million **Total credit in the market** • Household credit was about R496 billion (NCR). R160 billion was added which was estimated for SMEs.	**National Credit Regulator:** Number of credit providers and value of total consumer credit. **Fintech data:** • Individual fintech websites • News Articles • AlphaCode website	• Given the age of the fintech, fintechs with the same age will have the same lending values.

Estimation

Estimation was based on the years the fintechs have been in operation and values found for Rainfin and Pollen Finance (with a CAGR of about 35% from a 3 year old fintech to a 6 year fintech):

Years	1	2	3	4	5	6	7	8	9	10	11
ZAR	84,938,921.48	130,337,194.60	200,000,000.00	269,660,000.00	363,582,578.00	490,233,690.00	660,988,960.74	891,220,687.46	1,201,645,354.06	1,620,195,286.36	4,320,000,000.00

Given the age of the fintech, fintechs with the same age were given the same lending values.

A summation of this is then the estimated value of lending done by fintechs. A percentage of the total credit in the market was then calculated.

Market sizing assumptions

Market sizing assumptions and calculations by segment

Methodology	Data required	Data collected and/or be estimated	Data for estimation	Sources	Assumptions
Savings & Deposits segment					
• **Proportion of banked population captured by fintechs:** The number of consumers fintechs have as a percentage of the banked population in South Africa. • The value of deposits held by fintechs as a proportion of total deposits in the market.	• Banked population • Value of bank deposits • Savings & Deposit fintech consumers • Value of deposits in fintechs	**Collected 2017:** • Banked population • Value of bank deposits **Estimated:** • Savings & Deposit fintech consumers • Value of deposits in fintechs	**Data for Stockfella:** • 800 Stokvel groups and 9000 users **Data for Stokvel industry:** • 810,000 Stokvel groups with 11,500,000 individuals. • Amount in Stokvels R49 billion.	• **World Bank**: banked population • **South African Reserve Bank:** value of bank deposits • **National Stokvel Association of South Africa** • **Stockfella website** • **News feeds:** for Tyme bank, Bank Zero and Bettr consumer numbers are 80,000, 125 000 and 10,000 respectively.	• Fintech will acquire a set number of consumers per year and fintechs with of the same age have the same number of consumers. • Deposits in fintechs are the same as deposits that would be made in a digital Stokvel.

Estimation

Estimation was based on the years the fintechs have been in operation and the number of users in Stokfella's platform and average deposit in Stokvels in South Africa:

- Average consumer numbers per year is calculated using Stokfella numbers (9,000/2 = 4,500). Multiplying this average number of consumers by the age of the fintech (except Tyme Bank, Bank Zero and Bettr) in order to get the number of consumers per fintech.
- Average transactions per client was estimated as the total amount in Stokvels (R49 billion) divided by the number of individuals in Stokvels (11,500,000) = R4,260.87.
- Output for each firm was considered and adjusted when necessary based on subjective judgement (considering characteristics of the fintech as expressed in some news articles).

Summation of consumer numbers will give the total number of consumers fintech, and deposit would give the total value of deposits held by fintechs.

Market sizing assumptions and calculations by segment

Methodology	Data required	Data collected and/or be estimated	Data for estimation	Sources	Assumptions and	Estimation method
Insurtech						
• Value of gross written premiums (GWP) written by insurtechs versus traditional insurance providers in 2018 using industry leader, Outsurance, as a benchmark for insurtech performance.	• GWP of insurtechs for a financial year. • GWP of insurance policies written by South African insurers.	**Collected** • GWP of SA's short and long term insurers for the FY 2017 • GWP of market leader, Outsurance • Number of policies in-force **Estimated** • GWP of Insurtechs	• Number of policies in-force Pineapple – 7,200 Simply - 11,753 Outsurance – 848,734 Total GWP Outsurance SA operations (30 June 2018) = ZAR 8,264,728,000 • Relative size of Pineapple: Outsurance by policies in-force = 0.85% • Relative size of Simply:Outsurance by policies in-force = 1.38% • Average size of an insurtech:Outsurance = 1.12%. • Estimated no. of policies in-force of an insurtech = 9,477. • No of insurtechs in calculation sample= 22. • Total GWP of South African insurance industry 2018= ZAR 183,533,163,000.	• FSCA Annual report 2018: total GWP of South African insurance industry for 2018. • Outsurance Annual report 2018: • Pineapple news paper articles: no. of policies in-force. • Simply website: no. of policies in-force.	• Number of policies in-force is a proxy of the relative size of the insurtechs and Outsurance.	• Multiply relative size of an individual insurtech (1.12%) by no. of insurtech (17) and by total GWP of total GWP of insurance providers for South Africa in 2018 to get estimation of value of polices (GWP) issued by South African insurtechs. • Total estimated GWP of insurtechs = 1.12% *22* ZAR 107,301,288,000 = ZAR 2,036,428,4.98 • % addressable market served by insurtechs cannot exceed = 1.1%.

*Calculation breakdown on following page

Market sizing calculations

Market sizing calculation steps

Approach	Calculation steps	Current example	Data sources
Insurtech			
Benchmark fintech performance with an existing market leading incumbent insurtech to arrive at a relative size of fintech:incumbent in order to estimate the percentage of the market addressed by fintechs versus traditional insurers. The unit of measure for market size is gross written premiums.	1. Select "benchmark" insurtech (Outsurance).	Outsurance: 848,734	Outsurance Annual Report 30 June 2018
	2. Find no. of policies in force for benchmark entity, and for as many fintechs as possible.	1. Pineapple: 7,200 2. Simply: 11,753	1. Online article 2. Company website
	3. Calculate average size of a fintech by no. of policies in force.	3. 9 477 = (7 200+11 753)/2	
	4. Calculate ratio of no. of policies in force for the average fintech vs. an established insurtech	4. 1.12% = 9,477/ 848,734	
	5. Ascertain proxy for total market size.	5. R183,533,163,000 (estimate)	3. GWP from KPMG SA Insurance Survey 2018 & FSCA Annual report 2018
	6. Calculate average gross written premiums of fintechs (no. of fintechs * relative size of fintech * GWP of benchmark insurer).	6. 2,036,428.98 = 22 * 1.12% * 8,264,728.00	
	7. Estimate percentage of market served by fintechs versus traditional insurers by dividing estimated fintech GWP by GWP of traditional insurers + fintechs.	7. 1.1% = 2,036,428.98/183,533,163,000	

Market sizing calculation steps

Approach	Calculation steps	Current example	Data sources
Investments			
Trading activity is the base unit of measure of total market size (per annum)	1. Divide no. of trades on alternative exchanges by no. of trades on JSE. 2. Divide no. of crypto trades in South Africa by no. of trades on JSE. 3. Annual trades on JSE - % trades from Alternative exchange and cryptocurrencies is % market served by JSE.	1. 0.002% = (5.64 / 272,1987) *(250/250) 2. 1.39% = (3,787 / 272,1987) *(250/250) 3. 98.4% = 1 – 0.002% -1.39%	1. Websites of alternative exchanges 2. Aggregation of SARB cryptocurrecy trade data 3. FSCA Annual report
Financial planning and advisory			
Top down assumptions to derive market size and percentage of total market needs addressed by fintechs. This is an assumptions-based approach, results may differ where assumptions are altered.	1. Total South African population and reduce to total market by doing the following steps: 2. Estimate no. of South Africans using advisory services by: a. Total no. of taxpayers (those with an income). 3. Tax payers with an income above R350k (assume earners only take up advisory products above this threshold). 4. Based on results of a survey, ascertain investment preferences of this income group between traditional and robo-advisory.	1. 57.7 million total population 2. a. 4,898,565 total tax payers i. 1,332,798 tax payers earning above R350,000 p.a. 3. 1,212,846 = 91% * 1,332,798 no. of individuals paying for financial advisory services. 4. 60,642 = 5% * 1,212,846 no. of individuals willing to accept financial advice on a digital platform. 5. 1,273,488 = 1,212,846+ 60,642 =Total market size. 6. 4.76% = 60,642/1,273,488 = portion of market served by robo-advisors and digital financial advice platforms.	1. StatsSA 2. SARS Annual report (2017/18) 3. Deloitte survey, Automation of financial advice, June 2018.

Market sizing assumptions and calculations by segment

Methodology	Data required	Data collected and/or be estimated	Data for estimation	Sources	Assumptions
Capital Raising					
• The value of funds raised by crowd investing as a percentage of funds raised by Venture Capital Firms and Crowd investing.	• Value of funds raised by Venture Capital Firms • Value of funds raised by crowd investing	Collected for 2017: • Value of funds raised by Venture Capital Firms • Value of funds raised by crowd investing	Collected values of funds raised by UpriseAfrica: • 2017: Venture Capital values • 2017 = R200 million	SAVCA 2018 Venture Capital Industry Survey UpriseAfrica • News Article	Not applicable

Table of Contents

Payments Segment

MPOS providers allow SMEs to accept card payments and, in turn, grow their businesses, making the sub-segment the 2nd largest within the payments segment.

"The easiest way to accept card payments"

Yoco is a technology company that builds tools and services to help small businesses receive payment and run their businesses better in order to grow. Yoco believes "*that by opening up more possibilities for entrepreneurs to be successful, we can help create more jobs, enable people to thrive and help to drive our economy forward*."

Location: Cape Town

Year launched: 2015 (3 years old)

After observing how difficult it was for entrepreneurs to get access to card payment services to help grow their businesses, the founders of Yoco realised that there was an opportunity to make life easier for the small business owner. The fintech developed point-of-sale payment platform solutions that gives entrepreneurs an easily accessible and simple platform to help start, run and grow their business.

How it works:

Yoco offers businesses a choice of two mobile card readers that connect to a phone or tablet (iOS/Android) and transform it into a card acceptance terminal. The card-reader connects via Bluetooth to a smartphone or tablet, on which the software runs. The solution offers value added services such as a breakdown of sales, data on forms of payment and tracks revenue using Yoco's business intelligence (BI) tool. Merchants pay for the terminal but do not pay fixed monthly fees, instead, they charged on a pay-as-you-use model. The transaction rate is automatically lowered as sales increase. Yoco charges 2.95% per transaction and offers its new point-of-sale software for free.

In addition, eligible Yoco merchants can access a cash advance. Yoco considers a business's sales history and monthly turnover and eligible merchants will receive the required capital within 24 hours, paying a once off flat fee. Yoco automatically takes a percentage of daily card sales to act as repayment for the cash advance.

How is this improving the sector:

- *Providing a simple and accessible way for merchants to accept card payments and decrease the reliance on cash transactions.*
- *Improving management information and sales data for small businesses.*
- *Providing a quick way to get capital without having to worry about repayments as payments are collected automatically from merchants' sales.*

Founders:

Katlego Maphai *has deep experience in* startup and advisory in Telecoms, Media & Digital and e-commerce *in Africa.*

Lungisa Matshoba *had his early start when he co-founded Yeigo Communications, a pioneer in mobile VOIP. He and his team are responsible for building the product and platform that powers Yoco.*

Carl Wazen *has worked across 15 markets in Africa and the Middle East as a management consultant and private equity investor, helping large telecom operators expand their African footprint during the continent's telecoms boom.*

Bradley Wattrus *is responsible for the areas of finance, risk and data. He enjoys finding simple ways to improve access to financial services for small businesses.*

Yoco's Timeline:

2013- Yoco received a payment facilitator licence

2015 - Beta programme launched and later followed by a brand launch

2018 – received R230 million from various investors led by Partech, a venture capital firm based in Silicon Valley, Europe and Africa

Payments Segment

Yoco is the largest MPOS payment provider and a formidable competitor for traditional POS and other MPOS providers in South Africa.

Competing fintechs by inception dates

2008 SURESWIPE

2012 selpal

2013 walletec, SnapScan, zapper

2014 iKHOKHA.COM, mobipaid

2015 Wax'd, WizzPass

SnapScan had 50,000 merchants in 5 years versus Yoco which achieved 40,000 merchants in 3 years

There are 11 mPOS providers in the South African market. Yoco was launched in 2015 and is relatively young, compared to the other mPOS providers. However, it has experienced considerable growth in a short period.

SnapScan, a QR based acceptance solution that is run on card rails, was launched in 2013. By 2017, it had 26,000 merchants on its platform after operating for four years (an average of 7,250 acquired per year). The latest figures on their website show that the platform has signed on 50,000 merchants.

In 2017, Yoco had 10,000 merchants on its platform (an average of 5,000 merchants acquired per year). To date, it has acquired 40,000 merchants. A merchant funding proposition, easy to use business management tools and targeted marketing campaigns are all reasons for the fintech's success.

