RMB

Traditional values. Innovative ideas.

THE SA FINTECH IN MOTION REPORT

2019

CONTENT MAP

FOREWORD

When one thinks about FinTech disruption, it is often Silicon Valley or downtown London that comes to mind, and searches for FinTech opportunities rarely highlight South African entities.

At RMB FOUNDeRY we wanted to change that perception.
As a proudly South African bank, that has partnered with South African FinTechs, we wanted to shine a light on the ecosystem we work within and the players within it. In our work with corporate clients, we often see opportunities for collaboration and as we strive to continue providing innovative products and innovative services, we saw a gap in bringing client needs and the ecosystem closer together.

This paper looks at who the FinTech players are in South Africa as well as the ecosystem in which they operate. Our aim is to encourage partnership and growth in this important emerging sector of the economy as well as to celebrate the innovation and entrepreneurship that South Africa is so famous for. I hope that not only will you find this paper illuminating, but that you will enjoy it.

Liesl Bebb - McKay
Former Head of RMB FOUNDeRY

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EXECUTIVE SUMMARY

Disruption is a term that's become synonymous with the currents of change sweeping financial services as society becomes further embedded in the fourth industrial revolution. This is the narrative plaguing entrenched businesses everywhere - when will we be disrupted? South Africa is no exception.

With the emergence of FinTech start-ups and challenger banks, the South African financial services sector is undergoing rapid change in the face of increased technological adoption and the accompanying consumer demand for better, more affordable products and services. Most of this disruption has been in the retail banking sector, but the threat to investment banking and capital markets is imminent.

From all the findings we collected over the course of writing this paper, what was most striking was the lack of access to adequate funding reported by most FinTech start-ups, despite having seemingly solid business fundamentals in place. Couple this with South Africa's unique geographical and macroeconomic climate, the local FinTech landscape presents a steep and rocky facade to anyone attempting to summit, be they challenger or incumbent.

We also noted that most of the founders of these businesses were in their mid-to-late-thirties, with five to ten years of field experience within the formal economy, who are creating new ventures almost exclusively within their respective domains of expertise. The reasons for these factors include the need to accumulate capital over time through formal employment, as well as learning the myriad financial and/or technological competencies required to become competitive in one of South Africa's most advanced and complex sectors.

03

INTRODUCTION

Photo by Alex Siale on Unsplash

The purpose of this paper is to gain a better understanding of South Africa's FinTech landscape and to identify the key players in this ecosystem. We want to showcase those who are innovating and changing the face of financial services.

We have tried to highlight the level of disruption in financial services and collaboration opportunities not only for banks and financial institutions, but for our clients as well.

Our approach to conducting the research which we used to inform our findings and position included interviews with all major players in the ecosystem, informal coffee chats and surveys, as well as drawing on other research tools and papers. During this time, we engaged with over 100 local entities, spanning the entire FinTech capability offering and value chain.

Our interviews with local start-ups offered us many insights into ways of work and the lay-of-the-land, which we hadn't before considered. What was pleasantly surprising was the willingness of these start-ups to engage with us and share information about their journeys and a few of the challenges they have faced along the way. The businesses we interviewed were in various stages of maturity and success and provided many interesting insights into the operational and strategic specificities surrounding SA FinTech start-ups.

In the next chapter, we begin with a presentation of the SA FinTech landscape — who's who and who's playing where. We then discuss the various capabilities on offer and the verticals involved in the FinTech sector. Finally, we present the findings and insights we have gleaned as a result of our efforts.

> *"The internet was a threat until the internet became a part of the way we do things."*
>
> ***- Paulo dos Santos,***
> *CTOO at Rand Merchant Bank*

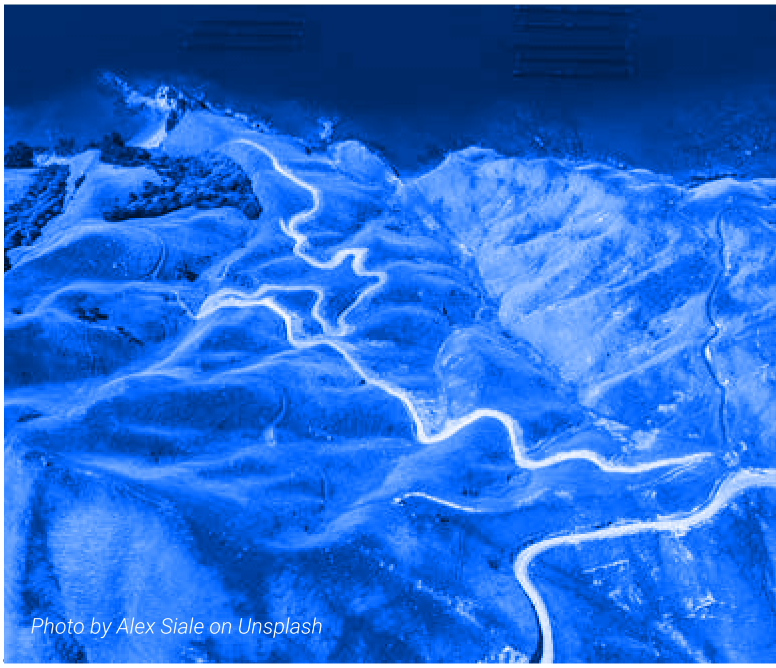


Photo by Alex Siale on Unsplash

04

SA FinTech ECOSYSTEM

Photo by Kristo Vedenoja on Unsplash

SOUTH AFRICAN FINTECH ECOSYSTEM

South Africa has a flourishing FinTech industry underpinned by a sophisticated and supportive ecosystem. Through our analysis, we explore the South African FinTech landscape by understanding the key players, the various funding sources available to entrepreneurs and the challenges these entrepreneurs face in a relatively uncharted space.

Some of our key observations include:

- A clearly defined start-up ecosystem with multiple players across capabilities.
- Players are part of a sophisticated community, which seems to leverage each other and collaborate extensively.
- Community is supported by regular events, meet-ups and pitch evenings, which give entrepreneurs, FinTechs and start-ups the necessary platform to enable expansion and growth within this community.
- There is a misconception around collaboration and partnerships with banks. Both parties need to be willing participants for this to be a mutually beneficial engagement. FinTechs gain exposure, governance, access to client base and scalability where banks gain innovative thinking, a new way of providing financial services and a solution built with a high user experience focus.

4.1 South African FinTech Landscape

We conducted our research through a series of interviews, meetings, leveraging shared internal databases and external data providers in both Cape Town and Johannesburg (Figure 1). However, while this represents the FinTech landscape, it is not an exhaustive list but rather a sample based on sources we consulted in December 2018.

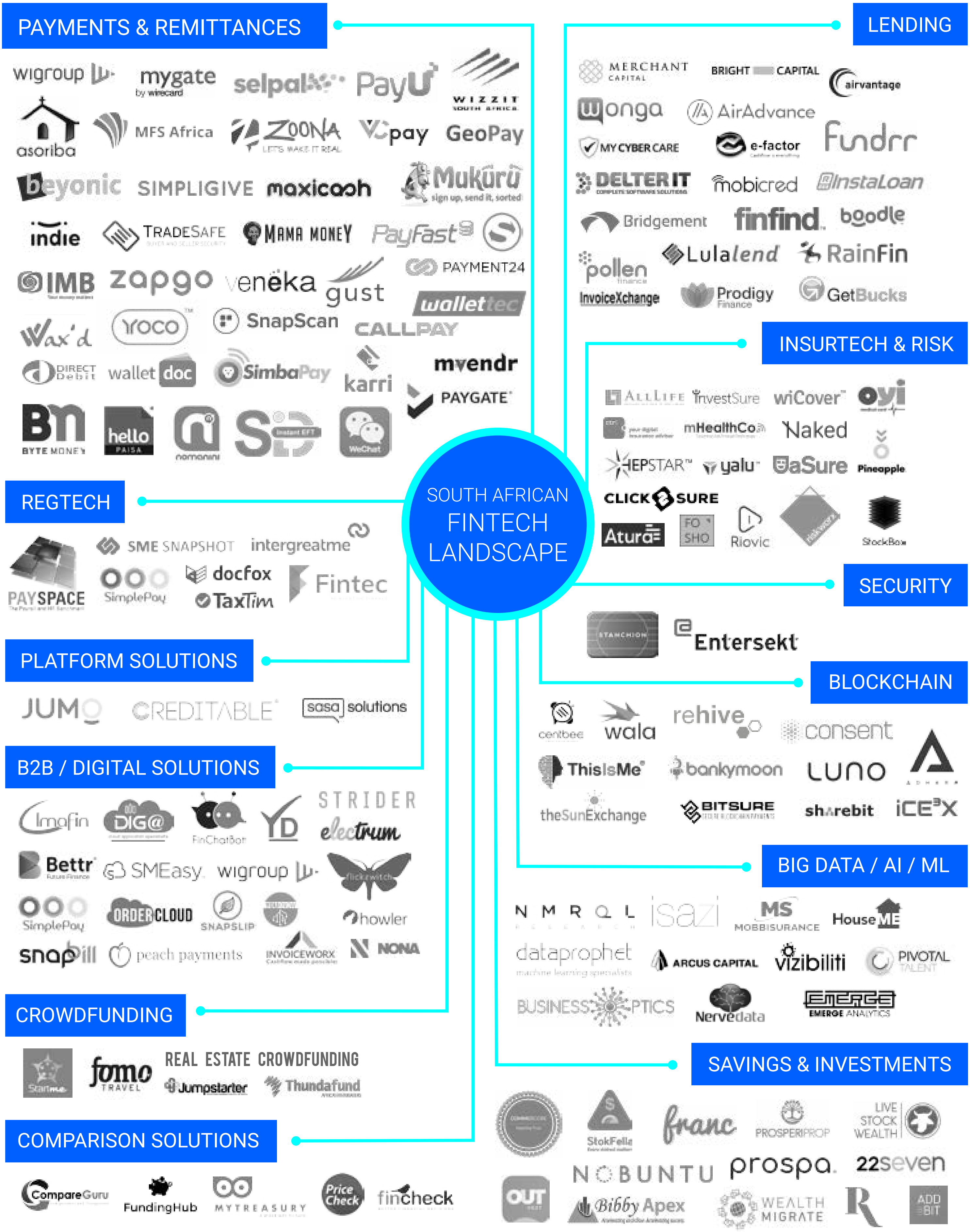


Figure 1: South African FinTech landscape (Source: Amended from Ventureburn.com, 2018, RMB).

