

# Digital Disruption

New imperatives for  
leadership and innovation

Perspectives from the banking industry

**Gordon Institute  
of Business Science**  
University of Pretoria



**FNB**  
First National Bank

how can we help you?

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# You will gain valuable insights about:

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- Blockchain and bitcoin; how it works and why it is a threat.
- Customer-centric design thinking and why banks need it.
- The rise of digital customers, the decline of branch networks.
- Virtual Reality, Artificial Intelligence, Cloud Computing, Internet of Things.
- Models of exponential growth and technology adoption.
- Incubators, accelerators and the start-up ecosystem.
- Authentic leadership in an increasingly digital world.
- Digital natives, millennials and their bank of the future.

As a **leader** in your organisation, **drive change** by understanding why an **innovative culture** continues to require new thinking. How **exponential thinking** can drive disruptive business models. How to drive **successful partnerships** between business and IT. Why **lean, entrepreneurial thinking** is important in large organisations. Responding to threats starts with you; **self-disruption** is the best defence. Why **Agile** and **DevOps** are **improving** the way IT works. How to move from peripheral innovation to **core business capability**. Digital talent management: **how to attract, develop and retain** a digitally talented workforce.





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**“People need banking,  
but they don’t necessarily  
need banks.”**

Heather Cox - Chief Client Experience, Digital and Marketing Officer, Citi.

# Introduction

At IBM's InterConnect 2015, **Heather Cox**, Citi's Chief Client Experience, Digital and Marketing Officer, told the audience: "People need banking, but they don't necessarily need banks" <sup>1</sup>.

Banking has evolved from cheque books and cash to lifestyle solutions and business ecosystems. Banks are becoming more agile as they improve customers' lives with innovative technology. Radically new, fully digitised customer experiences in multiple industries are taking the world by storm, with peer networks of assets and services that are easily accessed anywhere, any time <sup>2</sup>.

Digitisation and disruption are early stages of exponential firms that are rewriting the rules in multiple industries. Francisco Gonzalez, the chairman of the Banco Bilbao Vizcaya Argentaria - the second largest bank in Spain -

**predicted that up to half of the world's banks would fail if they do not adopt new technologies and disruptive business models sweeping the industry**<sup>3</sup>.

Banking is under pressure to fully digitise and self-disrupt – or be disrupted and left behind. The good news is that established banks are driving Fintech ecosystems and in-house innovation to stay ahead. Banks are benefitting from collaborating with innovative partners to incubate cutting-edge solutions. Banks must differentiate on the outside with customer-centric design thinking or face relegation to being a utility service. Internally, new ways of working and improved business IT partnership models are required. Diversifying trust equity and achieving profitable transformation of business

models with proven technology will decide the winners in the race for digital disruption.

Game changers will need to be successfully delivered to achieve transformation. Banking leaders must take new measures to out-compete rivals within the industry and, perhaps more importantly, out-innovate challengers moving into the financial industry from other sectors. Game changers will need to be successfully delivered to achieve transformation.

## The rise of Blockchain

**Bitcoin is already accepted at 30,000 online websites through PayFast, one of South Africa's payment providers that also enables money to be sent from other countries to an account holder in South Africa.**

Blockchain is probably one of the most impactful breakthrough disruptions in recent years. Anchored on the distributed ledger algorithm that enables peer-to-peer money transactions without a third party such as a bank, Blockchain received an overwhelming interest in 2015 <sup>4</sup>.

Germany's Fidor Bank, adding to its innovative online banking, had already announced its plans to launch the first specialised bank for crypto-currencies along with currency exchange Kraken in 2014.

The distinction between Blockchain and Bitcoin is important: Bitcoin is just one of many crypto-currencies leveraging Blockchain technology and may be regarded as a threat to centralised banking systems.

However, despite volatility in public perception, the Blockchain concept has remained and is likely to continue in 2016 as adoption broadens <sup>5</sup>.