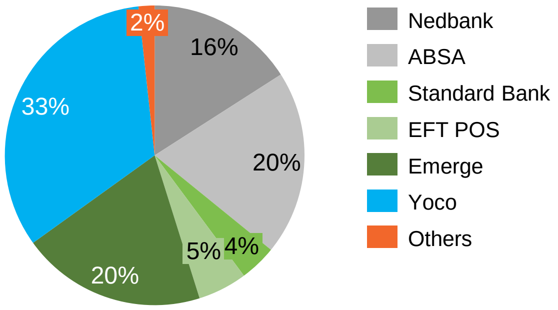
Yoco has distributed more MPOS devices than the large established South African retail banks. They provide an alternative to the traditional POS device and serve small merchants that were not served by the banks' acquiring businesses. Growing card acceptance at a merchant level grows digital payments more broadly and decreases the use of cash in an economy.

Yoco has grown the acceptance market by servicing micro and small merchants that may otherwise not qualify for a POS device from a bank. However, QR solutions like SnapScan and Zapper are taken up by merchants who usually already have a POS device but want to offer their customers a faster and more digital payment process. Zapper has focused on developing a solution specifically for restaurants or food outlets and provides merchants with value added solutions like customer data, business reporting and integration of POS data into business management or accounting software.

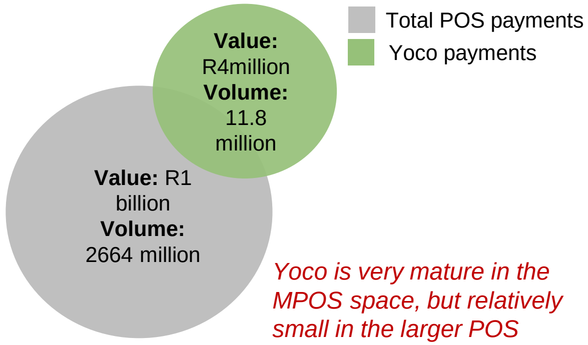
Although payment fintechs in South Africa are gaining traction, there has been little significant innovation to the way the payment is made. Payment fintechs are still facilitating payments on traditional payment rails such as credit card, unlike other African markets where mobile wallets have created a new way to transfer money between individuals and businesses.

Yoco vs other MPOS providers and POS payments

Number of mPOS devices* (2017)



POS transactions vs Yoco transactions (2017)



Yoco is very mature in the MPOS space, but relatively small in the larger POS payment space.

*From available sources and estimations

Lending Segment

In 2012, Rainfin became the first online lending marketplace in South Africa. Since then, seven new platforms have entered the market, signaling the high growth potential of the segment.

RainFin

"Redesigning Finance, Enabling Inclusive Growth"

RainFin is an online credit marketplace that enables borrowers to access debt capital, and investors (institutional and retail) to access new asset classes such as alternative credit and earning fixed-income returns.

Location: Cape Town

Year launched: 2012 (6 years old)

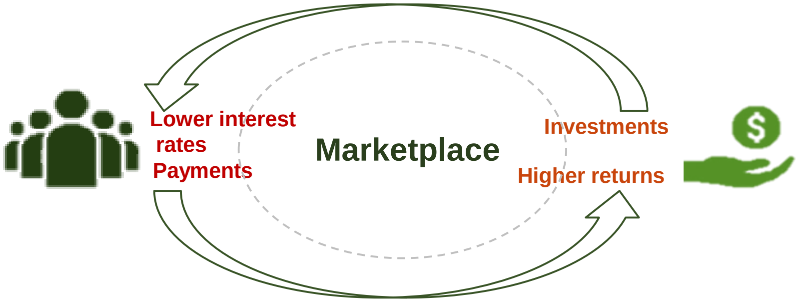
Launched in 2012, in response to the increased cost of traditional lending, RainFin was South Africa's first lending marketplace. RainFin's vision is to remove traditional costs and barriers for borrowers and investors through innovative technology, creating a transparent and fair marketplace.

How it works:

Businesses looking to access alternative funding complete an online registration application. Based on online data, a risk assessment is performed and a credit rating is allocated to the borrower. A combination of manual and algorithmic moderation is then performed to qualify loan requests. Qualified loans are published on RainFin's credit marketplace.

Investors (institutional and retail) place orders to purchase participation notes, which are directly linked to the economic interest on loans. A single offer is presented to the borrower. Upon acceptance, the respective orders are concluded and participation notes are issued.

For the business borrowing the funds, the application fee is free and credit checks are free. There is a once off initiation fee of 2.85% of the loan amount and a R60 monthly service fee, and interest rates are charged on the principal amount. A service fee is charged to the investor each month on the principal depending on the maturity of their participation/investment.



How is this improving the sector:

- *Rianfin's business model is aimed at segments that are not serviced by incumbent banks.*
- *Provides a seamless and simple online application process.*
- *Lower fees for borrowers with no early settlement penalties.*
- *Giving borrowers access to a number of investors.*
- *Giving investors access to a new asset class, which is alternative lending for high-growth medium to small businesses.*

Founders:

Sean Emery *is an experienced entrepreneur and venture capitalist with a deep focus on emerging technologies, disruption and innovative business models. Before starting Riainfin, he held several management roles in technology and media businesses in Africa, Europe and the Middle East. He was involved in in a number of disruptive start-ups and technology spaces and is also involved in a variety of South African business ventures as an angel investor. He is the founder and investor in Titan Investments, a digital media investments firm.*

Hannes van der Merwe *has had extensive experience in the ICT and Internet environments, particularly in developing, maintaining and managing online marketplaces for procurement, cash management and media companies. Prior to Rainfin, he worked in the IT network design industry before moving on to systems development and eventually assuming operational responsibility at each company he was with.*

Rainfin's Timeline:

2012: Launched the first P2P platform in South Africa

2014: Concluded a 49% sale to Barclays Africa Group Limited

2015: Launched the SME funding marketplace

2016: Reached a R150 million mark in funding disbursed

2018: RainFin sells its corporate debt marketplace in exchange for a shareholding in 4AX
LeBashe Investment Group Increases its stake in Rainfin to 75%

Lending Segment

Although Rainfin is a leading lender in comparison to its fintech counterparts, it remains very small compared to traditional lenders such as Capitec.

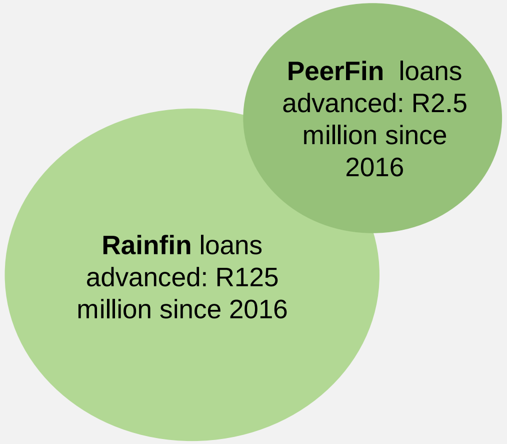
Competing fintechs by inception dates

2008 Prodigy Finance

2013 PEERFIN

2015 e-factor, bright on

2017 FundingHub, Fundrr



The Lending marketplace sub-segment remains very small with only seven lending marketplaces in South Africa. Most competitors were launched after Rainfin with the exception of Prodigy Finance. Prodigy Finance, though founded by two South Africans, was launched and registered in London and offers study loans to international students looking for funding for their MBA studies.

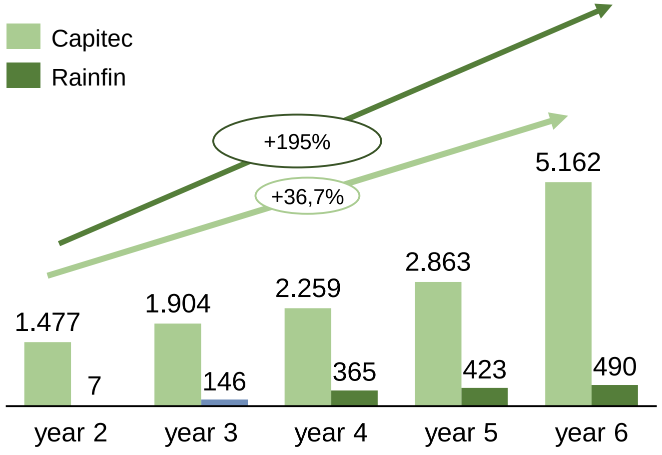
Excluding Prodigy Finance, Rainfin remains the most popular and successful lending market in South Africa. Peerfin is another lender who provides reliable asset-backed loans with favorable returns. Peerfin created an online platform where asset-backed peer-to-peer lending, specifically for firearms, can take place. They have financed R2.5 million worth of firearms since 1 December 2016. This is about 0.2% of what Rainfin has lent out in the same period.

Rainfin is currently experiencing higher growth rates than those experienced by Capitec in its early years.

Fintechs are only capturing a small share of the addressable lending market, however, the number of new platforms entering the market shows the potential in this space. The business models are focused on servicing individuals and businesses who are not being targeted by traditional banks. Access to credit is an important element of financial inclusion as it assists households and businesses smooth over financial shocks. At the same time this is a highly regulated sector as consumers should be protected from irresponsible lending practices. Most fintechs in the lending segment are still in the early stage of their growth phase, experiencing high growth, but still off a relatively small base compared to their traditional competitors.

Rainfin vs a traditional bank

Lending values for Capitec and Rainfin, years from inception
(R million)



Loans advanced by Rainfin in 2018 are only 1.7% ot the total value of loans advanced by Capitec in the same year

Rainfin has managed to achieve a lending value CAGR of 194.6% in 6 years, with Capitec only experiencing a 36.7% CAGR in its first 6 years, although off a much larger base.

Community savings platforms are one of the biggest sub-segments of Savings & Deposits segment, with Stokvel management systems increasingly becoming digitised.

StokFella

"Invest Your Stokvel Club Savings Differently"

Stockfella is an online platform that helps stokvel clubs to manage their monthly payments and claims online, and also grow their savings through sound investment channels.

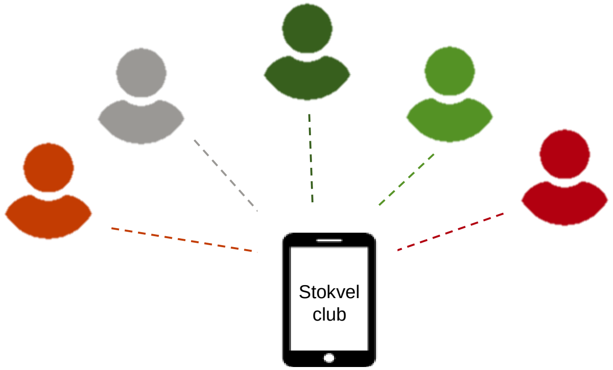
Location: Johannesburg

Year launched: 2016 (2 years old)

Stokfella was built on the vision to put the power of informed financial management and financial decision making in the hands of all active Stokvel[1] clubs. It provides Stokvels with a world-class mobile phone solution that allows them to organise, manage, communicate and be more efficient in growing their wealth.

How it works:

StokFella provides stokvel clubs with a digital management platform with various pricing options, and the option to invest saved funds. The fintech provides a mobile app which allows individuals to join existing stokvel groups, or set up their own. The basic account offering allows a maximum of five members and a minimum of 3 members and is free. Members get a monthly statement, email notifications of transactions and can only have one claim per month. For an advanced account that allows a maximum of 50 members, only transactional charges apply. Claims are unlimited and interest is earned based on the investment product chosen (e.g. quick access, 32 days savings account, invest account).



Stokvel Clubs with a savings goal longer than 36 months can invest for returns. Stokfella has partnered with Satrix to allow members to invest in Satrix TOP 40, SV Capital and The People's Fund that participate in crowd investing.

How is this improving the sector:

- *Provides security, transparency and confidentiality that the traditional Stokvel model does not provide.*
- *Provides stokvel members, particularly stokvel administrators, with an easy way to manage a stokvel Club using your mobile phone.*
- *Giving members the ability to make claims online.*
- *Members can grow their savings through sound investment channels.*

Founders:

Tshepo Moloi *is a Soweto-born citizen who has a Masters in Engineering. He has 2 years mining consulting experience and 7 years banking experience in financial modelling and strategy. He is passionate about leveraging collaboration between entrepreneurs and finding solutions that make a difference in people's financial lives..*

Ruddy Mukwamu *has years of experience in Information Technology including a broad-based management focusing on IT Project Management, Business Intelligence and Strategic Planning, System Design and Development. Prior to cofounding Stockfella, he had successfully delivered numerous projects and core functions within the e-Commerce, Mining, finance and Credit Industries.*

Stokfella's Timeline:

2016: Recipients of R1 million in enterprise development spend from Bank of America Merrill Lynch in partnership with AlphaCode.

Notes: 1. A Stokvel is a savings or investment society where members contribute an agreed amount each month, each month one of the members receive a lump sum (summation of the contributions)

Savings & Deposits Segment

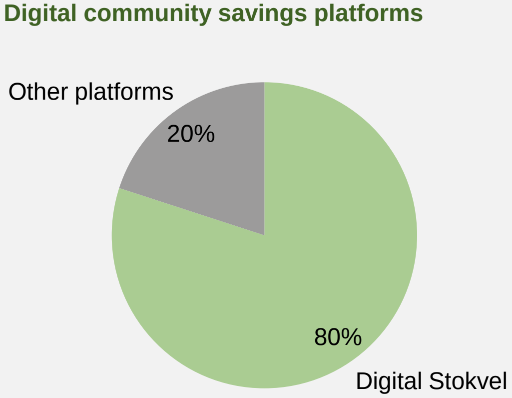
Digital community savings platforms are a new concept, but fill an important gap in the market which traditional banks do not adequately address.