4.2 FinTech Ecosystem Players

When examining the FinTech ecosystem (Figure 2), the key players are evident. The ecosystem is still forming and there are a few players in each category which allows for growth and opportunities for new entrants.

In our opinion, we see the role of academic incubators becoming more prominent and believe they will provide the ideas, future skills and young entrepreneurs to the ecosystem.

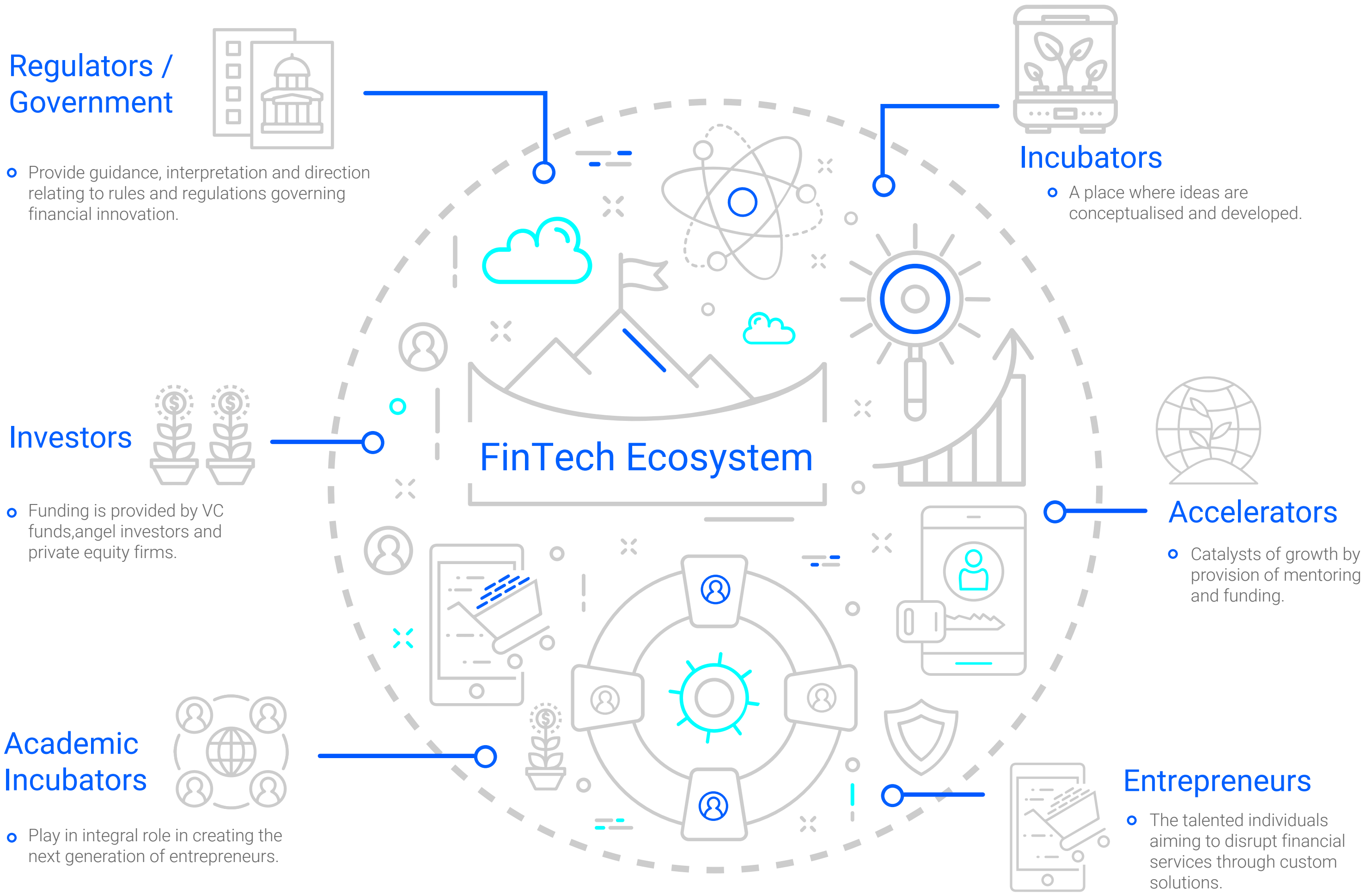


Figure 2: SA FinTech Ecosystem (Source: RMB)

Characteristics of FinTech founders

LinkedIn is the most popular professional social media network in the world (Gromek, 2018). As of September 2017, the number of reported LinkedIn users in South Africa was 6.1 million (Businesstech, 2017). Data was gathered from the LinkedIn profiles of 90 South African FinTech company founders to determine the statistics shown in the infographic below in Figure 2.1.

Key statistics which stand out are the average age of FinTech founders in South Africa, which is older than expected and the previous industry which these founders came from before starting their companies being financial services.

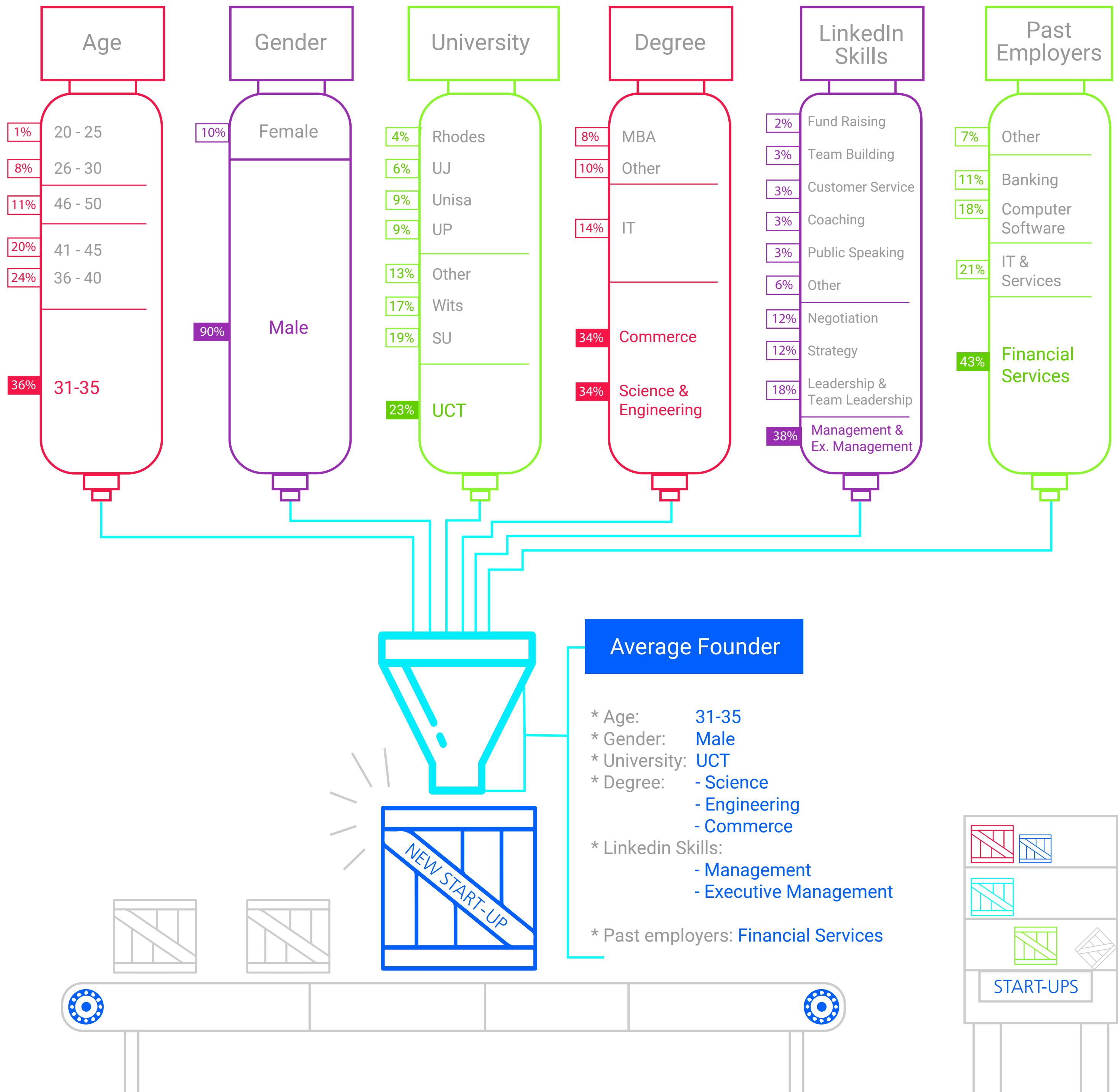


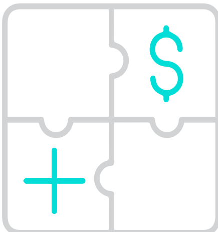
Figure 2.1: Characteristics of FinTech Funders (Source: RMB).

Incubators and Accelerators

Incubators and Accelerators offer entrepreneurs myriad services and opportunities to support the growth and development of the entrepreneurs and their business. These services include: creating a community of entrepreneurs who are able to engage with each other and potentially leverage each other's ideas, expertise and the creation of network opportunities through events and providing entrepreneurs with exposure to their network of investors. Although incubators and accelerators are sometimes used interchangeably, there are distinct differences between the two.

An **incubator** supports start-ups by offering services ranging from mentorship and training to office space. They help start-ups develop their business ideas and often end up owning a significant amount of equity in the resulting company (Forrest, 2017).