Blockchain is a series of connected "blocks" of data containing records of transactions, the most common type in use at present being Bitcoin. These interconnected blocks form a "chain" of data which is effectively a database that is decentralised, fully distributed and publicly visible, thus open for scrutiny and acting like a ledger.

In a traditional money transaction, there is usually a trusted third party, such as a bank, that independently verifies the transaction. With Blockchain it is the network that verifies the transaction, effectively making a third party redundant.



Protection of customer data privacy will be an important consideration for Bitcoin. By the very nature of Blockchain, it is physically impossible to remove data from the “chain of blocks” that comprise previously validated transactions. However, data in the Blockchain can be encrypted and typically users would own Bitcoin wallets with secure passwords that would protect their digital value and personal information.

Johannesburg is one of the cities where some innovative work is being done on Blockchain: One of the start-ups at the Alphacode workspace in Sandton is working on a Blockchain solution for a virtual stock exchange in the Maldives <sup>6</sup>.

This is the disruptive nature of Blockchain - it disintermediates the trust equity that banks have in all their transactions. To some extent, this type of disruption has already started in payments with different eCommerce players such as PayPal and smaller point-of-sale (POS) solutions like SnapScan. However, the banks still benefit: FNB partnered

locally with PayPal in 2010 <sup>7</sup> and Standard Bank with SnapScan <sup>8</sup>, the South African app of the year in 2013. The third largest payment network by value globally (*after Visa and Mastercard*) is UnionPay, which is also China’s only domestic bank card organisation. UnionPay signed a deal in February 2016 with Barclays Africa, which gives the billions of UnionPay cardholders access to the largest point of sale and ATM network in Africa <sup>9</sup>.

Barclays will make a Chinese interface available, further improving convenience for its customers. UnionPay will also issue cards in African markets further driving financial inclusiveness on the continent. As with growth of Fintech ecosystems and incubators, these partnerships indicate that banks are actively investing in future technologies and solutions.

Although Blockchain is potentially disruptive to the banks’ current processes, setting it up in South Africa will require a high degree of collaboration among players

in the financial services industry. Progress has already been made in this regard, with Absa indicating to the market that it would be hosting a forum for engagement. Absa is the first African bank to join R3, an international consortium of 50 financial companies developing Blockchain usage in the industry <sup>10</sup>.

FNB envisages that the currency landscape in South Africa could be affected if Bitcoin or one of the other non-sovereign, global digital currencies using Blockchain becomes widely used. The South African Reserve Bank would regulate the introduction and usage of Bitcoin as a legitimate form of exchange and it has huge potential to reduce costs in the traditional banking infrastructure.

New and different types of currency handling firms would also be introduced into the industry in addition to Bitcoin exchanges, such as bitx.co.za and ice3x.com.

# 3

## Customers' preference for ubiquitous banking

Customers are increasingly relying on various smart technologies in daily life. Younger customers in most countries continue to make use of mobile devices more frequently for their banking transactions than any other forms of banking. Mobile devices have simplified routine interactions and enabled customers to address their own needs anywhere and anytime, making banking processes almost ubiquitous.

Although not a direct causal relationship, higher mobile usage has been found to correlate with fewer visits to the physical branches.

Across the world, banks have been trying to shift their routine transactions and customer interactions into digital self-service channels. Bank of America (BoFA), for example, has been able to downsize its physical branches by scaling up its mobile presence.