Competing fintechs by inception dates

2014 ADDaBIT

2017 franc

2018 SPOON Money



Digital community savings make up 22% of savings and deposit-taking fintechs in South Africa. The 22% is made up of four fintechs, with Stockfella being one of the three fintechs that provide stokvel management solutions.

Similar to Stokfella, Franc and Spoon Money also facilitate digital Stokvels. Both were launched after Stokfella.

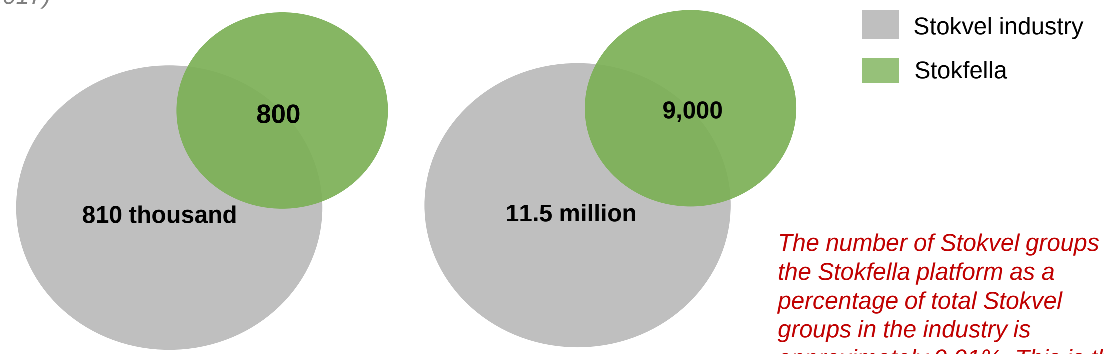
ADDaBIT is similar to the digital stokvel model but facilitates individuals saving towards their goals. Individuals can use the platform to receive returns on savings without banking fees or penalties. Individuals can then create funds on the platform and also enlist the help of friends and family in saving towards their goal.

Stokfella offers the advantage of transparency, security and convenience over traditional methods of saving for stokvel groups.

Stokvels in South Africa traditionally have the option of saving their funds in cash (using a lockbox) or in a group savings account at a bank. The latter is often inconvenient because it requires multiple members to access funds, and the former presents the risk of theft or other loss. Digital stokvel management apps provide a value-add to stokvel members by allowing for financial transactions to be approved and executed digitally, rather than going into the bank, and with the added financial management tools that are provided on the platform. While fintechs like Stokfella are currently only capturing a small portion of the total stokvel industry, this is likely to rise as digital literacy and the adoption of smart phones increases.

Stokfella vs the Stokvel industry

(2017)



Number of Stokvel groups

Number of Stokvel members

The number of Stokvel groups on the Stokfella platform as a percentage of total Stokvel groups in the industry is approximately 0.01%. This is the same for the number of Stokvel members.

The Savings and Deposits fintech segment in South Africa remains immature, with digital banks and community savings platforms having only been established within the last few years, and with a number of digital banks only launching in 2019.

Insurtech Segment

Pineapple Insurance aims to bring consumer trust back into insurance by remaining transparent and fair in the way premiums are disbursed by bringing the element of communal insurance.

"Fair, instant insurance for your stuff"

Pineapple is a completely digital peer-to-peer short-term insurance company that allows customers to insure their personal items by sending a picture of the item via the app.

Location: Johannesburg

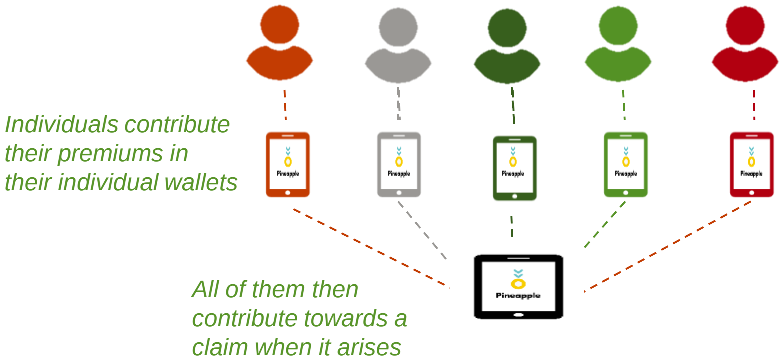
Year launched: 2018 (1 years old)

The founders of Pineapple Insurance met through a 6-month long innovation competition run by international reinsurance company, Hannover-Re. The concept for Pineapple Insurance was born out of this programme and the team was later awarded R5.2 million in seed funding from Lireas Holdings to take the product to market after winning the competition.

How it works:

Pineapple's application, quotation and acceptance process is completely app-based. The consumer, using the Pineapple app, registers and can start insuring their assets by sending a picture of their items to be insured. The consumer then selects the people to share the risk with, thus building their own network. This allows individuals to tailor their risk and reduce their premiums. Consumers then pay monthly premiums into their individual wallets. Funds in the wallet are then used to pay for the claims of the people in the network.

Premium quotations are given using photo-imagery assessment, so potential customers just upload a picture of the item to insure, and can accept the quote immediately. The consumer is able to pay and track premiums and, at the end of the year, all unclaimed premiums are returned to the customer.



How is this improving the sector:

- *The consumer is involved in the risk analysis process, being able to reduce their premiums based on the people they choose to be in their networks.*
- *There is complete transparency and control of usage of premiums in the network, lowering the risk of fraud.*
- *Unpaid premiums are paid back - incentivising users to avoid unnecessary claims.*
- *Provides a straight-through online application and process.*
- *Photo imagery improves the customer journey.*

Founders:

Marnus van Heerden *is 27 years old. He is has a Bachelor's in Accounting from the university of Stellenbosch. Prior to starting Pineapple he was a Trainee Accountant at at KPMG.*

Matthew Elan Smith *is 25 years old. He is has a Bachelor's in Actuarial Science and Mathematical Statistics from the university of the Witwatersrand. Prior to starting Pineapple he was a Actuarial Analyst at Credit Guarantee.*

Ndabenhle Junior Ngulube *is 27 years old. He is has a an undergrad in accounting and an honors in taxation from the University of Cape Town. Prior to starting Pineapple he was a Junior Backend Developer at Platform45.*

Pineapple's Timeline:

2016: The team participate in the Journey Re entrepreneurship innovation competition

2017: Secures R5.2 million equity funding from Lireas Holdings

2018: Pineapple launches and become the first Insurtech accepted into Google Launchpad Accelerator Africa class
In December Pineapple reaches 7,200 registered users and wins award for Best Insurtech Globally from the Digital Insurer, Singapore.

EasyEquities aims to democratise share investing by reducing the cost of trading and removing minimum investment requirements.

EasyEquities

"Investing made easy. Your Turn"

Location: Johannesburg

Year launched: 2014 (4 years old)

EasyEquities is an online platform that enables individuals to buy and sell shares in publicly traded companies directly for only 64c per R100 invested, eliminating the need for a broker. EasyEquities App was launched and Sanlam Investments bought a 25% equity stake in EasyEquities for R100 million.

Charles H. Savage *Chief Executive Officer of Purple Group Limited since November 2007. Charles was one of the pioneers of spread & CFD trading in South Africa in his role as CTO of GT247.com in 2000.*

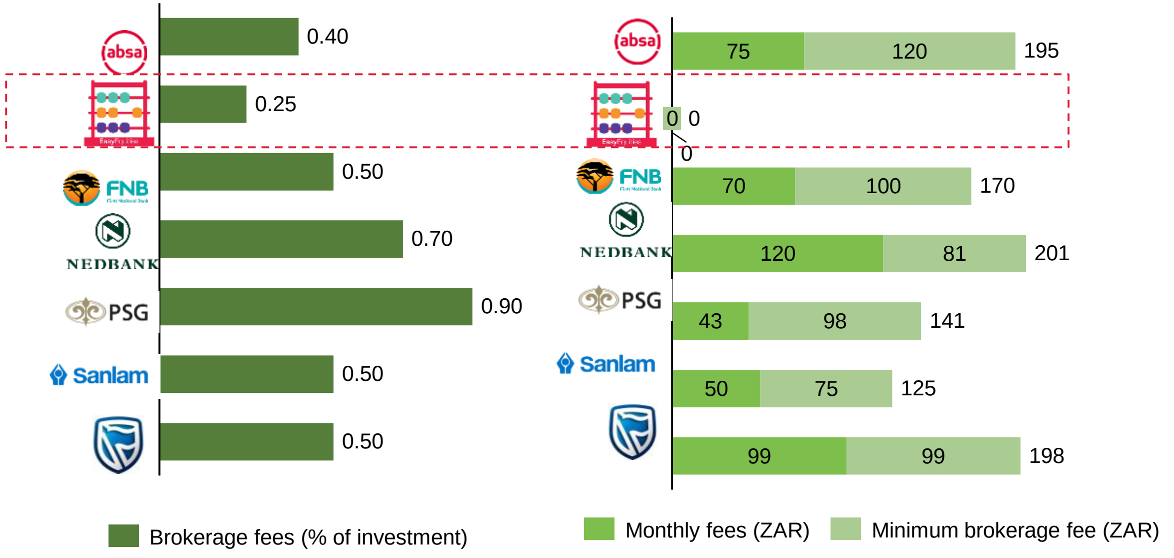
How is this improving the sector:

- *Providing low-cost investment services (low trading fees).*
- *Giving consumers the ability to trade from your mobile phone with low transaction charges.*
- *Providing financial education by tutorials and videos on how to trade on exchanges.*

The rapid growth of EasyEquities bears testament to the market's appetite for low-cost share investing alternatives. Through their low-fee model and no requirement for a minimum investment amount, the brand has managed to grow faster than market since 2014. EasyEquities clients are mostly first time investors who are millennials, some as young as 13.

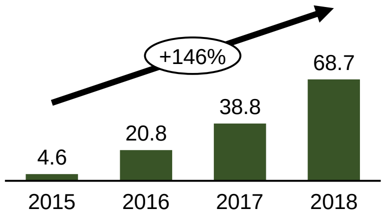
EasyEquities is owned by the Purple Group, a financial services disruptor that also owns market trading platform GT247.com and Emperor Asset Management. In a December 2018 interview, the CEO stated that "More than 150,000 accounts have been opened on Easy Equities of which 68,739 are active. 65% of customers who opened EasyEquities accounts are millennials, or younger customers, who are taking up investing for the first time."

The cost of share trading on SA's most popular retail share trading platforms

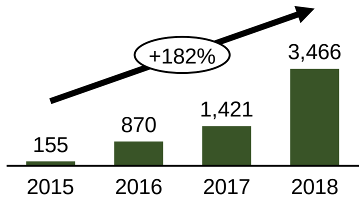


EasyEquities performance

No. of funded investment accounts
(Units, 000s)



Value of platform assets
(ZAR millions)



Sources: 1. SA watches as brokers fight it out, Mail & Gaurdian, Sep 2018 2. EasyEquities website

22seven is making financial literacy and management skills accessible to previously excluded segments of the South African population at no cost.

"A new solution to an old problem"

22seven is a budgeting and investing app. that allows users to link their bank accounts, get automatic budgets, synchronize data across devices, and start investing.

Location: Cape Town

Year launched: 2012 (6 years old)

22seven launched as an independent start-up in January 2012. A shared vision and meeting of minds led to Old Mutual's purchase of the company a year later.

How it works:

Using customer data displayed on a single dashboard, 22seven empowers customers to make better financial decisions and helps customers create personalised budgets to enable them to manage their money better from month to month. The app brings together all transactions from various bank accounts, credit and store cards, investments, loans and rewards in one place. Through the app, the consumer can view how much they are worth, how much they have, they owe and can borrow.

The app also provides a budget app, automatically generating the consumer a budget based on their spending each month. 22seven automatically sorts each transaction into a category like groceries or bank fees and assists in changing spending patterns. An investment option is also available for consumers planning to grow their money.

Founders:

***Christo Davel**, has a track record of shaking up online banking in SA; He and co-founder **Kenny Inggs** have a history building wealth Apps, like 20twenty, a Saambou joint venture which was in market from 2001-2005 and Kulula Wealth which did not reach go-to-market phase.*

22seven is the improved version of previous money management ventures the pair have been involved in.

22 Seven's Timeline:

Mar 2017 – Founders exit the business & 22seven is integrated into the Old Mutual structure

Aug 2014 – Subscription fee dropped from R70 p/m to FREE

Jan 2013 – Old Mutual acquires equity stake in 22seven

Jan 2012 – 22seven launched

Downloads in the last 30 days: **10,790**
Monthly app download growth: **39.64%**

After facing resistance from SA's big banks regarding sharing of clients' personal transacting data, the 22seven team are pursuing an aggressive growth strategy to ensure that more South Africans are able to improve their financial literacy, reduce indebtedness and are able to save and invest towards their financial goals.