> *"Over the last 4 years we have probably looked at 200 businesses. We have looked at a lot of payment businesses, a lot of challenger banks and a lot of lending start-ups."*
>
> ***- Dominique Collett,***
> *FinTech investment specialist at RMI Holdings*



Spotlight

Bandwidth Barn - which forms part of the Cape Innovation and Technology Initiative (CiTi), is a non-profit organisation focused on boosting the Western Cape's technology sector by offering an incubation and co-working space for tech-enabled businesses to grow and connect.

Besides access to working spaces, meeting and event room facilities, they also provide expert business mentorship.

The Barn has incubated over 100 start-ups so far and offers a number of skills development and entrepreneurial programmes. While the incubator component has a FinTech cluster, they also focus on EduTech, BioTech, gaming and data initiatives.

Another well-known incubator is **MEST (Meltwater Entrepreneurial School of Technology)**, a non-profit, seed-fund incubator offering shared workspaces for start-ups and entrepreneurs to connect and collaborate. They currently operate in four sub-Saharan markets: South Africa, Ghana, Côte d' Ivoire, Nigeria and then also in India. Their tech training programme is aimed at entrepreneurs and entails full sponsorship and mentorship.

The programme is an intensive MBA-style course based in Ghana and run over a year. By the end of the programme, the participants can pitch to a panel of investors, potentially receive seed funding and enter the MEST incubator.

Accelerators specialise in supporting early-stage growth-driven companies through various means including education, mentorship and financing. The start-ups enter the accelerator for a fixed period and through a process of intense, rapid and immersive education the life-cycle of their companies is accelerated (Hathaway, 2016). There are several accelerators in the SA start-up ecosystem: SW7, The Founders Institute, Grindstone, Innotech and Techstars, each of which have identified areas of innovation to specialise in, for example, HealthTech, FinTech, IoT etc. Accelerators play a critical role in the development of a start-up; they are a support system in terms of mentoring and business model advice.

FinTechs

These are the entrepreneurial disruptors who have honed in on a consumer pain point and have developed a simple solution which eliminates the friction experienced in traditional financial services processes. In the FinTech space, we have noticed that most entrepreneurs are tackling retail payments and remittances as they:

- address financial inclusion;
- provide basic financial services to the unbanked;
- make payments and the money transfer process simpler and less pricey.

Most of the proposed solutions have addressed the perceived inefficiencies of the retail banking sector and focus on solving real pain points by using digitised solutions with a great user experience.Through our research and interviews, we met entrepreneurs who had incredible ideas and offerings.

A few of our findings indicate that:

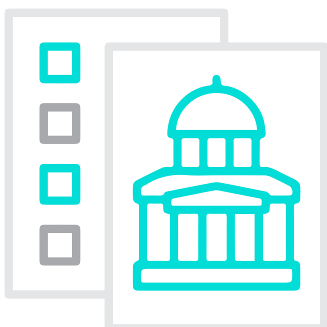
- the majority of start-ups had built their products and/or service offering with a relatively small team of between two and five employees;
- most were bootstrapped; and
- the more established start-ups, i.e. have a product and have a client base and have some funding, were looking for a strategic business partner and were wanting to partner with a bank or large corporation to enable their business to scale up.

Spotlight

AlphaCode - Networking organisations act as matchmakers between start-ups, investors and other stakeholders in the industry (Coetzee, 2017). For example, AlphaCode, which launched in 2015, came about when Rand Merchant Investment Holdings (RMI) recognised that the core business of its underlying portfolio companies was being threatened by disruptive ventures (AlphaCode, 2018).

AlphaCode unlocks the growth in FinTech start-ups by promoting their access to resources and events. It offers FinTech companies a co-working office space and members have access to industry thought-leaders, insightful events, networking and investment opportunities (AlphaCode, 2018).

> *I see myself working with the FinTechs, not against them.*
>
> ***- Paulo dos Santos,***
> *CTOO at Rand Merchant Bank*



Spotlight

Mama Money - Mama Money is a peer-to-peer (P2P) money transfer service that tackles the high cost of international money transfer to and within Africa. It currently operates in ten countries by using retail cash points to send money to customers' mobile wallets.

Mama Money has a network of around 1,000 agents in local communities who distribute the company's products and sign-up and onboard customers.

Academic incubators

An interesting addition to the ecosystem is academic incubators. While some incubators offer some form of entrepreneurial programme (some are more formal than others), they tend to be run through accredited tertiary institutions.

Spotlight

UCT GSB Solutions Space

UCT GSB Solutions Space runs a programme focused on inclusive innovation to assist Masters' students build viable and scalable businesses. The Solutions Space provides a co-working space, mentorship opportunities, business model assistance and securing funding from existing venture capital firms (VCs) and angel networks for the students.

We have also observed the emergence of specialised academic incubators. For example, the Blockchain Academy, which provides over 13 different blockchain courses, spanning various skill levels. The courses are available on an individual and corporate education basis.

Another example is the Explore Data Science Academy. Students are taught relevant data science skills through a formal programme and they apply what they have learnt to real world problems.

Co-working spaces

The first official co-working space opened its doors in San Francisco in 2005 as a reaction to "unsocial" business centres and the unproductive work-life balance of a home office (Foertsch & Cagnol, 2013).These working spaces have now become an integral part of the start-up community as they provide a well-designed space and facilities for start-ups wanting to scale their businesses. They offer a multitude of benefits such as flexible rental arrangements that vary from month-to-month options to day passes.

Co-working spaces have become a place for entrepreneurs to engage, facilitate meetings with investors or even collaborate with other entrepreneurs who have complimentary products /service offerings.

Spotlight

A few prominent co-working spaces in SA include:

Seedspace Cape Town – Seedspace is part of a global organisation and have implemented the same model in over 10+ locations across the world. What makes them unique is that they offer a co-living space facility for entrepreneurs at selected locations.

Workshop 17 – Located in Cape Town's Waterfront district, Workshop 17 offers entrepreneurs a modern office setting and co-working area surrounded by panoramic views of the mother city. They offer 120 hot desks and dedicated seats as well as meeting room facilities which are available to all members.

Blockstarters - is an incubator which focusses on assisting cryptocurrency and blockchain start-ups from around the world to scale their businesses. They have an extensive network which extends to Silicon Valley and Shanghai and this enables them to connect entrepreneurs to mentors, investors and to foreign investment.

Investors

Funding underpins this ecosystem and is key in the growth and expansion of the FinTech landscape. There are a number of funding sources available, some traditional and some that have emerged to support these non-traditional financial innovators. Our observations are that although there are clear sources available, not all entrepreneurs know where or how to access this funding.

Venture Capital Investment

This form of financing is provided to entrepreneurs that are in start-up and early growth phases. The risk involved in these deals is typically high for these investors. The South African venture capital sphere, although small compared to its international counterparts, still invests millions in deals annually (SAVCA, 2017). Top SA VC funds can be seen in Figure 2.2 below.

Spotlight

sa sme FUND

SME Fund - The SA SME Fund is a VC fund that was established by members of the CEO Initiative as an avenue of support for Small and Medium Enterprises (SMEs) (SA SME Fund, 2018). The CEO Initiative is a collaboration between the government, labour and business to address some of the most pressing challenges to South Africa's economic growth.

To date the fund has raised R1.4 billion to invest in SMEs of which R720 million has been committed and a further R520 million is to be committed before August 2019.

Figure 2.2: Top South African Venture Capital Funds (Source: Coetzee, 2017).

Angel investors

Angel investors are generally high-net-worth individuals who invest their personal funds as capital to start-ups in exchange for equity. According to the South African Venture Capital and Private Equity Association (SAVCA) angel investors disclosed 112 deals worth a total of R122 million during the period from 2014 to 2016 (SAVCA, 2017). Similar to venture capitalists, angel investors identify potential in businesses or entrepreneurs and they expect high returns in return for what is a high-risk investment.

Private equity firms

Private equity firms differ from VC funds in that the financing they offer is intended for a different purpose. As opposed to the seeding and development capital provided by VC firms, private equity firms focus more on offering growth capital to businesses. They concentrate on established, mature businesses and, in the context of the FinTech ecosystem, they tend to identify businesses with a fully functional product or service with an established client base.

Spotlight

South African tech start-up private equity space players -
Ethos Private Equity, Acorn Equity, Horizon Equity, Sasfin Private Equity, Kagiso Tiso Holdings and Capital Eye Investments Limited.

The private equity component of Kagiso Tiso Holdings focuses on Black Economic Empowerment (BEE)(Coetzee, 2017).

> *"In South Africa a start-up is considered a business that is generating revenue. The issue that you have is that we don't have enough people that understand early stage risk."*
>
> ***- Dominique Collett,*** *FinTech investment specialist at RMI Holdings*

Regulators

Regulators play an integral role in the growth, expansion and longevity of entrepreneurial FinTech ecosystem. While we are entering the fourth industrial revolution, it has become increasingly important to embrace digital transformation across all industries. Governments have to provide the economic, political and regulatory environments for the innovation that is required to effect this digital transformation.

Globally, we've seen regulators in the UK and Singapore pave the way for FinTech entrepreneurs through the creation of specialised programmes and sandboxes. The Monetary Authority of Singapore has set up a dedicated organisation that solely focusses on showcasing FinTech entrepreneurs to a global network of corporations with the hope of fostering partnerships.

In South Africa, our Reserve Bank has also embarked on offering a specialised FinTech programme with the aim of assessing the extent of innovation in this space and the potential regulatory implications. It has played a key role in Project Khokha, the first payments experiment to use distributed ledger technology, and continues to collaborate with banks and other financial institutions (FIs) to conduct further use cases related to this technology.

In addition to the SARB's support, there are a number of other enablers within the governmental framework which we feel allow for the expansion and support required for this ecosystem to flourish:

- The Small Enterprise Development Agency (Seda), launched by The Department of Small Business Development, offers support to small and micro enterprises. Seda also has a specific technology programme that provides funding to a network of business incubators.
- The Department of Trade and Industry has multiple programmes tailored to boost the country's economy. The Support Programme for Industrial Innovation (SPII) and the Technology and Human Resources Programme (Thrip) both provide grant funding to help entrepreneurs and support local innovation initiatives.
- The 12J Venture Capital tax incentive, which is administered by the South African Revenue Service (SARS), offers investors in qualifying venture capital companies (VCCs) the right to write off the full investment made in any one year from their taxable income (Timm, 2017).