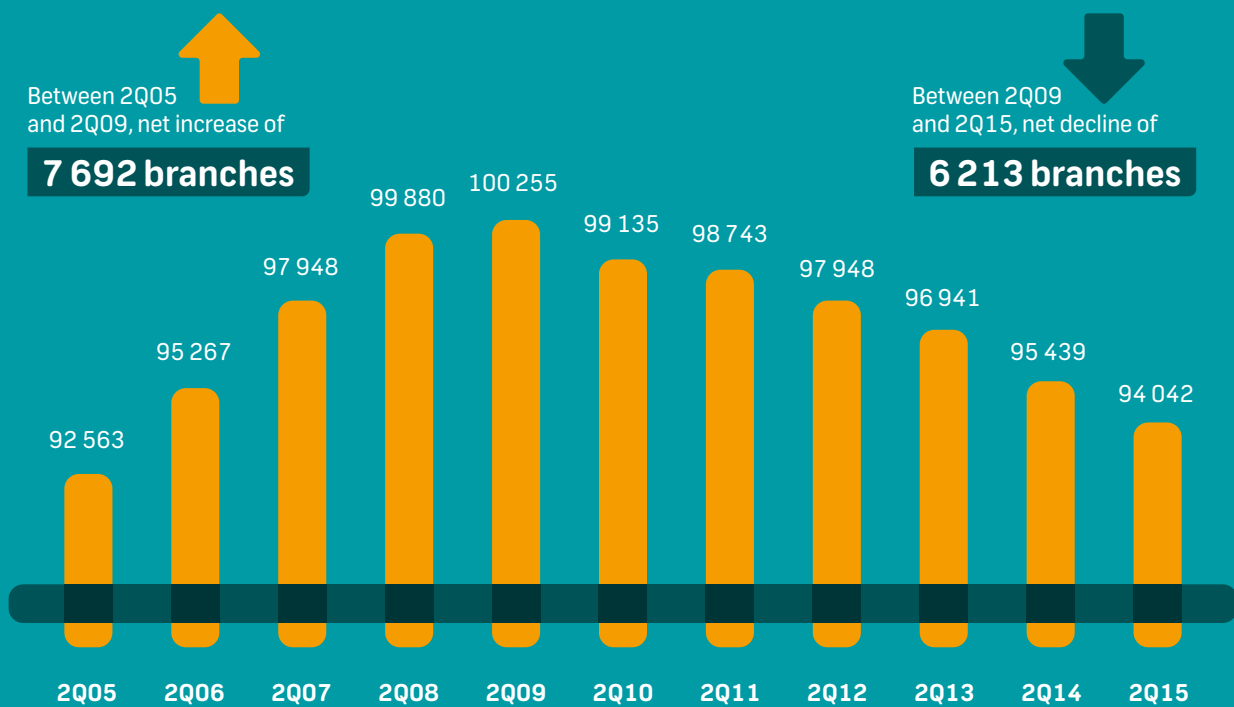


**Bank of America**  
now has more than  
**17.6 million**  
customers using  
mobile platforms as their  
preferred means  
of banking

with a staggering 200,000 cheques estimated to be deposited on a daily basis via mobile devices <sup>11</sup>.

Statistics show that physical branches are on the decline: In the USA, over 4,800 branches closed down between 2009 and 2014 <sup>12</sup>. More than 600 bank branches closed across Britain from 2015 to 2016 prior to Brexit, with an estimated 3,000 branches in total closing their doors over the last decade <sup>13</sup>. In South Africa, FNB announced in March 2016 that it would be

closing 40 branches, due to its very successful strategy of digitising customers out of bricks and mortar channels. Capitec is also investing in its e-channels, but increased its branch network during the past year, arguably off the base of a million new, largely low-end and previously unbanked clients.



## U.S. Domestic Branches

Source: FDIC

Most leading banks are addressing their customers' mobile access requirements and demands for frictionless processes through apps with user-centric design. It is the hassle-free, reliable and efficient banking services that create stronger customer loyalty. Mobile apps, especially for routine transactions, are more likely to delight customers than branch or phone experiences.