As smart-phone penetration grows, the only barrier to access for the large majority of South Africans is the high cost of data/internet connectivity that the country is notorious for.

In March 2017, the founders and Chief Executives of 22seven left the business to pursue other ventures. Old Mutual has integrated 22seven into its corporate structure and it remains to be seen whether 22seven can maintain its strong growth trajectory.

Individual banks also offer similar financial planning and advisory tools. However, these have not made a remarkable dent in the advisory services sector, thus we expect this segment to remain stagnant or limited in its growth in the foreseeable future.

Capital Raising Segment

Thundafund is one of the first and largest crowdfunding platforms in South Africa. Its business model puts forward a high potential for equity crowdfunding, pending regulatory changes.

“SA‘s leading crowdfunding platform for creatives and innovators”

Through Thundafund, entrepreneurs with projects & ideas can raise capital and build a supportive crowd of backers through the process of crowdfunding.

Location: Johannesburg

Year launched: 2013 (5 years old)

Thundafund believes that by changing the way entrepreneurial funding works, and by making this transparent and inclusive, they can build trust and loyalty between entrepreneurs and their customers, thereby growing economies and creating jobs.

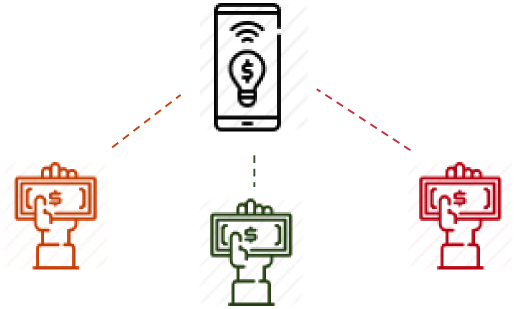
How it works:

Like most crowdfunding platforms, project creators (e.g. entrepreneurs) register their idea on the platform. Sponsors can then register and make contributions to the projects. The Thundafund team works with the project creator to understand the idea or project, including its funding needs, crowdfunding targets, what the money will be used for, potential rewards as well as marketing advice. Each project then devises a variety of project-related items, known as rewards, that will be presold to backers in turn for their funding contribution. These rewards include retail items, recognition and experience/exposure.

After defining the project, its target time period of between 30 to 90 days, and its three different monetary milestones, the project is then advertised. All projects on Thundafund are required to reach their tipping point (minimum required to make your project work) before their project closes in order to receive all their funds. If their target is not reached all backers of the project will be reimbursed minus the banking fees

Once a project is successfully funded, Thundafund receives a commission on the final amount crowdfunded: 5% for certified NGOs and 7% for individuals and organisations.

ThundaFund provides assistance in articulating the idea, measuring funding needs and providing marketing advice. They only allow viable projects on their site.



How is this improving the sector:

- *Entrepreneurs can test their ideas and build a base of supporters.*
- *Entrepreneurs can get more than capital support, as backers usually want the business to succeed and provide advice and assistance.*
- *It is a risk-free model, allowing project creators to raise awareness within their market or audience by pre-selling the product before engaging in significant resource.*

Founders:

Patrick Schofield *is an award winning social entrepreneur. Having consulted widely in the development world and personally established and built successful high social and environmental impact organisations, Patrick recognised the need and opportunity for the crowdfunding model in South Africa & Africa. Patrick began working on Thundafund.com in 2013.*

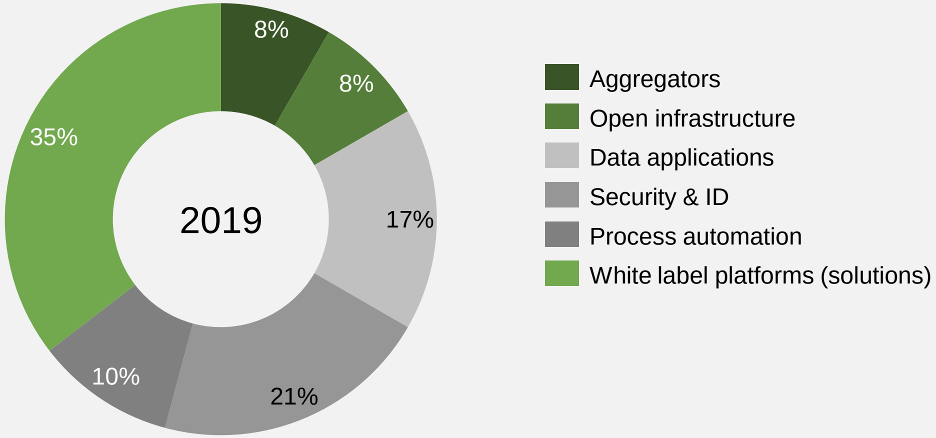
Andrea Morgan *worked the online frontline for 2 and half years with a passion for business and communication for Thundafund. Using her media, journalistic and entrepreneurship experience, her ever present sense of curiosity and love of creativity to bring to the Thundafund community a firm foundation for crowdfunding..*

The crowdfunding industry in South Africa is mostly reward-based. Very few raise debt or equity capital due to the regulatory framework governing equity trading. With crowdfunding platforms such as Thundafund experiencing great success, there is an opportunity to turn reward-based crowd funders’ business models into crowd investing, leveraging on their existing networks.

B2B Tech providers

B2B Tech providers use latest technology to build financial products and services for financial services firms, using their tech skills to accelerate innovation in the sector.

B2B tech provider fintechs by sub-segment
(Count)



nomanini

"Nomanini means 'Anytime' in Siswati. The firm aims to provide affordable access to payments for everyone, everywhere."

Location: Johannesburg

Year launched: 2013 (5 years old)

Nomanini is an enterprise payments platform provider that optimises transactions in the informal retail sector. They focus on underserved, low-income consumers who need affordable access to payment mechanisms. Nomanini provides banks, mobile networks and mobile money operators with merchant tools and management platforms to enable widespread and convenient access to VAS products, cash transfers, bill payments and bank transactions for people in informal markets.

Vahid Monadjem *is co-founder and CEO of Nomanini. Prior to founding Nomanini, he consulted with McKinsey & Company as Global Fellow for new product development for merging markets.*

Ali Monadjem *is a co-founder and Director of Nomanini. Prior to founding Nomaniini, he was an engagement manager at McKinsey & Company, gaining experience as a management consultant across various industries and functions.*

The B2B Tech providers segment is filled with a variety of fintechs that provide different services and have diverse business models. The majority are white label platform providers, security & ID and data application. The segment has 48 fintechs, where 17 fintechs offer white label platforms. White label platforms fintechs provide platforms to banks and other financial institutions, including mobile banking solutions (e.g. **Wizzit**, **Ikwood** and **Veneka**), Machine Learning technology (e.g. **FinChatBot**) and other payment platforms. These fintechs solve complex B2B e-commerce and order management challenges using the latest technologies to improve consumer experience while reducing the cost to the business.

The Security & ID sub-segment is made up of 10 fintechs, including fintechs like **Entersekt** which provide security to consumers through authentication software. This is similar to fintechs such as **ThisIsMe** that link their systems to home affairs and major banks to verify the consumers identity. These fintechs are allow consumers to safely purchase goods from online providers.

Digital innovation in the financial services sector (including incumbents) will drive the growth of this sector. The large retail banks have dedicated teams that scout for new technology and fintech firms and work with business to incorporate innovation into existing business units to improve products offerings, efficiency or customer experience.

Nomanini's Timeline:

July 2013 – Released cloud-based financial management platform

Aug 2014 - Reached 1 million transactions mark

Oct 2015 – Over 1 million transactions per month

Nov 2015 – Launched eLula POS terminal

May 2016 – Reached 16 millionth transaction mark

Definitions of sub-segments

Payments	**mPOS (acquires):** Entities that provide a portable Point-of-Sale on a smartphone or tablet that functions as a cash register or electronic point-of-sale terminal. **Crypto payments:** Entities that allow clients to make and/or receive payments in cryptocurrency. **Cross border payments:** Entities that allow clients to make or receive payments outside the borders of South Africa. Transactions involving individuals, companies, banks or settlement institutions operating in at least two different countries. **(Bill) payment aggregators:** Entities that allow for the processing of payments to several parties on a single account (e.g. paying all your bills from one account). **3rd party payment providers:** Entities that accepts money or the proceeds of payment instructions from two or more payers for on-payment to third persons to whom the money is due.
Lending	**Online (alternative) lenders:** Entities that provide credit online, where the application process is completely done on the lenders website without any visiting any branch. The loan is funded from the fintechs balance sheet. **Asset financing:** Fintechs that allow companies to use their balance sheet assets, including short-term investments, inventory and accounts receivable, to borrow money. **Alternative scoring:** Fintechs that capture informal financial behaviours and provides a credit identity for the 'unscored' or underscored low-income consumer. **Lending market places:** Fintechs that connect borrowers and investors together, lending to borrowers without lending out their own capital.
Savings & Deposits	**Digital community savings:** Entities that provide a platform were a group individuals could save towards a certain goal together, contributing an agreed amount each month. **Savings products:** Entities that provide traditional savings products online. **Layby:** Fintechs that provide providing layby services online, allowing consumers to pay a fee and a deposit on a good in order for the retailer to hold the good until the balance is paid off. **Digital banking (issuers):** Entities that offer online banking, where banking services are delivered over the internet.
InsurTechs	**Connected insurance:** Fintechs that use internet of things technology to connect devices to insurance services. **Peer-to-peer insurance:** Peer-to-peer insurance (P2P) is a risk-sharing network where a group of individuals pool their premiums together to insure against a risk. **Automated risk analysis:** Entities that provide technology that automates risk analysis based on the client's information with limited human intervention. **Digital distribution:** Entities that provide technology to insurance companies that assist with delivering insurance products online distribution. **Claims management:** Entities that provide technology to insurance companies that assist in claim management.
Investments	**Retail trading:** Entities that provide a platform that allows consumers to buy or sell stocks, currencies etc. **Crypto currency trading:** Entities that provide a platform that allows consumers to buy or sell cryptocurrency or digital currency. **Alternative exchanges:** These are alternative trading system that are regulated as an alternative exchange.

*The definitions used in this report are based on the definitions explained in the segmentation framework presented in the beginning of this report and aligns to the fintech definition given for this research paper

Sub-segment definitions

Definitions of sub-segments contd.

Financial planning & Advisory	**Robo-advisory:** Entities that provide financial product recommendations using robotics and algorithms instead of the traditional human needs analysis based advice. **Personal finance management:** Entities that create applications to assist customers to track their spend, budget and save towards particular goals. **Small business finance management:** Entities that automate administrative tasks for small business owners such as bookkeeping, payroll and other admin without the need for proprietary software, but rather Application Programming Interface (APIs).
Capital Raising	**Crowd investing:** Raising capital (debt or equity) from individuals for charity or business ventures through online platforms. **Due diligence:** Digital platforms that use alternative transactional and behavioural data sources to determine risk ratings for granting finance.
B2B Tech providers	**Aggregators:** Entities that collect related items or content and display them in one central platform, e.g. Hippo. **Open infrastructure:** Shared online platforms (APIs) that allows players in the same industry to access clientele and ancillary services. These platforms give customers access to a range of related (or unrelated) goods or services through one platform. **RegTech & risk management:** Technology that supports the digitisation of regulatory compliance by financial services providers in order to ensure compliance and minimise risk. **Data applications:** Applications that use artificial intelligence and machine learning to predict customer preferences and/or behaviour (applied to financial decision-making). **Security & ID:** Technologies that allow for safe and secure verification of a customer transacting digitally without the need for physical signature or presenting themselves to the financial services provider. **Process automation:** Technologies that remove the need for manual processing of back or middle office tasks (usually digitizing paper-based tasks) **White label platforms:** Technology solutions created by Tech companies to financial services providers to improve efficiency of current operations.