"...our Reserve Bank has also embarked on offering a specialised FinTech programme with the aim of assessing the extent of innovation in this space and the potential regulatory implications..."

For us, the benefits which could be realised extend far beyond innovation in the financial services industry. With the correct level of commitment from government and regulators, we could see an influx of new businesses, job creation, greater economic activity, attraction of foreign investment and the potential to grow the next generation of entrepreneurs in this sector.

4.3 FUNDING STAGES

Securing financing, while challenging, is essential to any start-up as time, working capital and other resources (talent, infrastructure, legal structures etc.) are required to take an idea from concept to commercialisation.

There are various funding stages that are normally differentiated by the source of financing received and the start-up's level of business maturity. Typically, there are five stages of funding, each with their own purpose and importance.

5 STAGES OF FUNDING:

PRE-SEED

The start-up's idea is still conceptual and the founders need funds that allow them to focus on the research and development of their concept full-time (Ghosh, 2017).

This stage is typically funded by angel investors, accelerators and the three Fs (family, friends and fools) (Novoa, 2017).

SEED FUNDING

The start-up gains momentum and moves from concept to tangible product (Ghosh, 2017). The main source of funding at this stage would once again be angels, but this time adding crowdfunding platforms and early-stage VC firms to the mix (Novoa, 2017).

This is normally the most critical stage in the start-up lifecycle as the product/service offering is brought to life, starts to generate revenue or develops a customer base.

SERIES A FUNDING

The business is in its growth phase, has figured out the finer details of its product, the size of the market and needs capital to establish a business model (Novoa, 2017). This stage's financing is dominated by more traditional VC firms.

SERIES B FUNDING

At this point, the business is still in its growth phase, but now it's time to scale. By this stage, businesses have an established client base and business model that is working – it is researching, expanding to a broader market (Novoa, 2017). Once again, the VC firms dominate as the source of funds (Ghosh, 2017).

SERIES C & ONWARDS

Businesses seeking out Series C funding have normally hit full maturity and are looking to diversify their product offering and possibly move into international markets (Ghosh, 2017). They would normally attract funding from private equity firms and investment banks (Novoa, 2017).

Once Series C has been achieved, start-ups can investigate funding for Series D or mezzanine financing, with most doing so as they move towards an initial public offering (IPO) (Kelly, 2010).

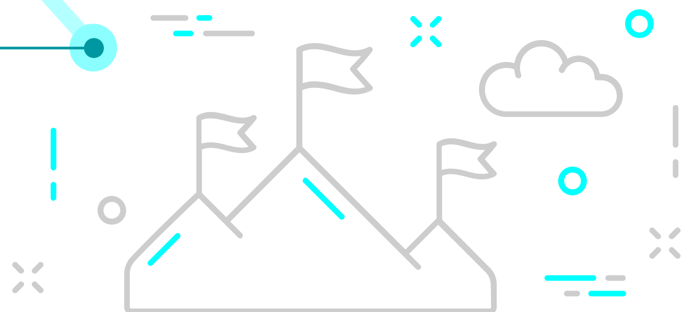


Figure 3: Funding stages (Source: Kelly, 2010, Ghosh, 2017, Novoa, 2017, RMB)

While there seems to be a clear funding "path" to follow, in South Africa start-ups are operating in a largely unsupportive funding environment. From our research an overwhelming majority of FinTechs have "bootstrapped" themselves, mostly entering the funding model at Series B onwards. Very few FinTechs in our ecosystem managed to secure pre-seed and seed funding, with the general sentiment indicating that there seems to be funding readily, but not openly, available.

Even though VC - spend in South Africa has grown by 70% in the number of deals from 2015 to 2017, as seen in figure 4, investment in FinTech-specific ventures only equate to 7.3% of the 159 deals concluded in 2017 with the figure dropping to less than 5% if split by value of deals.

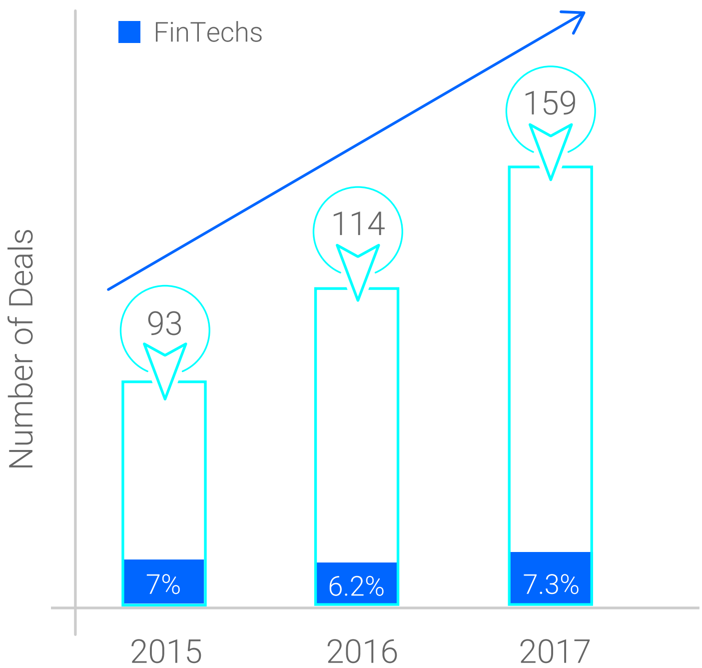


Figure 4: Funding graph (Source: Amended from SAVCA, 2017, RMB).

"Do we see ourselves investing? I would say the caveat is as long as we can partner. It's very hard to invest in something when you don't know what that partnership brings to you or what you need to contribute to the partnership."

- Paulo dos Santos,
CTOO at Rand Merchant Bank

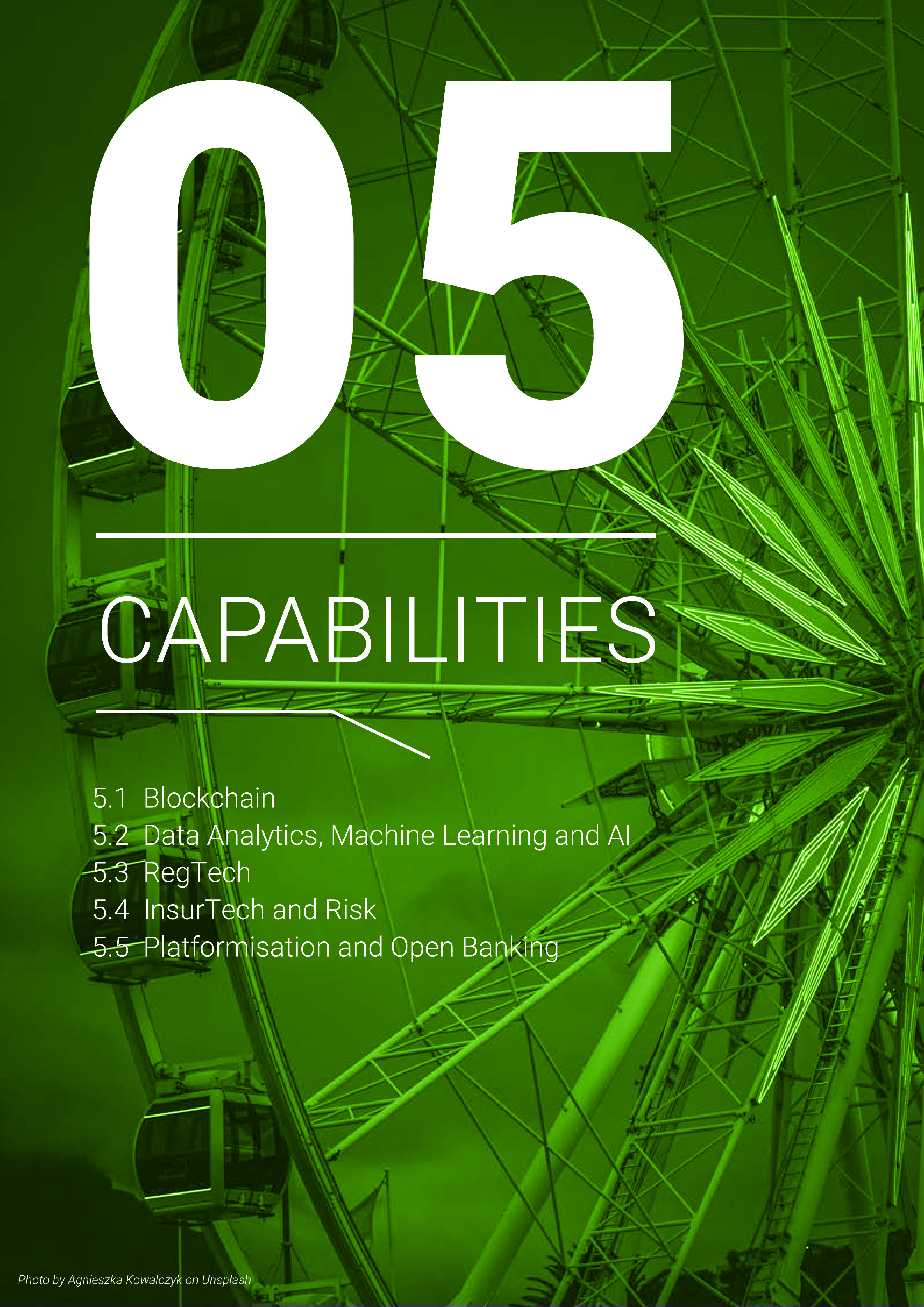
In Figure 4, funding seems to be accessible only to established players or to those who have a network influential enough to be directly referred to VCs and angel investors.

Bootstrapped FinTechs, rather than jumping through hoops for funding, focus their energy on growing their businesses (either diversifying or pivoting) so they can further bootstrap or search for funding abroad.

Spotlight

Yoco is an African technology company that builds tools and services to assist small businesses to accept credit card payments by utlising a small, affordable wireless POS device.

Since its launch in 2015, Yoco has grown its user base to approx. 40 000 merchants and has raised over R248 million from both local and foreign investment.



05

CAPABILITIES

Photo by Agnieszka Kowalczyk on Unsplash

CAPABILITIES

The capabilities below loosely represent the primary technological and paradigmatic forces shaping the future of financial services. Blockchain technology has been touted as the "trust protocol", in the same way that HTTP became the standard information protocol of the internet; the effects of blockchain will be just as monumental for society.

AI, machine learning and data analytics are fundamentally altering the way we use information, spawning entirely new models to represent reality. The opportunities that these forces are creating in financial services, indeed in all of commerce, are only just beginning to be understood. As we have shaped technology since the dawn of civilization, so too have these forces come to shape us. The speed at which this is taking place is ever increasing. The change has already begun; it is time now for business leaders to familiarise themselves with these forces.

" What the internet has done for access to information, that's what blockchain will do for banking. "

- John Campbell,
CDO at Rand Merchant Bank

" Blockchain and AI are very relevant for incumbent organizations. I don't think those things in and of themselves are going to give rise to new business models. "

- Dominique Collett,
FinTech investment specialist at RMI Holdings

5.1 Blockchain

A blockchain is a type of distributed ledger network in which participants predetermine and agree to the rules by which they will transact, and how those transactions will be recorded. There is no central point of data persistence (where the actual data is stored): the ledger exists across all participants, so everyone always has a view of all transactions (i.e. every participant in the network has the same copy of the same data). Refer to Figure 5.

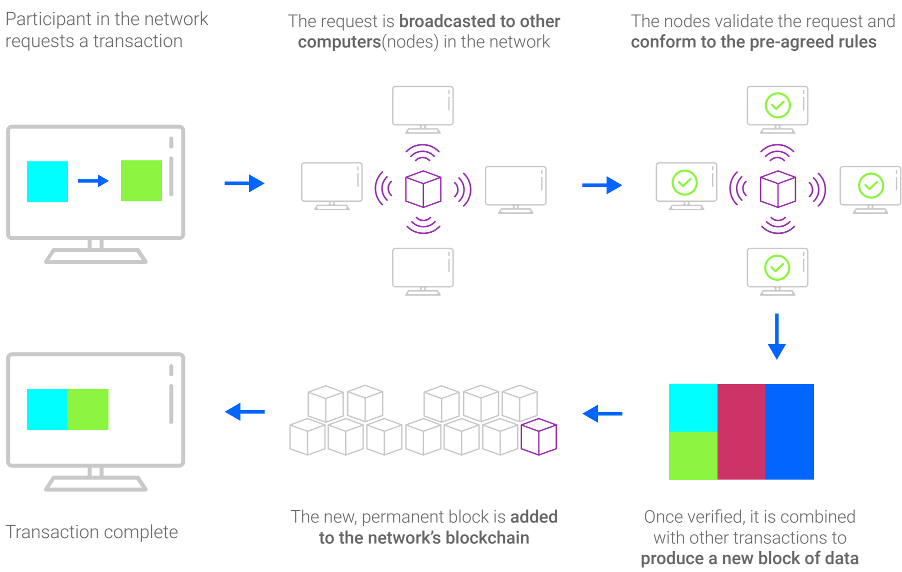


Figure 5: How blockchain works (Source: Amended from Blockgeeks, 2018, RMB)

What makes a blockchain unique and distinct from other forms of distributed ledger networks is that transactions are recorded in "blocks" (fixed-size sets) of data, with subsequent blocks comprising a mixture of new transactions and previous blocks' data (among other data sets). This makes it extremely difficult (impossible in most cases) to edit the ledger, thus forming an immutable record of all transactions that have taken place through the network (Berkeley, 2015).

Given the decentralised and distributed nature of blockchain ledgers, these networks suffer far less systemic risk than traditional databases. This decentralisation can be seen in Figure 6. They (generally) do not require any trust between parties and can serve as an undeniable source of truth for all transactions in the network.

Since traditional business transactions take place on separate ledgers, reconciliation systems between these ledgers are many and varied. Blockchain negates the need for this reconciliation, which in turn means that, depending on configuration, it can offer massive financial and time savings for participants (Deloitte, 2016). Challenges, barriers and risks faced by blockchain technology can be see in Figure 7.

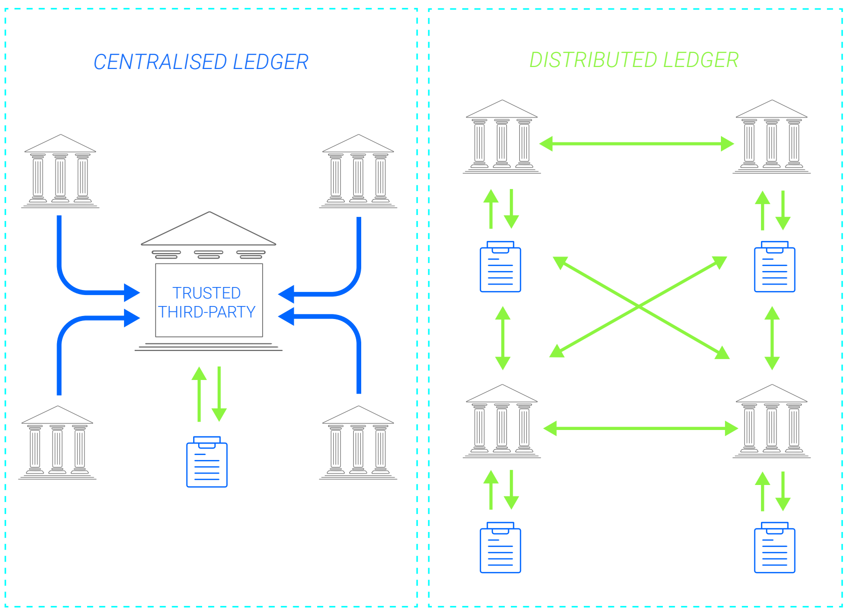


Figure 6: Distributed Ledger Technology (Source: Amended from Berkeley, 2018, RMB)

Adoption and Reception Stats

- **$2.1 billion**
  global expenditure on blockchain solutions to date.

- **$8-12 billion**
  projected yearly savings for banks

Close to **50%** *industry growth projected annually for the next four years.*

Spotlight

Project Khokha is a proof of concept designed to simulate a 'real-world' trial of a distributed ledger technology (DLT)-based wholesale payment system. The project focused on providing participants with practical experience on aspects of using DLT in a realistic test environment where different deployment models were used (South African Reserve Bank, 2018). The SARB has said that **Project Khokha** has laid the foundations for future collaboration in the blockchain space and delivered on its goal of providing useful insights to all participants.

The SARB has, however, cautioned that there are many issues to take into consideration before the decision to move the DLT-based system into production can be taken. These issues include legal and regulatory factors, the impact on the broader economy and the practicalities of implementation (South African Reserve Bank, 2018).

Challenges | Barriers | Risks ranking:

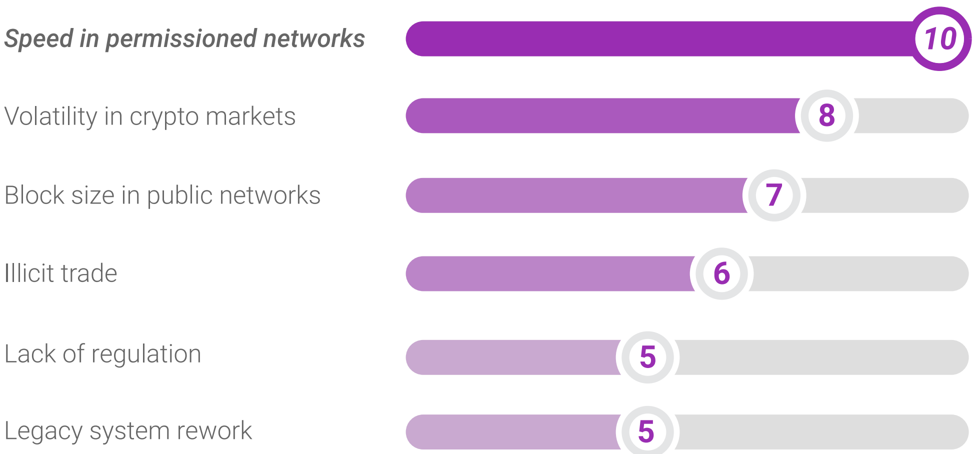


Figure 7: Challenges, barriers and risks faced by blockchain technology (Source: Deloitte, 2018, Coindesk, 2018).

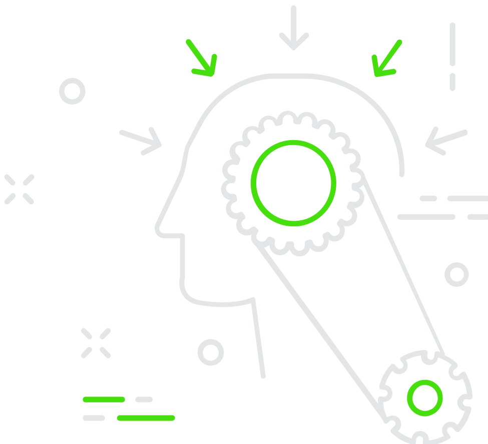
5.2 Data Analytics, Machine Learning and Artificial Intelligence

Data analytics is the process of analysing datasets with the goal of drawing conclusions from the information they contain. Analytics can help organisations use their data to identify new opportunities, leading to smarter business moves.

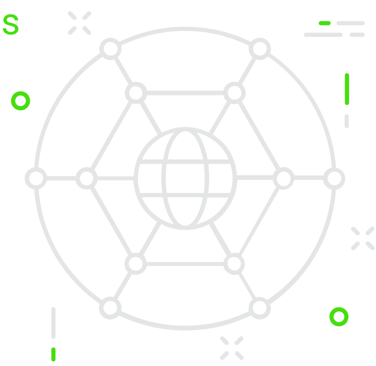
Machine learning is the act of using algorithms to learn from data and subsequently forecast future trends for a topic. Machine learning software has traditionally comprised statistical and predictive analyses to discover patterns and reveal hidden insights for a given dataset.