Table of Contents

Fintech directory

No.	Name	Sub-segment	Location	Website	Licencing
	Payments segment				
1	Beyonic	3rd party payment providers	Uganda, SA	https://beyonic.com/	No info provided
2	BitPesa	Crypto payments	Kenya, SA	https://www.bitpesa.co/	No info provided
3	BitSure (Xigo)	3rd party payment providers	Cape Town	https://xago.io/	No info provided
4	ByteMoney	3rd party payment providers	Cape Town	http://www.bytemoney.co.za/	No info provided
5	Call Pay	3rd party payment providers	Cape Town	http://www.callpay.com/	No info provided
6	CentBee	Crypto payments	Johannesburg	https://www.centbee.com/	TPPP (PASA)
7	Crowdcoin	Payment aggregators (Bills)	Limpopo	https://www.crowdcoin.co.za	No info provided
8	Cubebucks	Crypto payments	London, UK	http://cubebucks.com/	No info provided
9	Dashpay	Crypto payments	USA, SA	https://www.dash.org/	TPPP(PASA)
10	Easy Pay	Payment aggregators (Bills)	Cape Town	https://new.easypay.co.za/	TPPP & SO
11	Ecentric Payment	3rd party payment providers	Cape Town	http://www.ecentric.co.za/	TPPP & SO
12	Electrum	3rd party payment providers	Cape Town	https://electrum.co.za/	No info provided
13	Exchange 4 free	Cross-border payments	London, UK	https://exchange4free.com/	FCA (UK)
14	Flutterwave	Third party	US, SA	https://flutterwave.com/za/	No info provided
15	Flexpay.co.za	Payroll	Johannesburg	https://www.flexpay.co.za/	No info provided
16	Geopay	Cross-border payments	Johannesburg	https://geopay.co.za/	No info provided
17	Hello Paisa	Cross-border payments		https://hellopaisa.co.za/	Sponsor: Sasfin Bank
18	Howler	Closed loop mobile wallets	Johannesburg	https://www.howler.co.za/#what-we-do	No info provided
19	Hyphen	3rd party payment providers	Johannesburg	https://www.hyphen.co.za/	TPPP & SO
20	Ikhokha	mPos (acquires)	Durban	https://www.ikhokha.com	No info provided
21	IMB	Closed loop mobile wallets	Cape Town	https://imb.co/	Credit provider/FSP
22	Karri	Payment aggregators (Bills)	Cape Town	https://karri.co.za/	Sponsor:: Nedbank
23	Kineto	3rd party payment providers	Cape Town	http://kineto.co/	No info provided

Notes: * represents fintechs that are in more than one segment

No.	Name	Sub-segment	Location	Website	Licencing
	Payments segment				
24	Luno*	Crypto payments	UK, SA	https://www.luno.com/	No info provided
25	Mama money	Cross-border payments	Cape Town	https://www.mamamoney.co.za/	No info provided
26	Maxicash	Cross-border payments	Johannesburg	https://www.maxicashapp.com/	Registered FSP
27	MobiPaid	mPOS (acquires)	USA, UK, SA	https://mobipaid.com/	Applied with PASA
28	Mukuru Money	Cross-border payments		https://www.mukuru.com/sa/	No info provided
29	mvendr	mPOS (acquires)	UK, SA	https://mvendr.com/	No info provided
30	m-vendr	3rd party payment providers	UK, SA	https://mvendr.com/	No info provided
31	OTT voucher	Third party	Johannesburg	http://ottvoucher.com/	No info provided
32	Ozow secure pauments (iPay)	3rd party payment providers	Johannesburg	https://ozow.com/	No info provided
33	Pago	Cross-border payments		http://www.paywithpago.com/	No info provided
34	Pay space	Payroll	Johannesburg	https://www.payspace.com/	No info provided
35	Paycorp	3rd party payment providers	Johannesburg	http://paycorp.co.za/about/contact-us/	SO (PASA)
36	PayFast	3rd party payment providers	Cape Town	https://www.payfast.co.za/	TPPP(PASA)
37	PayLiquid	3rd party payment providers	Singapore, SA	https://www.liquidpay.com/	No info provided
38	Payment24	Closed loop mobile wallet	Cape Town	https://www.payment24.co.za/	No info provided
39	Payport	3rd party payment providers	Cape Town	https://payportsa.co.za/	No info provided
40	PayU	3rd party payment providers	Cape Town	https://corporate.payu.com/	TPPP & SO
41	Peach Payments	3rd party payment providers	Cape Town, Johannesburg	https://www.peachpayments.com/#/home	SO (PASA)
42	PopApp deals (moWallet)	Closed loop mobile wallets	Johannesburg	http://popappdeals.com/	No info provided
43	Q link	(Bills) Payment aggregators	Pretoria	https://www.qlink.co.za/QLHome/index_site.php	TPPP & SO
44	Retriever Fintech	3rd party payment providers	Midrand	http://www.retrieverft.com/	TPPP & SO
45	Scode	3rd party payment providers	Cape Town	http://www.scode.co.za/	No info provided
46	Selpal	mPOS (acquires)	Johannesburg	http://www.selpal.co.za/	TPPP (PASA)

Fintech directory

No.	Payments segment				
No.	Name	Sub-segment	Location	Website	Licencing
47	Shepherd Trade Secure	3rd party payment providers	Johannesburg	https://www.paywithshepherd.com/	No info provided
48	Simba Pay	Cross-border payments	London	https://www.simbapay.com/	No info provided
49	SimplePay	Payroll	Cape Town	https://www.simplepay.co.za/	No info provided
50	Slide	Closed loop mobile wallets	Cape Town	https://getslideapp.com/	No info provided
51	Snap Scan	mPOS (acquires)	Cape Town	https://www.snapscan.co.za/	Standard Bank
52	SnapBill	3rd party payment providers	Cape Town and jhb offices	https://www.snapbill.com/	No info provided
53	Sureswipe	mPOS (acquires)	Johannesburg	https://www.sureswipe.co.za/	TPPP/SO (PASA)
54	Terra Pay	3rd party payment providers	Amsterdam	https://www.terrapay.com/	No info provided
55	Trade safe	3rd party payment providers	Johannesburg	https://www.tradesafe.co.za/	TPPP (PASA)
56	Transaction Junction	mPOS (acquires)		https://transactionjunction.co.za/	No info provided
57	Transfer Wise	Cross-border payments	UK	https://transferwise.com/	No info provided
58	VC pay	Closed loop mobile wallets	Johannesburg	https://www.vcpay.co.za/	Subsidiary of Net1
59	VALR*	Crypto payments	United States	https://www.valr.com/about-us	No info provided
60	WalletDoc	Payment aggregators (Bills)	Johannesburg	https://www.walletdoc.com/	TPPP (PASA)
61	Wallettec	mPOS (acquires)	Cape Town	http://www.wallettec.com/	Applied with PASA
62	Wax'd mobile	mPOS (acquires)	South Africa: Johannesburg Australia: Queensland	https://www.waxdpay.com.au/	No info provided
63	WiGroup	3rd party payment providers	Cape Town	https://www.wigroupinternational.com/	No info provided
64	WizzPass	mPOS (acquires)	Johannesburg	https://www.wizzpass.com/	No info provided
65	Yoco	mPOS (acquires)	Cape Town	https://www.yoco.co.za/za/	TPPP (PASA)
66	YoMane	3rd party payment providers	Johannesburg	https://www.yomane.com/	SO (PASA)
67	Zapper	mPOS (acquires)	Johannesburg	https://www.zapper.com/merchant	No info provided
68	Zoona*	Cross-border payments	Cape Town	https://ilovezoona.com/	No info provided

Notes: * represents fintechs that are in more than one segment

No.	Lending segment				
No.	Name	Sub-segment	Location	Website	Licencing
1	Airadvance	Online (alternative) lenders	Johannesburg	https://airadvance.co.za/	No info provided
2	Boodle	Online (alternative) lenders	Johannesburg	https://www.boodle.co.za/	Credit provider (NCR)
3	Bridgement	Online (alternative) lenders	Sandton	https://www.bridgement.com/	No info provided
4	bright on	Lending market places		https://www.brightoncapital.co.za/	Credit provider (NCR)
5	Commuscore	Alternative scoring	Johannesburg	http://commuscore.com/	No info provided
6	efactor	Lending market places	Johannesburg	http://www.e-factor.co.za/	No info provided
7	Fundrr	Lending market places	Johannesburg	https://www.fundrr.co.za/	No info provided
8	GetBucks	Online (alternative) lenders		https://www.getsure.co.za/	No info provided
9	imaFin	Online (alternative) lenders	Johannesburg	http://www.inku.io	Credit provider (NCR)
10	Inku	Online (alternative) lenders	Stellenbosch	http://www.inku.io	Credit provider (NCR)
11	Instaloan	Online (alternative) lenders	Johannesburg	https://instaloan.co.za/	No info provided
12	Invoice worx	Online (alternative) lenders	Johannesburg	https://www.invoiceworx.co.za/	Credit provider (NCR)
13	Jumo*	Online (alternative) lenders	Cape Town	https://www.jumo.world/	No info provided
14	Lulalend	Online (alternative) lenders		https://www.lulalend.co.za/	Credit provider (NCR)
15	MediFin	Online (alternative) lenders	Cape Town	https://medifin.co.za/	Credit provider (NCR)
16	Merchant Capital	Online (alternative) lenders	Johannesburg	http://www.merchantcapital.co.za/	No info provided
17	MobiCred	Online (alternative) lenders	Cape Town	https://www.mobicred.co.za/	Credit provider (NCR)
18	Nisa Finance	Online (alternative) lenders	Cape Town	https://www.nisafinance.com/	Credit provider (NCR)
19	Payabill: Alternative lending	Online (alternative) lenders	Johannesbug	https://www.payabill.biz/#/	Credit provider (NCR)
20	Peerfin	Lending market places	Pretoria	https://www.peerfin.co.za/	Credit provider (NCR)
21	Pollen finance	Online (alternative) lenders	Stellenbosch	https://www.pollenfinance.co.za/	No info provided

Fintech directory

No.	Name	Sub-segment	Location	Website	Licencing
	Lending segment				
22	Prodigy Finance	Lending market places	UK	https://prodigyfinance.com/	FCA (UK)
23	RainFin	Lending market places	Cape Town	https://www.rainfin.com/	Credit provider (NCR)
24	SunExchange	Asset financing	Cape Town	https://thesunexchange.com/	No info provided
25	The Funding Hub	Lending market places	Johannesburg	http://thefundinghub.co.za/	No info provided
26	Vizibiliti Insight Africa	Alternative scoring	Johannesburg	https://vizibiliti-insight.co.za/	No info provided
27	Wanna Loan	Online (alternative) lenders	Cape Town	https://www.wannaloan.co.za/	Credit provider (NCR)
28	Wonga	Online		https://www.wonga.co.za	Credit provider (NCR)

No.	Name	Sub-segment	Location	Website	Licencing
	Savings & Deposits segment				
1	Add a bit	Digital community savings	Centurion	https://addabit.com/home	FSP
2	Bank Zero	Digital banking (Issuers)	Johannesburg	https://www.bankzero.co.za/	Mutual bank licence
3	Bettr	Digital banking (Issuers)	Cape Town	https://bettr.finance/	Sponsor: Bank of Athens
4	Fomo travel	Layby	Cape Town	https://fomo.travel/	No info provided
5	Franc	Digital community savings	Johannesburg	https://www.hifranc.com/	Registered FSP
6	Hello Paisa	Digital banking (Issuers)	Centurion	https://hellopaisa.co.za/	Sponsor: Sasfin Bank
7	Jumo*	Savings products	Cape Town	https://www.jumo.world/	No info provided
8	Lay Up	Layby	Cape Town	https://layup.co.za/	No info provided
9	Layby cafe	Layby	Johannesburg	https://laybycafe.com/	No info provided
10	Prospa	Savings products	Cape Town	https://www.prospa.co.za/	No info provided
11	Spoon Money	Digital community savings	Cape Town	https://www.spoonmoney.com/#case-study	No info provided
12	Stokfella	Digital community savings	Johannesburg	https://stokfella.com/	Registered FSP
13	Tyme Bank	Digital banking (Issuers)	Johannesburg	https://www.tymebank.co.za/about/	Banking licence
14	Zoona*	Savings products	Centurion	https://addabit.com/home	No info provided

No.	Name	Sub-segment	Location	Website	Licencing
	Insurtech segment				
1	All life	Automated risk analysis	Johannesburg	https://allife.co.za/	Sponsor: Old Mutual
2	Click2Sure	Digital distribution	Cape Town	http://www.click2sure.co.za/	Registered FSP
3	Fo-sho insurance	Peer-to-peer insurance	Johannesburg	www.fo-sho.co.za	No info provided
4	Getsure	Digital distribution	Johannesburg	https://www.getsure.co.za/	Registered FSP
5	Hepstar	Digital distribution	Cape Town	https://www.hepstar.com/	No info provided
6	Indie	Digital distribution	Cape Town	https://www.indiefin.com/	Sponsor: Sanlam
7	Investsure	Digital distribution	Johannesburg	https://investsure.info/	Sponsor: Compass insurance
8	Jasure	Peer-to-peer insurance	Johannesburg	https://www.jasure.com/	Registered FSP
9	MiWay	Digital distribution	Johannesburg	https://www.miway.co.za/	FSP/Insurance
10	Mobbisurance	Connected insurance	Johannesburg	http://mobbisurance.com/	No info provided
11	Naked insurance	Peer-to-peer insurance	Johannesburg	https://www.naked.insure/	Sponsor: Hollard
12	Nobuntu	Digital distribution	Johannesburg & Cape Town	https://www.nobuntu.co.za/company/about	Sponsor:: GaurdRisk life Ltd
13	Nuvalaw	Claims management	Netherlands, South Africa	http://www.nuvalaw.com/	No info provided
14	Outsurance	Digital distribution	Johannesburg	https://www.outsurance.co.za	FSP/Insurance
15	Pineapple Insurance	Peer-to-peer insurance	Johannesburg	https://www.pineapple.co.za/	FSP/Insurance
16	Riovic	Peer-to-peer insurance	Johannesburg	https://riovic.com/	No info provided
17	Root insurance	Digital distribution	Cape Town	https://root.co.za/about	Registered FSP
18	SELFsure	Peer-to-peer insurance	Istanbul Cape Town	http://selfsurance.co.za/	No info provided
19	Simply	Digital distribution	Cape Town	https://www.simply.co.za/	Sponsor: Old Mutual
20	Spookfish	Claims management	Johannesburg	http://spookfish.io/	No info provided
21	StockBox	Digital distribution		https://stockbox.xyz/	No info provided
22	Yalu	Digital distribution	Johannesburg	https://www.yalu.co.za/	Sponsor: Old Mutual