Artificial intelligence (AI): AI is an area of computer science that emphasises the creation of intelligent machines that work and react like humans. AI enables machines to learn from experience — machines adjust to new inputs and perform human-like tasks. AI technology relies heavily on deep learning and natural language processing to manage large amounts of data and recognise patterns in that data. Challenges facing the data analytics, machine learning and artificial intelligence industry can be seen in Figure 8. Some of the activities computers with artificial intelligence are designed for include: speech recognition, learning, planning and problem solving *(Thompson Reuters, 2018).*

> *"In the medium term, [the] ability to use data to create and capture value will be the differentiator, and banks will be focused on putting in place enablers of this..."*
>
> ***- Robyn King,***
> *Risk Digitization, RMB Global Markets*



Adoption and Reception Stats



AI enables **automation** *across almost all industries and verticals*

*It provides **more accurate insights** into data than human beings*

Spend forecast to grow to ***$52.2 billion*** *by 2021*

Globally, ***$19.1 billion*** *has been spent on AI in 2018, an increase of 54.2% year-on-year*

Compound annual growth rate (CAGR) of

46.2%

*over the **2016-2021 forecast period.***

Challenges | Barriers | Risks ranking:

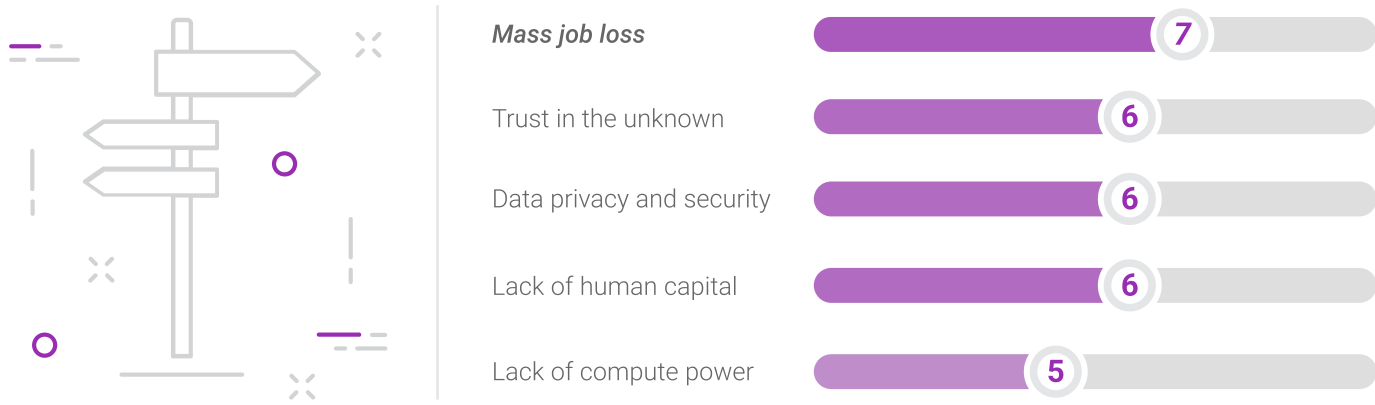


Figure 8: Challenges, barriers and risks faced by data analytics, machine learning and AI (Sources: Thompson Reuters, 2018, Statista, 2018, Marr,B., 2018).

Spotlight

An increasing number of enterprises are investing in data analytics and start--ups have begun deploying technology to disrupt the industry. **NMQRL** is a FinTech company with a focus on quantitative research and algorithmic trading. The **NMQRL** SCI Balanced Fund is administered by the Sanlam Collective Investments platform. The fund is a FSB-approved collective investment scheme (Mybroadband, 2017). The asset allocation and stock selection for the fund is fully managed by machine learning algorithms.

DataProphet develops machine-learning interventions primarily for the finance and insurance sectors. Applications which **DataProphet** has designed include a conversational agent for inquiries and a solution which detects emotion through images (Timm, 2018). The emotion-detecting solution has been integrated into a game for Bandai Namco, a major Japanese publisher.

5.3 Regulatory technology (RegTech)

RegTech provides more efficient solutions to facilitate the delivery of regulatory requirements. RegTech companies collaborate with financial institutions and regulatory bodies to use cloud computing and big data for the sharing of information.

Cloud computing is a cost-efficient technology that gives the user the ability to quickly and securely share data with various entities.

Stats:

Compliance is increasingly getting complex:

120,000

pages of regulation to comply with by 2020.

$400 billion

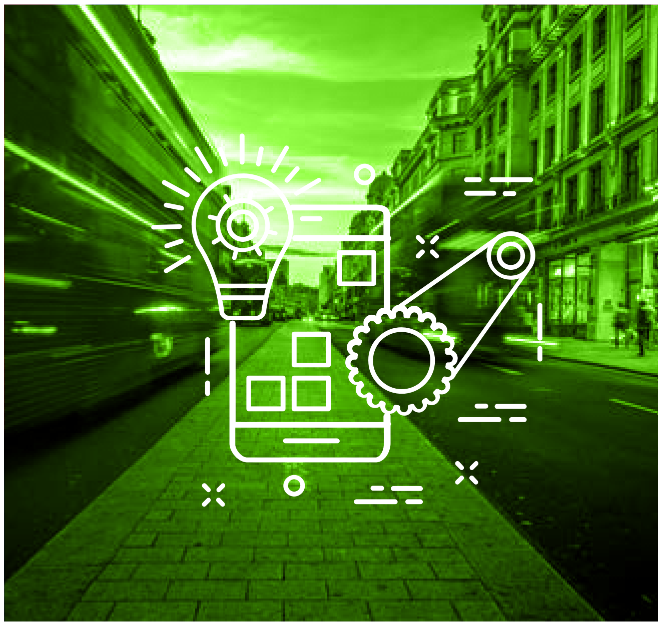
in fines by 2020

(Source: *Mespropyan, 2018, GoMedici, 2018*)

RegTech is growing in popularity in a variety of areas within the financial and regulatory space. Some of these areas include employee surveillance, compliance, data management and fraud prevention.

The level of staffing required to meet compliance mandates means that a 50% reduction could save a large bank $1.2 billion per annum, based on average wages, all possible with the successful adoption of RegTech in organisations (Frieder, 2018).

The research also found that AI automation of Know Your Customer (KYC) checks will reduce time required by 90%, generating time savings of 5.4 million hours annually by 2022 (Juniper Research, 2017). Challenges facing the regulatory technology industry can be seen in Figure 9 below.



Challenges | Barriers | Risks ranking:

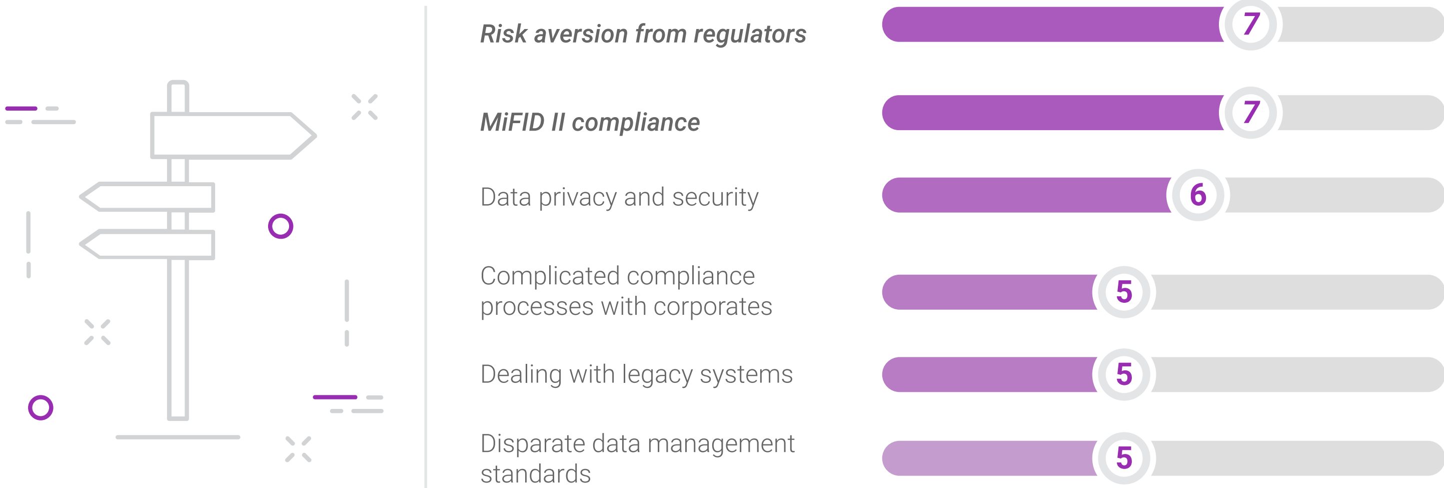


Figure 9: Challenges, barriers and risks faced by regulatory technology (Source: CEO Today, 2018, Fireder,J., 2018, Mespropyan, E., 2018)

Spotlight

Increasingly stringent regulation in the financial services industry has been the main driver of growth in the RegTech industry. **DocFox** has been one of the successful players in the RegTech industry. **DocFox** simplifies the FICA approval process of requesting, verifying and storing documents.

DocFox has partnered with the law firm Norton Rose Fullbright. Through this partnership they are able to give their clients peace of mind in terms of the uncertainty surrounding the amendments of FICA (Financial Intelligence Centre Act) Bill. **DocFox** has also signed on two banks in the US as clients and has plans to enter the European financial sector (Hypertext, 2016).

5.4 InsurTech and Risk

InsurTech is a broad term referring to the ongoing technological innovations that are disrupting the insurance industry (Gallin, 2018). Current insurance models use broad actuarial tables to assign policy seekers to a risk category. This ultimately results in a certain proportion of policyholders paying more than they should due to the basic level of data used to categorise people looking for insurance.

InsurTech assists companies to categorise more delineated risk groupings by, for example, taking into account data collected from GPS trackers on the cars of policyholders and activity trackers on the wrists of those insured (Gallin, 2018). Challenges facing the insurtech and risk industries can be seen in Figure 10 below.