Fintech directory

	Investments segment				
No.	Name	Sub-segment	Location	Website	Licencing
1	4AX	Alternative exchange	Johannesburg	https://4ax.co.za/home	No info provided
2	A2X	Alternative exchange	Johannesburg	https://www.a2x.co.za/	No info provided
3	Affinity Mining	Cryptocurrency trading	Johannesburg	https://www.affinitymining.co.za/	Registered FSP
4	AvaTrade	Alternative exchange	Dublin Johannesburg	https://www.avatrade.co.za/	No info provided
5	Bitcoin.com	Cryptocurrency trading	Cape Town USA	https://www.bitcom.com/	No info provided
6	Caesium Capital	Retail trading	Johannesburg	https://caesiumcapital.com/	No info provided
7	chainex	Cryptocurrency trading	Kouga, Eastern Cape	https://chainex.io/about	No info provided
8	CoinBR	Cryptocurrency trading	Sao Paulo Cape Town	www.coinbr.net/	No info provided
9	Coindirect	Cryptocurrency trading	Cape Town	https://www.coindirect.com/za/	No info provided
10	Coreshares	Retail trading	Johannesburg	http://coreshares.co.za	Registered FSP
11	Easy Equities	Retail trading	Johannesburg	https://www.easyequities.co.za/	Registered FSP
12	Edcoin	Cryptocurrency trading	Johannesburg	https://www.ed-coin.io/	No info provided
13	IG trading	Retail trading	Johannesburg	https://www.ig.com/za	No info provided
14	Internet Currency Evolution (ice3X)	Cryptocurrency trading	Matlosana, North-West	https://ice3x.com/	No info provided
15	Itransact	Retail trading	Johannesburg	https://www.itransact.co.za/	Registered FSP
16	Luno*	Cryptocurrency trading	London Johannesburg	https://www.luno.com/	No info provided
17	NMRQL	Retail trading	Stellenbosch	https://nmrql.com/research/	Registered FSP
18	Project Ubu	Cryptocurrency trading	Johannesburg	https://www.projectubu.com/	No info provided
19	ProsperiProp	Cryptocurrency trading	Cape Town	www.prosperiprop.co.za	No info provided
20	Reality Africa	Alternative exchange		https://www.realtyafrica.com/	No info provided
21	VALR*	Crypto payments	United States	https://www.valr.com/about-us	No info provided
22	Wealth Migrate	Retail trading	London	https://www.wealthmigrate.com/	No info provided
23	ZarX	Alternative exchange	Johannesburg	https://www.zarx.co.za/	No info provided

Notes: * represents fintechs that are in more than one segment

	Financial Planning & Advisory segment				
No.	Name	Sub-segment	Location	Website	Licencing
1	22seven	Personal finance management	Cape Town	https://www.22seven.com/	Part of Old Mutual
2	Akiba Digital	Personal finance management	Johannesburg	www.akibadigital.com	No info provided
3	Arcus Capital	Robo advisory	Johannesburg	http://arcuscapital.co.za/	Sponsored: EasyEquities
4	Ctrl	Robo advisory	Paarl	https://www.takectrl.co.za/	Registered FSP
5	Diga Digital	Small business finance management	Johannesburg East London	https://www.diga.co.za/	No info provided
6	Fincheck	Robo advisory	USA	https://fincheck.com/	No info provided
7	FitMoney	Small business finance management		http://createoptimal.com/fitmoney.html	No info provided
8	MyTreasury	Robo advisory	Johannesburg	https://www.mytreasury.co.za/	No info provided
9	Outsurance outvest	Robo advisory	Centurion	www.outvest.co.za	Registered FSP
10	Pocketslip	Personal finance management	Paarl	https://www.pocketslip.com/	No info provided
11	Realty Wealth	Robo advisory	US	www.realtywealth.com	USA SEC
12	Smartmoney	Personal finance management	Johannesburg	https://smartmoney.co.za/	No info provided
13	SMEasy	Small business finance management	South Africa	https://www.smeasy.co.za/enza	No info provided
14	StriderTech	Small business finance management	Johannesburg	https://stridertech.co.za/	No info provided
15	TaxTim	Robo advisory	Cape Town	https://www.taxtim.com/za/	Registered FSP
16	The money school	Personal finance management		https://www.themoneyschool.co.za/tms/	No info provided
					No info provided

Fintech directory

No.	Capital Raising segment				
No.	Name	Sub-segment	Location	Website	Licencing
1	Candystick	Crowd investing	Cape Town	https://candystick.co.za/	No info provided
2	Fundfind	Crowd investing	Cape Town	www.fundfind.co.za	No info provided
3	Jumpstart	Crowd investing	Johannesburg	https://www.jumpstart.co.za/	No info provided
4	Live stock wealth (crowd investing)	Crowd investing	Johannesburg	https://www.livestockwealth.com/	No info provided
5	The People's Fund	Crowd investing	Johannesburg	https://thepeople.co.za/	No info provided
6	Thundafund (market place)	Crowd investing	Cape Town	https://www.thundafund.com/	No info provided
7	Uprise Africa	Crowd investing	Cape Town	https://uprise.africa/	Registered FSP
8	Yue Diligence	Due Diligence	Johannesburg	https://www.yuediligence.com/	No info provided
					No info provided

	B2B Tech providers segment				
	Name	Sub-segment	Location	Website	Licencing
1	Agrigate	Data applications	Japan??	https://www.agrigate.co.nz/	No info provided
2	Airvantage	White label platforms (solutions)	Johannesburg	https://www.airvantage.co.za/	No info provided
3	Altcoin Trader	Open infrastructure	Roodepoort	https://www.altcointrader.co.za/	No info provided
4	bankymoon	Open infrastructure	Johannesburg	http://bankymoon.co.za/	No info provided
5	Business Optics	Data applications	Johannesburg	https://www.businessoptics.biz/	No info provided
6	Causal Nexus	White label platforms (solutions)	Johannesburg	https://causalnexus.com/	No info provided
7	Compare Guru	Aggregators	Cape Town	https://compareguru.co.za/	Registered FSP
8	ConsenSys	White label platforms (solutions)	New York	https://consensys.net/	No info provided
9	Custos	Security & ID	Stellenbosch	https://www.custostech.com/	No info provided
10	Diga Digital*	Process automation	East London	https://www.diga.co.za/	No info provided
11	DocFox	Security & ID	Johannesburg	https://www.docfoxapp.com/?locale=en_ZA	No info provided

No.	B2B Tech providers segment				
No.	Name	Sub-segment	Location	Website	Licencing
12	Emerge Analytics	Data applications	Johannesburg	http://emergeanalytics.com/	No info provided
13	Entersekt	Security & ID	South Africa and presence Mauritius , London , Atlanta, Utrecht and Munich	https://www.entersekt.com/	No info provided
14	FinChatBot	White label platforms (solutions)	Johannesburg	https://finchatbot.com/	No info provided
15	Finfind	Aggregators	Durban	https://www.finfind.co.za	No info provided
16	FintecLabs	White label platforms (solutions)	Stellenbosch	https://www.fintec.group/	TPPP (PASA)
17	Flickswitch	Open infrastructure	Pretoria	https://www.flickswitch.co.za/	No info provided
18	Green Model	Process automation	Johannesburg	http://www.greenmodel.co.za/pilot	No info provided
19	Hippo.co.za	Aggregators	Johannesburg	https://www.hippo.co.za	Registered FSP
20	Ikwook	White label platforms (solutions)	San Francisco Johannesburg	https://www.ikwook.com/page/home	No info provided
21	ISpani Group	White label platforms (solutions)	Johannesburg	https://www.ispanigroup.co.za/	No info provided
22	iVeri	White label platforms (solutions)	Johannesburg	http://www.iveri.com	No info provided
23	Jumo*	Data applications	Cape Town	https://www.jumo.world/	No info provided
24	Kusasa Outsourcing	Process automation	Durban	https://www.kusasaoutsourcing.co.za/	No info provided
25	Liquid Thought	Data applications	Cape Town	http://www.liquidthought.co.za/	No info provided
26	MWR	Security & ID	Finland (head office), Sandton (local arm)	https://www.mwrinfosecurity.com/	No info provided
27	Nomanini	White label platforms (solutions)	Cape Town	https://www.nomanini.com/	No info provided
28	Ordercloud	White label platforms (solutions)	Stellenbosch	https://www.ordercloud.co.za/	No info provided
29	PayD	Security & ID		https://www.payd.net/	No info provided
30	RedBlade	Process automation	Cape Town	http://www.redblade.io/	No info provided
31	Rehive	White label platforms (solutions)	Cape Town	https://rehive.com/	No info provided
32	SASA Solutions	White label platforms (solutions)	Cape Town	http://sasa.solutions/	No info provided

Fintech directory

	B2B Tech providers segment				
No.	Name	Sub-segment	Location	Website	Licencing
33	Sense post	Security & ID	Pretoria	https://sensepost.com/ -	No info provided
34	ShareBits	Open infrastructure	Cape Town	https://sharebits.io/	No info provided
35	SovTech	White label platforms (solutions)	Johannesburg	https://sov.tech/	No info provided
36	Spatial edge	Data applications	Stellenbosch	https://www.spatialedge.co.za/	No info provided
37	Stanchion	Security & ID	Johannesburg	https://stanchionpayments.com/	No info provided
38	StriderTech*	White label platforms (solutions)	Johannesburg	stridertech.co.za/	No info provided
39	Tesseract	Security & ID	Cape Town	http://www.tesseractit.com/	No info provided
40	Thesl	Process automation	Cape Town	https://www.thesl.co.za/	No info provided
41	ThisIsMe	Security & ID	Cape Town	https://www.thisisme.com/	No info provided
42	Touch sides	Data applications	Johannesburg	http://www.touchsides.com/	No info provided
43	uAfrica.com	White label platforms (solutions)	Pretoria	https://www.uafrica.com/	No info provided
44	Veneka	White label platforms (solutions)	Johannesburg	https://www.veneka.com/	No info provided
45	WiCover	Aggregators	Johannesburg	https://wicover.co/	No info provided
46	Wizzit	White label platforms (solutions)	Johannesburg	http://www.wizzit-int.com/	No info provided

Several fintechs were found but were excluded from the sample due to not having an existing website or having any sign of existing operations.