> *"I think the insurance companies are going to be the big disruptors."*
>
> ***- Dominique Collett,***
> *FinTech investment specialist at RMI Holdings*

Challenges | Barriers | Risks ranking:

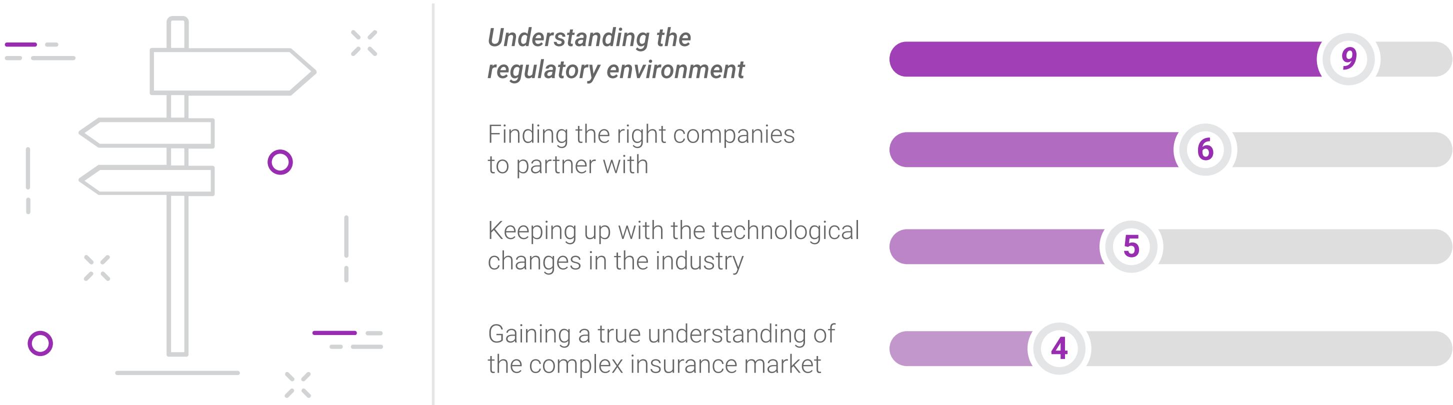


Figure 10: Challenges, barriers and risks faced by insurtech and risk technology (Source: Gallin, 2018).

Spotlight

The large majority of innovation and disruption in the South African InsurTech space has taken place in short-term insurance and digital distribution. **Click2Sure** is a digital insurance platform which has enabled retailers and service providers to offer a selection of custom-developed insurance products at the point of sale. They have already partnered with large e-commerce firms such as Takealot.

Pineapple is a South African InsurTech company that has developed a decentralised peer-to-peer insurer. It is underwritten by Compass Insurance Company and reinsured by Hannover Re (Steenkamp, 2018). **Pineapple** has claimed that what differentiates it from other insurers is that the premiums it receives are deposited into each member's individual **Pineapple** Wallet. This premium deposit then gives members full insurance cover. Members have the option to withdraw all unused deposits each year. **Pineapple** is the first insurance start-up to be accepted into Google's Launchpad accelerator.

5.5 Platformisation and Open Banking

EY recommends, in its *A vision for platform based banking paper* (2017), that banks investigate the concept of platform-based banking. It states that a banking platform establishes standards for third-party FinTech developers to build products and services on behalf of bank customers, while allowing the bank to deliver a unified banking experience. In the open banking space, banks would contribute their expertise in security, authentication and compliance to the platform and FinTech companies would provide more customer-focused solutions (Smith, 2018).

This collaboration between FinTechs and banks would benefit all stakeholders. Customers would enjoy a more personalised banking experience under the protection of the regulated banking industry and banks would gain access to new revenue streams. Some challenges to the platformisation and open banking industry can be seen in Figure 11 below.

Challenges | Barriers | Risks ranking:

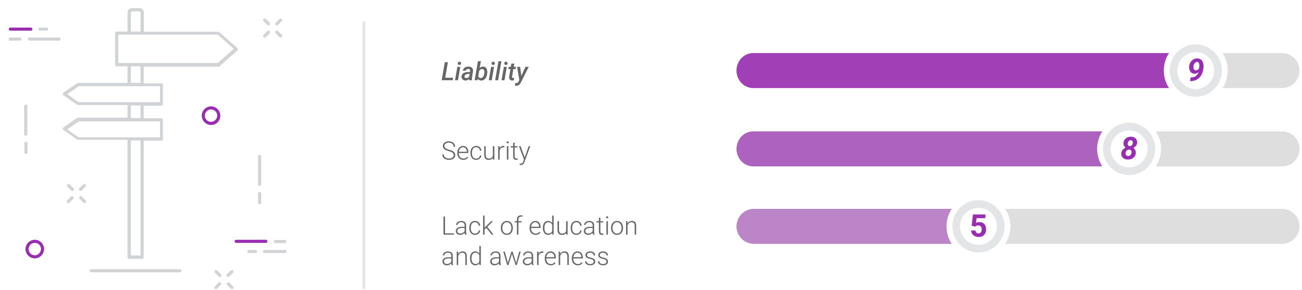


Figure 11: Challenges, barriers and risks faced by platformisation and open banking (Source: Smith, 2018).

Spotlight

22seven is a budgeting and investing app used to better manage money and invest. **22seven** gathers account information from internet banking websites by partnering with international security and data-aggregation company Yodlee (Van Hagen, 2018). Yodlee develops data-collectors for all the service providers supported in **22seven**.

JUMO is a South African FinTech company which offers a platform that facilitates digital financial services such as credit and savings (Ventureburn.com,2018). As of September 2018 **JUMO**, had originated over $700 million in loans on its platform and managed over 25 million customer interactions per month. The majority of the users of the platform are micro and small businesses.

06

ENGAGEMENT MODELS

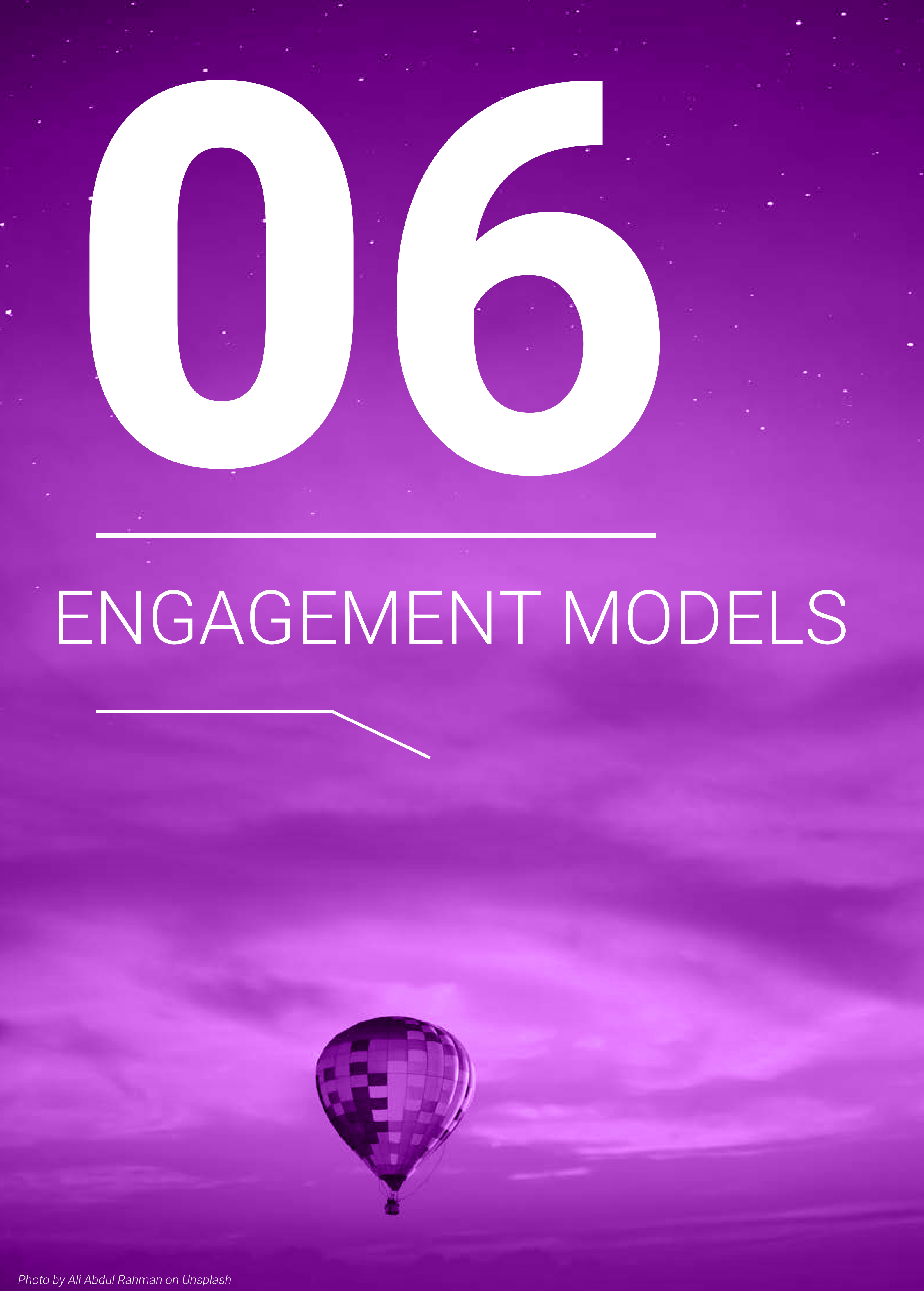


Photo by Ali Abdul Rahman on Unsplash

ENGAGEMENT MODELS

As FinTechs continue to push the boundaries of innovation and digital customer experiences, financial institutions, governmental institutions and retailers alike have realised they cannot do it all alone.

The incumbents have begun engaging with the broader FinTech ecosystem to augment their service offerings with those of the FinTechs', capture new markets and hold on to existing ones. So, just how do you engage or partner with a FinTech? Unfortunately, there is no silver bullet answer as every institution will have their own set of market and strategic factors influencing their decision.Often there are barriers that need to be negotiated for effective collaboration between all parties.

Large organisations are normally tied into legacy processes and strict regulations, and lack effective processes for working with smaller, more agile FinTechs. These FinTechs in turn often find it challenging to navigate procurement processes and normally cannot afford to go through the complexities inherent in a highly regulated financial services ecosystem (TheCityUK, 2017).

"It will be necessary for us to partner with FinTechs on specific services where there is mutual benefit to do so... we shouldn't try to do everything ourselves."

- Robyn King,
Risk Digitization, RMB Global Markets

5 key engagement models

have emerged from our research, each with their own pros, cons and considerations:

1. Capital Investment

The incumbent institution takes a minor equity stake in a FinTech by investing capital to secure insider access to new innovations.

Pros:

- Early access to solutions
- Reduced time-to-market

Cons:

- Valuation can be challenging
- Data security and usage implications
- Not an exclusive relationship

2. FinTech Product Offering

This model follows the more traditional vendor service-provider approach where the institution uses or consumes services developed by the FinTech (EY, 2017). Normally an institution will test the product on a limited customer base and, if successful, roll out to the entire customer base. The products and/or services are either white-labelled or co-branded (TheCityUK, 2017).

Pros:

- Addresses lack of inhouse talent
- Ability to connect with customers without significant time or resource investment
- Benefit from the latest tech projects

Cons:

- Monetisation of partnership
- Data security and usage implications
- Culture clashes
- Not always an exclusive relationship

3. Merger and Acquisition

Institutions wanting quick access to a market, possibly with exclusivity rights, may opt to follow the merger and acquisition route and acquire a FinTech company (EY, 2017).

This model is one of the most complex due to valuation considerations and legal undertakings (TheCityUK, 2017).

Pros:

- Direct route into new market i.e. new customer base
- Exclusivity

Cons:

- Valuation can be challenging
- Difficult to integrate cultures
- Retention of talent
- Integration costs
- Regulatory considerations

4. FinTech Programme

An approach which has emerged over the past few years is the FinTech programme. They can either be a joint effort between multiple institutions and/or governmental bodies, or an institutionally-led FinTech programme. They often take the form of start-up corporate accelerators, "sandbox" initiatives and hackathons (TheCityUK, 2017).

Many local financial institutions have followed the "individually-led programme" approach through start-up competitions and accelerator programmes.

Pros:

- Individually-led FinTech programmes have the benefit of control on scope and "first-mover" advantage (which may lead to a larger return on investments (ROI)
- Joint FinTech progammes offer the ability to collaborate with multiple institutions (e.g. the SARB-led Project Khoka)
- Shared costs

Cons:

- Joint programmes offer limited branding opportunities potentially low ROI whereas-individually-led programmes may become cumbersome as they require dedicated teams to interact with the programme and FinTechs, as well as a dedicated budget.

5. FinTech Joint Venture

In this model, instead of an institution finding a FinTech to partner with, the company will set up a standalone start-up that exists outside of the organisation, but which works alongside core business channels (TheCityUK, 2017).

These start-ups normally target a specific niche and can have separate branding (TheCityUK, 2017).

Pros:

- The parent institution has control over niche offering
- Exclusivity
- Provides access to institution resources without internal barriers
- Specialised talent

Cons:

- Growth risk (i.e. balancing growth and scale with exclusivity);
- Large financial investment
- Intellectual property ownership and other legal complexities

Setting clear objectives for the engagement/partnership/programme and what is expected from each of the parties from the beginning will contribute to its success and decrease the probability of common collaboration pitfalls such as unclear roles and responsibilities, ambiguous mandates, scope uncertainty etc. (TheCityUK, 2017).

FinTech Collaboration Checklist

TheCityUK (2017) suggests the following to aid the process between FSIs and FinTechs (although the report is focused on FIs, these recommendations could be used across all industry verticals):

1. **Create a guide for successful FinTech collaboration:**
   Define the preferred collaboration model (which may even be a mix of the above-mentioned models) and internal guidelines regarding picking the right partner based on the problem statement/objective.

2. **Publish a set of guidelines for FinTechs**
   While the above is more internally focused, these guidelines are aimed toward helping the FinTech in terms of rules of engagement, internal technology stacks, vendor onboarding process and data protection requirements.

3. **Streamline internal processes specifically for FinTechs**
   Large institutions are notorious for their lengthy and complex vendor processes: creating a streamlined process specifically for FinTechs will contribute to a faster time-to-market.

4. **Create a collaborative culture**
   A collaborative culture is essential for partnerships; parties need to be comfortable working together, irrespective of the partnership model adopted.

Some South African FinTechs have been successful both locally and internationally, but there are still many that are struggling to establish themselves. This is due to a variety of contributing factors, part of which is an unsupportive funding ecosystem and the complexity of navigating our financial regulatory system. While these FinTechs push for scale, their growth is stifled by capital hurdles and a closed financial ecosystem (IFWG, 2018).

This suggests that the South African FinTech ecosystem will be more receptive to the capital investment and FinTech programme partnership models, although our research has seen that successful FinTechs prefer the product offering model, whereby services are consumed.

Industry cases:

Inter-Governmental FinTech working group

The SARB has recently taken proactive steps towards creating a collaborative ecosystem with FinTechs by establishing the Inter-Governmental FinTech working group (IFWG, 2018). This work group is the result of collaboration between various regulatory organisations such as the Financial Intelligence Centre (FIC) and Financial Sector Conduct Authority (FSCA) and the SARB and National Treasury to ensure FinTechs can be effectively incorporated into South Africa's existing financial services sector (IFWG, 2018).

The programme will incorporate the concept of regulators as "innovation facilitators"; a three-pronged approach that uses innovation hubs, accelerators and a regulatory sandbox to further innovation and promote collaboration (IFWG, 2018).

JPMorgan Chase: WePay

In 2017 JPMorgan Chase finalised the acquisition of WePay. The deal focussed on incorporating and utilising WePay's service offering, as opposed to simply investing in the business (Lunden, 2018). WePay is a start-up in the B2B space that provides payments infrastructure to businesses.

While WePay will continue with business as usual, JPMorgan Chase will use WePay to improve the business services provided to its small-to-medium business customer base (Lunden, 2018).

Santander Group's corporate VC fund

While many VC firms purchase equity based on the potential for future returns on capital through an exit strategy, the Santander Group's corporate VC fund pursues a strategy of collaboration and strategic investment. The fund only invests in start-ups that can help transform the bank (products, internal operations, customer experience etc.) and where the bank can in turn offer value back to the start-up. The group has invested in start-ups such as Kabbage, Tradeshift, Ripple and Curve to name a few.

This has led to tangible improvements in services offerings to clients and more than 50% of companies who have been in their portfolio for over 12 months have received higher valuations compared to before the partnership (TheCityUK, 2017). An example, Santander invested in iZettle in 2013. iZettle provides card reading devices that attach to smartphones and tablets to allow merchants to receive payments. iZettle's products are directly available to Santander's SME customers as part of the bank's core offering (Financial Times, 2013).

07

CONCLUSION

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Conclusion

At the moment, we are witnessing an unprecedented transformation of the South African financial services sector. We have seen the rise of challenger businesses even in an unsupportive macroeconomic environment (among other factors), which does not largely encourage new venture growth, despite the best efforts of FinTech ecosystem evangelists. We have seen transformative forces acting upon the technological and business ecosystem, which are opening up new corridors of exploration to the benefit of smaller players. We have also seen the so-called incumbents open their doors for new engagement models of collaboration to flourish, as well as defend their turfs by creatively embracing the forces of change and building new, lean business models and channels.

So, what do we take from all of this?

For starters, the most successful engagements we have witnessed locally was the FinTech product offering model. It has allowed incumbents to gain a foothold in a new market or further entrench themselves in a current market position without having to build up the skills and technology infrastructure internally. However, this engagement model is usually conferred by a common relationship between the parties.

Secondly, we have realised that the “pay-it-forward” model of Silicon Valley (where the start-up founders reinvest in the start-up community, having gone through a lucrative exit with their own businesses) has largely yet to be seen in South Africa. This indicates that the FinTech start-up community in South Africa is still relatively young, and entrepreneurs are focussed on their own growth before investing in the growth of others.

Lastly, we have noticed that the core focus area for the majority of FinTechs in South Africa is payments. This begs the question: is there a skills/knowledge deficit when it comes to FinTech in South Africa? What this indicates above all else is the fact that there are still many areas of financial services that are ripe for disruption.

*“We have seen **transformative forces** acting upon the **technological** and **business ecosystem,** which are opening up **new corridors of exploration** to the **benefit of smaller players.**”*

08

SOURCES

Photo on Unsplash

WHAT IT MEANS:

Artificial Intelligence (AI)
Take a computer. Program it to think, learn and perform tasks like a human.

Bootstrap (bootstrapped/bootstrapping)
When a start-up attempts to build a company without any official funding cycles.

Crowdfunding
An alternative method for sourcing funds by gathering small amounts of money from a large number of willing people.

Cryptography
Methods of disguising information so that only those intended to read it can process it.

E-commerce
The buying or selling of goods and services online.

Engagement model
The rules of engagement as defined by the collaborating parties. i.e. FinTechs and corporations.

FICA
FICA is legislation designed to reveal the movement of monies derived from unlawful activities and thereby curbing money laundering and other criminal activities.

Fourth industrial revolution
Yes, we are on the fourth. Let's recap:
1st – Water and steam.
2nd - Electricity.
3rd - Automation.
4th - AI, big data, robotics and so much more.

Initial Public Offering (IPO)
The very first sale of shares in a company to the public.

KYC/Know your Customer
What businesses do in order to verify the identity of their clients either before or during the time that they start doing business with them.

Machine Learning
The ability for systems to automatically learn and improve from experience without the help of humans.

Private equity
Refers to capital which is not listed on a public exchange, typically comprised of funds and investors who take up equity in private companies, across varying business maturities.

PSD2
PSD2 replaced the original Payment Services Directive, which was a EU Directive to regulate payment services and payment service providers. The Directive's purpose is to provide a level playing field by harmonizing consumer protection and the rights and obligations for payment providers and users.

RegTech
Technology that enables more efficient compliance to regulation.

Start-up
I have an idea. I should start a business. Fund me.

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