Name	Segment	Sub-segment	Website
Bibby Apex	Lending	-	NO EXISING WEBSITE
BillsGaurd	Market support	Security & ID	NO EXISING WEBSITE
Cascade	Insurance	Digital distribution	NO EXISING WEBSITE
Creditable	Lending	-	NO EXISING WEBSITE
Decorum	Insurance	Digital distribution	NO EXISING WEBSITE
Everest ventures	Capital raising	-	NO EXISING WEBSITE
Gust Pay	Payments	Mobile wallet (closed loop)	NO EXISING WEBSITE
invoice exchange	Lending	Alternative lenders	NO EXISING WEBSITE
Isazi Consulting	Advisory	-	NO EXISING WEBSITE
Mulah Quick Ching	Lending	Alternative lending	NO EXISING WEBSITE
nanoCredits	Lending	alternative scoring	NO EXISING WEBSITE
Ploiter	Advisory	White label platforms	NO EXISING WEBSITE
Simplegive	Payments	-	NO EXISING WEBSITE
Sizanani stokvel club	Savings	-	NO EXISING WEBSITE
Slippy	Market support	Digital community savings	NO EXISING WEBSITE
Startme	Investments	-	NO EXISING WEBSITE

Notes: * represents fintechs that are in more than one segment

Organisations registered with PASA

	TPPPs	
No.	Bank	Institution
1	Absa Bank Limited	Pick 'n Pay Retailers (Pty) Limited
2	Absa Bank Limited	Touchstone Enterprise Services (Pty) Ltd
3	Absa Bank Limited	Ackermans A Division of Pepkor Trading (Pty) Ltd
4	Absa Bank Limited	Administrative Healthcare Solutions (Pty) Ltd
5	Absa Bank Limited	Afeleton Pty. Ltd
6	Absa Bank Limited	African Payments Solutions Ltd
7	Absa Bank Limited	All Encompassing Switching (Pty) Ltd
8	Absa Bank Limited	Altech Card Solutions, division of Altron TMT
9	Absa Bank Limited	Altech NuPay a division of Altron (Pty) Ltd
10	Absa Bank Limited	Badger Administration
11	Absa Bank Limited	Bay Payment Technology
12	Absa Bank Limited	bidorbuy (Pty) Ltd
13	Absa Bank Limited	Bitventure Consulting
14	Absa Bank Limited	BRIDGE COLLECTIONS
15	Absa Bank Limited	Buyisa Financial Services Cc
16	Absa Bank Limited	Capital Computer Bureau (Pty) Ltd
17	Absa Bank Limited	Capital Software Solutions Pty Ltd
18	Absa Bank Limited	Cigi Cell (Pty) Ltd
19	Absa Bank Limited	Clientele Life Assurance Company Ltd.
20	Absa Bank Limited	Collecnet Pty LTD

	TPPPs	
No.	Bank	Institution
21	Absa Bank Limited	Dataforce Trading 102 (Pty) Ltd.
22	Absa Bank Limited	DataOpt cc.
23	Absa Bank Limited	Debiti Data (Pty) Limited
24	Absa Bank Limited	Easydebit
25	Absa Bank Limited	EEZIPAY MANAGEMENT SYSTEMS PTY LTD
26	Absa Bank Limited	Emerge Mobile (RF) (Pty) Ltd
27	Absa Bank Limited	Finclude Technologies (Pty) Ltd
28	Absa Bank Limited	Fintec Labs (Pty) Ltd
29	Absa Bank Limited	Flash Mobile Vending (PTY) Ltd t/a Flash
30	Absa Bank Limited	Flexifusions (PTY) LTD.
31	Absa Bank Limited	Hyphen Technology (Pty) Ltd
32	Absa Bank Limited	Insure Group Managers Ltd.
33	Absa Bank Limited	Intelento
34	Absa Bank Limited	ISP CASH (PTY) Ltd
35	Absa Bank Limited	Iteiga Technologies (pty)LTD
36	Absa Bank Limited	Jarvis Solutions (PTY) Ltd.
37	Absa Bank Limited	Keyfleet Management Systems (Pty) Ltd
38	Absa Bank Limited	Kianga Trading (PTY) Ltd
39	Absa Bank Limited	Kingdom Administration (Pty) Ltd.
40	Absa Bank Limited	Maravedi Credit Solutions (Pty) Ltd

Organisations registered with PASA

	TPPPs	
No.	Bank	Institution
41	Absa Bank Limited	Massdiscounters (Pty) Limited
42	Absa Bank Limited	MCash South Africa Ltd.
43	Absa Bank Limited	MediKredit Integrated Healthcare Solutions (Pty) Ltd
44	Absa Bank Limited	Mobile Merchant (Pty) Ltd
45	Absa Bank Limited	MyGate Communications (Pty) Ltd
46	Absa Bank Limited	netUP
47	Absa Bank Limited	Ntsele Systems (Pty) Ltd
48	Absa Bank Limited	Opengate Technolgies
49	Absa Bank Limited	Pay At Services (Pty) Ltd
50	Absa Bank Limited	PayFast (PTY) Ltd.
51	Absa Bank Limited	Paysoft Pty. Ltd.
52	Absa Bank Limited	PayU Payment Solutions (Pty) Ltd
53	Absa Bank Limited	PEP A Division of Pepkor Trading (Pty) Ltd
54	Absa Bank Limited	Product Credit Solutions
55	Absa Bank Limited	ProPay (Pty) Ltd.
56	Absa Bank Limited	Property Payment Solutions
57	Absa Bank Limited	Q Link Holdings Pty Ltd
58	Absa Bank Limited	Q-Mart (Pty) Ltd.
59	Absa Bank Limited	Quandovax (Pty) Ltd.
60	Absa Bank Limited	Real Pay Marketing (PTY) Ltd.

	TPPPs	
No.	Bank	Institution
61	Absa Bank Limited	Rental Connect Pty Ltd
62	Absa Bank Limited	Retriever Fintech (PTY) Ltd.
63	Absa Bank Limited	Rock Solid Network cc
64	Absa Bank Limited	Saicom Payphones (Pty) Ltd
65	Absa Bank Limited	Sanceda Collections Services
66	Absa Bank Limited	Sanlam Life Insurance Limited t/a Multi-Data
67	Absa Bank Limited	Shoprite Checkers (Pty) Ltd
68	Absa Bank Limited	Smartec Technologies
69	Absa Bank Limited	Snappy (Pty) Limited
70	Absa Bank Limited	SOUTH AFRICAN PAYMENT EXCHANGE PTY LTD
71	Absa Bank Limited	Spazapp Systems (PTY) Ltd
72	Absa Bank Limited	Strata Healthcare Management (Pty) Ltd.
73	Absa Bank Limited	StratCol Ltd
74	Absa Bank Limited	Stratcol Premium Collections (Pty) Ltd.
75	Absa Bank Limited	Sureswipe Proprietay Limited
76	Absa Bank Limited	SWAP Mobile (Pty) Ltd
77	Absa Bank Limited	Talentbase (Pty) Ltd
78	Absa Bank Limited	TMT Services and Supplies (Pty) Ltd
79	Absa Bank Limited	Top it Up
80	Absa Bank Limited	Transaction Capital Payment Solutions (Pty) Ltd

Organisations registered with PASA

TPPPs		
No.	Bank	Institution
81	Absa Bank Limited	Union Life Limited
82	Absa Bank Limited	Virgin Money South Africa (Pty) Ltd
83	Absa Bank Limited	walletdoc (Pty) Ltd
84	Citibank N.A. South Africa Branch	Bidvest Merchant Services (Pty) Limited
85	FirstRand Bank Limited	2D South Africa (Pty) Ltd
86	FirstRand Bank Limited	ACB Link (Pty) Ltd.
87	FirstRand Bank Limited	Adchuuza (Pty) Ltd
88	FirstRand Bank Limited	AFRICOM ENTERPRISES (PTY) LTD
89	FirstRand Bank Limited	Alta Cash Management
90	FirstRand Bank Limited	Amari Property Management (PTY) LTD
91	FirstRand Bank Limited	AV THERON & SWANEPOEL ING
92	FirstRand Bank Limited	BANQLINK (PTY) LTD
93	FirstRand Bank Limited	BELLBUOY PTY LTD
94	FirstRand Bank Limited	BizAssist (PTY) LTD
95	FirstRand Bank Limited	BLUE DEBITS (PTY) LTD
96	FirstRand Bank Limited	Blue Label Distribution
97	FirstRand Bank Limited	Cenprop (Pty) Ltd
98	FirstRand Bank Limited	CENTBEE (PTY) LTD
99	FirstRand Bank Limited	Centric Net Solutions
100	FirstRand Bank Limited	Chaithoo (Pty) Ltd

TPPPs		
No.	Bank	Institution
101	FirstRand Bank Limited	CORPORATE AND INDUSTRIAL MOBILE SOLUTIONS(PTY) LTD
102	FirstRand Bank Limited	Crypto Fintech Solutions (PTY) LTD
103	FirstRand Bank Limited	Cybersmart Pty Ltd
104	FirstRand Bank Limited	DC PARTNER (PTY) LTD
105	FirstRand Bank Limited	Dynamic Human Capital Development (Pty) Ltd / Phillip
106	FirstRand Bank Limited	EasyPay (Pty) Limited
107	FirstRand Bank Limited	ENVISIONIT E-ESCROW (Pty) Ltd
108	FirstRand Bank Limited	Faircape Property Developers 1998\CC
109	FirstRand Bank Limited	Future Financial Logistics
110	FirstRand Bank Limited	GoldPrimeTime
111	FirstRand Bank Limited	Grayson Reed Consulting
112	FirstRand Bank Limited	Halo Management CC
113	FirstRand Bank Limited	HARVEST CHARTERED ACCOUNTANTS INC
114	FirstRand Bank Limited	HOLISTIC TECHNOLOGIES (PTY)LTD
115	FirstRand Bank Limited	HOWARD AND HARLEM AFRICA (PTY) LTD.
116	FirstRand Bank Limited	Hyper Solution Franchise And Trading
117	FirstRand Bank Limited	Hyphen Technology (Pty) Limited
118	FirstRand Bank Limited	Intellimali (Pty) Ltd.
119	FirstRand Bank Limited	JACK ALLERS FINANCIAL SERVICES CC
120	FirstRand Bank Limited	JALIA TECHNOLOGIES (PTY) LTD

Organisations registered with PASA

	TPPPs	
No.	Bank	Institution
121	FirstRand Bank Limited	Kardicks (Pty) Ltd
122	FirstRand Bank Limited	KIANGA TRADING PTY LTD
123	FirstRand Bank Limited	LinQpay (Pty) Ltd
124	FirstRand Bank Limited	Merville Property Administrators CC
125	FirstRand Bank Limited	MGK Operating Company (Pty) Ltd
126	FirstRand Bank Limited	MI DO CASH (PTY) LTD
127	FirstRand Bank Limited	My Card Account
128	FirstRand Bank Limited	MyGate Communications
129	FirstRand Bank Limited	NEVEX TECHNOLOGIES
130	FirstRand Bank Limited	NUBIZWEB CC
131	FirstRand Bank Limited	OTT MOBILE TECHNOLOGIES PTY LTD
132	FirstRand Bank Limited	OXIGIM
133	FirstRand Bank Limited	PAYM8 (Pty) Ltd
134	FirstRand Bank Limited	PAYWEB.CO
135	FirstRand Bank Limited	Phakama Administration Services (Pty) Ltd
136	FirstRand Bank Limited	Pro-OPT (Pty) LTD
137	FirstRand Bank Limited	PROFICIENT PROPERTY MANAGEMENT PTY LTD
138	FirstRand Bank Limited	Propell Sectional Title Solutions (Pty) Ltd
139	FirstRand Bank Limited	Quickching T/A Mulah
140	FirstRand Bank Limited	Reaction Information Technology Pty Ltd

	TPPPs	
No.	Bank	Institution
141	FirstRand Bank Limited	RENT PAY
142	FirstRand Bank Limited	Resolution Market Management (PTY) LTD
143	FirstRand Bank Limited	REYNARD AGENCIES CC
144	FirstRand Bank Limited	Ribca Trading (Pty) Ltd
145	FirstRand Bank Limited	Sandulela Technology (PTY) LTD
146	FirstRand Bank Limited	Selpal (Pty) Ltd
147	FirstRand Bank Limited	Setcom Pty Ltd
148	FirstRand Bank Limited	SIZA CAPITAL SA (PTY) LTD
149	FirstRand Bank Limited	Softy Comp (Pty) Ltd
150	FirstRand Bank Limited	Sueco Properties CC
151	FirstRand Bank Limited	Three Peaks Management (PTY) LTD
152	FirstRand Bank Limited	TRADERSVAULT FINANCIAL SERVICES (PTY)LTD
153	FirstRand Bank Limited	Transaction Capital Payment Solutions (Pty) Ltd
154	FirstRand Bank Limited	Urbanise Com (Pty) Ltd
155	FirstRand Bank Limited	Verge Technologies (PTY) Ltd
156	FirstRand Bank Limited	WSM Employee Benefit Administrators (Pty) Ltd.
157	Grindrod Bank Limited	Direct Transact (Pty) Ltd
158	Grindrod Bank Limited	Net 1 UEPS Technologies, Inc.
159	Mercantile Bank Limited	Dashpay (Pty) Ltd
160	Mercantile Bank Limited	EFT Administrators

Organisations registered with PASA

TPPPs		
No.	Bank	Institution
161	Mercantile Bank Limited	Iconaf Pty Ltd
162	Mercantile Bank Limited	INFOBOLT (PTY) LTD
163	Mercantile Bank Limited	Insure Group Managers Ltd
164	Mercantile Bank Limited	Linkserv
165	Mercantile Bank Limited	Mercantile Payment Solutions Pty Ltd
166	Mercantile Bank Limited	MHA Management Holdings Pty Ltd
167	Mercantile Bank Limited	PLATINUM LIFE (PTY) LTD
168	Mercantile Bank Limited	Proraiz Pty Ltd
169	Mercantile Bank Limited	Sage Pay Pty Ltd
170	Mercantile Bank Limited	Wirecard Africa Holdings (Pty) Ltd
171	Mercantile Bank Limited	YOCO Technologies (Pty) Ltd
172	Nedbank Limited	*ECOM INVESTMENT HOLDINGS (PTY) LTD
173	Nedbank Limited	AddPay Trust
174	Nedbank Limited	ADO Manufacturing (Pty) Ltd
175	Nedbank Limited	AH Financial Services
176	Nedbank Limited	Allxs Media Pty Ltd 2007/031085/07
177	Nedbank Limited	BUPHE INVESTMENT CORPORATIONS
178	Nedbank Limited	EasyPay Pty Ltd
179	Nedbank Limited	EDUCATION PAYMENT SOLUTIONS LTD PTY
180	Nedbank Limited	Fulcrum Collections Pty Ltd

TPPPs		
No.	Bank	Institution
181	Nedbank Limited	Hello Finance (Pty)Ltd
182	Nedbank Limited	i-Pay Secure Payment Pty Ltd
183	Nedbank Limited	IS-Administrators (Pty) Ltd
184	Nedbank Limited	Manny Gurran and Son's Pty Ltd
185	Nedbank Limited	National Payment Distribution Agency
186	Nedbank Limited	Net1 Applied Technologies South Africa (PTY) Ltd
187	Nedbank Limited	Net1 FIHRST Holdings (Pty) Ltd
188	Nedbank Limited	Payaccsys Services (Pty) Ltd
189	Nedbank Limited	PAYZ Net (Pty) Ltd 2019/023650/07
190	Nedbank Limited	PHAKAMA ADMINISTRATION SERVICE (PTY) LTD
191	Nedbank Limited	PWV INSURANCE BROKERS (PTY) LTD
192	Nedbank Limited	SA Payment Exchange Pty Ltd
193	Nedbank Limited	South African Bankers Services Company Proprietary Limited
194	Nedbank Limited	StratCol
195	Nedbank Limited	SwitchPay (Pty) Ltd
196	Nedbank Limited	Syntell (PTY) Ltd
197	Nedbank Limited	Ziyabuya Staffing Solutions (Pty) Ltd
198	Sasfin Bank Limited	Face value ZA Credits (Pty) Ltd
199	Sponsored non-bank by ABSA	Nomad Information Systems
200	The South African Bank of Athens Limited	Direct Transact (Pty) Ltd

Organisations registered with PASA

	TPPPs	
No.	Bank	Institution
201	The South African Bank of Athens Limited	MasterCard South Africa
202	The South African Bank of Athens Limited	Tutuka Global Prepaid Card Processor
203	The South African Bank of Athens Limited	Visa CEMEA South Africa
204	The Standard Bank of SA Limited	Compendium Insurance Brokers (Pty) Ltd
205	The Standard Bank of SA Limited	Consumer PDA Pty Ltd
206	The Standard Bank of SA Limited	CPI Corporate Payroll Institute
207	The Standard Bank of SA Limited	DMC Debt Management (Pty) Ltd
208	The Standard Bank of SA Limited	Easy Debit Payment Solution (Pty)Ltd
209	The Standard Bank of SA Limited	Ecentric Payment Systems
210	The Standard Bank of SA Limited	Eezipay Management Systems Pty Ltd
211	The Standard Bank of SA Limited	Group Collect (Pty)Ltd
212	The Standard Bank of SA Limited	IMB Financial Services (Pty) Ltd
213	The Standard Bank of SA Limited	NET 1 FIHRST Holdings (Pty) Ltd
214	The Standard Bank of SA Limited	ONTEC SYSTEMS (PTY) LTD
215	The Standard Bank of SA Limited	PayCycle
216	The Standard Bank of SA Limited	Sage Pay (Pty) Limited
217	The Standard Bank of SA Limited	Stero Cash
218	The Standard Bank of SA Limited	Transaction Capital Payment Solutions (Pty) Ltd

	SOs	
No.	Institution Name	Payment Streams
1	Africawide Technology	ATM
2	ALL ENCOMPASSING SWITCHING PTY(LTD)	AEDO, NAEDO, Cheque, EFT Credit, EFT Debit, RTC
3	Altech Card Solutions a division of Altron TMT (Pty) Ltd	Credit Card, Debit Card, EFT Credit, Other
4	Altech NuPay, a division of Altron TMT (Pty) Ltd	AEDO, NAEDO, EFT Credit, EFT Debit
5	ATM Solutions a division of Paycorp Group (Pty)Ltd	ATM, Credit Card, Debit Card
6	BANQLINK (PTY) LTD	EFT Credit, EFT Debit
7	Bridge Collections (Pty) Ltd	NAEDO
8	Business Connexion (Pty) Ltd	Credit Card, Debit Card, Other
9	Callpay South Africa	Credit Card, Debit Card, Other
10	Capital Computer Bureau (Pty) Ltd	NAEDO, EFT Credit, EFT Debit
11	Capital Software Solutions Pty Ltd	AEDO, NAEDO, EFT Credit, EFT Debit
12	Clarendon Transport Underwriting Managers (Pty) Lt	AEDO, NAEDO, EFT Credit, EFT Debit
13	Club Leisure Development (Pty) Ltd	NAEDO
14	CollectNet Pty Ltd	EFT Credit
15	CRISIS QUANT DEBIT SERVICES (PTY) LTD	EFT Credit, EFT Debit
16	CYPHER BUSINESS SOFTWARE CC	NAEDO, EFT Credit, EFT Debit
17	Direct Transact (Pty) Ltd	ATM, NAEDO, Credit Card, Debit Card, EFT Credit, EFT Debit
18	DMC Debt Management (Pty) Ltd	NAEDO, EFT Credit, EFT Debit, Other
19	EASY DEBIT PAYMENT SOLUTIONS (PTY) LTD	AEDO, NAEDO
20	EasyPay (Pty) Limited	Credit Card, Debit Card

Organisations registered with PASA

	SOs	
No.	Institution Name	Payment Streams
21	Ecentric Payment Systems (Pty) Ltd	ATM, Credit Card, Debit Card, EFT Credit, EFT Debit, Other
22	EFTPOS, a division of Paycorp Group (Pty) Ltd	EFT Credit
23	eTranzact Global South Africa	Other
24	EXXARO RESOURCES LIMITED	EFT Debit
25	FIDELITY SECURITY (PTY) LTD	Other
26	Fintec Labs (Pty) Ltd	NAEDO, EFT Credit, EFT Debit, RTC, Other
27	FLUTTERWAVE TECHNOLOGY SOLUTIONS	Credit Card, Debit Card, EFT Credit, EFT Debit, Other
28	FNDS3000 (PTY) LTD	Debit Card
29	G4S Cash Solutions (SA) (Pty) Ltd	Other
30	HYPHEN Technology (Pty) Limited	NAEDO, Credit Card, EFT Credit, EFT Debit, RTC
31	i-Pay Secure Payment Proprietary Limited	EFT Credit
32	IMB Financial Services PTY Ltd	EFT Credit, EFT Debit
33	Incatorque (Pty) Ltd	EFT Credit
34	Information Technology Consultants (Pty) Ltd	ATM, AEDO, NAEDO, EFT Credit, EFT Debit, Other
35	Innervation Value Added Services (PTY) Ltd	Credit Card, Debit Card
36	Integrated Processing Solutions (Pty) ltd IPS	Cheque, EFT Credit
37	Internet Filing Trading as Interfile Pty Ltd	EFT Credit, EFT Debit
38	Kianga Trading (Pty) Ltd	NAEDO, EFT Credit, EFT Debit
39	Mastercard Southern Africa Pty Ltd	Cheque, Credit Card, Debit Card, Other
40	Mercantile Payment Solutions Pty Ltd	NAEDO, EFT Credit, EFT Debit, Other

	SOs	
No.	Institution Name	Payment Streams
41	MMI Health (Pty) Ltd	EFT Credit, EFT Debit
42	Mobipaid Pty Ltd	Credit Card, Debit Card
43	MyGate Communications	Credit Card, EFT Credit, EFT Debit
44	Net1 FIHRST Holdings (Pty) Ltd t/a FIHRST Management Services	EFT Credit, EFT Debit
45	netUP	Bureaux
46	Network International Payment Services	Credit Card, Debit Card, Other
47	Nevex Technologies	ATM, EFT Credit
48	Nomad Information System	Credit Card, Debit Card, Other
49	NuDebt Management (Pty) Ltd	NAEDO, EFT Debit
50	O'KEEFFE AND SWARTZ BPO (Pty) Ltd	AEDO, NAEDO, EFT Credit, EFT Debit
51	Olympus Mobile (Proprietary) Limited	ATM, AEDO, NAEDO, Credit Card, Debit Card, EFT Credit, EFT Debit, RTC
52	Pattern Matched Technologies (Pty) Ltd	EFT Credit, RTC, Bureaux
53	Pay At Services (Pty) Limited	EFT Credit, EFT Debit, Other
54	Payaccsys Services (Pty) Ltd	NAEDO, EFT Credit, EFT Debit
55	Paycorp Group (PTY) Ltd	ATM
56	Paycorp VAS (Pty) Ltd	EFT Credit
57	PayGate (Pty) Ltd	Credit Card
58	Paym8 (Pty) Ltd	NAEDO, Credit Card, EFT Credit, EFT Debit
59	Payon (Pty) Limited t/a PAYLINE	Credit Card, Debit Card
60	Paysoft (Pty) Limited	NAEDO, EFT Credit, EFT Debit

Organisations registered with PASA

	SOs	
No.	Institution Name	Payment Streams
61	Payteq (PTY) LTD	EFT Credit, EFT Debit, RTC
62	PayU Payment Solutions (Pty) Ltd	Credit Card, Debit Card, EFT Credit, EFT Debit
63	Peach Payment Services (Pty) Ltd.	Credit Card, Debit Card
64	PEXSA	Bureaux, Other
65	Platinum Life	NAEDO, EFT Debit
66	PRODUCT CREDIT SOLUTIONS (PTY) LTD	NAEDO, EFT Credit, EFT Debit
67	Profile Corporate Services (Pty) Ltd	EFT Credit, EFT Debit
68	Q LINK Holdings (Pty) Ltd	NAEDO, EFT Debit
69	Real Pay Payment Solutions Pty Ltd	NAEDO, EFT Credit, EFT Debit
70	Retriever Fintech (Pty) Ltd	NAEDO, EFT Credit, EFT Debit
71	Sage Pay (Pty) Ltd	NAEDO, Credit Card, EFT Credit, EFT Debit
72	Sanlam Life Insurance Limited t/a Multi-Data	NAEDO, EFT Credit, EFT Debit, RTC
73	SBV Services (Pty) Ltd	EFT Credit
74	Setcom (Pty) Ltd	Credit Card, EFT Credit
75	SmartPurse Solutions (Pty) Ltd	Debit Card
76	Softy Comp	NAEDO, EFT Credit, EFT Debit
77	South African Bankers Services	Cheque, Other
78	South African Payment Exchange (Pty) LTD	NAEDO, EFT Credit, EFT Debit
79	Spark ATM Systems (PTY) LTD	ATM
80	StratCol Limited	NAEDO, Credit Card, EFT Credit, EFT Debit

	SOs	
No.	Institution Name	Payment Streams
81	Sureswipe	Credit Card, Debit Card
82	SureSystems (Pty) Ltd	AEDO, NAEDO
83	The One sp (Pty) Ltd	EFT Credit, RTC, Other
84	Three Peaks Management (Pty) Ltd	EFT Credit, EFT Debit
85	Transaction Capital Payment Solutions	NAEDO, EFT Credit, EFT Debit
86	Transaction Junction (Pty) Ltd	ATM, Credit Card, Debit Card
87	Trustlink	Bureaux
88	Tsogatec (Pty) Ltd	Credit Card
89	Tutuka Software (Pty) Ltd	Debit Card, Other
90	Waxed Mobile Payments (Pty) Ltd	EFT Credit
91	WeconnectU PTY LTD	EFT Credit, EFT Debit
92	Wirecard Africa Holdings (Pty) Ltd	Credit Card, Debit Card, Other
93	Xago Technologies(Pty) Ltd	EFT Credit, EFT Debit
94	XLink Communications (Pty) Ltd	Credit Card, Debit Card, Other
95	YoMane (Pty) Limited	Other

Cryptocurrency market players

No.	Organisation Name	Sub-segment	Location	Website
1	Affinity Mining	Crypto currency trading	Johannesburg	https://www.affinitymining.co.za/
2	Bitcom.com	Crypto currency trading	SA	https://www.bitcom.com/
3	BitPesa	Crypto-payments	SA	https://www.bitpesa.co/
4	CentBee	Crypto-payments	USA, SA	https://www.centbee.com/
5	chainex	Crypto currency trading	SA	https://chainex.io/about
6	CoinBR	Crypto currency trading	Brazil, SA	www.coinbr.net/
7	coindirect	Crypto currency trading	SA	https://www.coindirect.com/za/
8	Cubebucks	Crypto-payments	UK, SA	http://cubebucks.com/
9	Dash	Crypto-payments	International, SA	https://www.dash.org/
10	Edcoin	Cryptocurrency trading	International, SA	https://www.ed-coin.io/
11	Internet Currency Evolution (ice3X)	Cryptocurrency trading	International, SA	https://ice3x.com/
12	Luno*	Cryptocurrency trading	UK, Singapore, SA	https://www.luno.com/
13	Luno*	Crypto payments	UK, Singapore, SA	https://www.luno.com/
14	Project Ubu	Cryptocurrency trading	Johannesburg, Cape Town	https://www.projectubu.com/
15	ProsperiProp	Cryptocurrency trading	Canada, SA	www.prosperiprop.co.za
16	VALR	Crypto payments	United States	https://www.valr.com/about-us