Beyond mobile apps, banks are also actively using other devices and technologies, an example of this being Caixa Bank of Spain, which has launched the first voice-commanded mobile banking app that can be deployed while driving. Drivers can check their account balance, transfer funds, locate neighbouring branches and discover nearby ATMs safely - *without looking at a screen while operating a vehicle.*

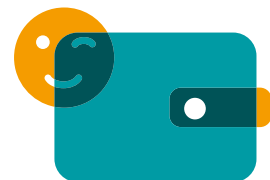
Geo-location technologies have also been adopted to enhance

customer-centricity, such as sending a customer useful information about different types of vehicles with their preapproved motor vehicle loan amount. This is triggered when a customer's driving behaviour indicates they have been visiting car dealers. One may argue that such use of technology violates the privacy of the customers but conversely, it may also increase their security. When the system picks up a discrepancy between the location of the smart device of a customer and where that customer is withdrawing money from an ATM, it can immediately send out an alert or take other precautionary measures <sup>14</sup>.

The innovative use of multimodal biometric systems can likewise profoundly improve customers' banking experience. Clever use of biometric systems could reduce the need for passwords or PIN codes, while permitting a more secure authentication. For instance, VISA and Mastercard have attempted

to embed the fingerprint sensor with a new contactless card<sup>15</sup>.

**Chinese e-commerce giant Alibaba has been actively experimenting with "Smile to Pay"<sup>16</sup>, where a customer's smile signature enables a transaction to be authenticated - happily!**



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# The South African banking industry already fosters world-class innovation in many of its products and services.

Leading financial institutions are also actively exploring effective ways of incorporating virtual reality (VR) in their suite of ubiquitous service offerings. A recent report by JP Morgan Securities Ltd suggests the market share of VR headsets are estimated to increase from this year's US\$2.54 billion to US\$13.5 billion by 2020<sup>17</sup>.

With this in mind, the research divisions of various banking institutions are proactively testing VR technology as a tool for wealth managers to better attract clients and help their customers to visualise complex investment portfolios <sup>18</sup>.

An augmented reality (AR) app for mobile devices was already released by Australian bank Westpac in 2014 <sup>19</sup>,

**with a powerful 3D graphical interface that allows customers to visualise their transaction history and balances while overlaying details of nearby Westpac branches.**

Video banking is also gaining popularity: Wells Fargo has been testing the use of Oculus Rift virtual reality headsets that offer customers the ability to “virtually” enter a branch and speak to a teller face-to-face from the comfort of home or office <sup>20</sup>.

Ubiquitous banking requires designing services around customer behaviour. Investments in big data will generate more precise analytical marketing efforts based on customer behaviour insight. Leveraging big data analytics in this manner means that banks will be relying on artificial intelligence (AI) more than ever before. In 2014 a partnership between Swiss banking giant UBS and Sqream, a software vendor <sup>21</sup>, enabled the bank to determine a client's behaviour by analysing huge volumes of data, thereby offering detailed, personalised services.

Chip and pin cards, trigger messaging and highly advanced self-service digital

and ATM channels leave many international and developed economy banks in South Africa's slipstream.

South Africa is already the most cashless economy on the continent. All banks here already offer cashless tools such as credit and debit cards; electronic funds transfer; and digital wallet solutions such as FNB's e-Wallet. Disrupting any industry requires doing something totally different and too compelling for customers to avoid, even if only due to FOMO (Fear Of Missing Out). Digital disruption in South African banking will be no different to this and it is important to understand the modulating forces at work - but indications are it will be at least five years before they result in any seismic shifts.

Machine learning technology has made rapid advancement, it is predicted that AI will reach human levels of intelligence by 2029. Efficient, bespoke services can be achieved with AI-assisted platforms. Even though currently no bank yet offers a fully conversational

interface outside their own app, AI remains as an exciting prospect for the players within the sector<sup>22,23</sup>. Such rapid advancement of AI may result in a reduced dependency on bankers to provide the expert advice. Ultimately, it is the customers who will decide what new lines of business succeed and how they want to interact with their bank.

Many progressive banking executives realise their customers will always need banking, but they may not always need a bank in the traditional sense. These customers are increasingly the flexible, tech savvy, price sensitive millennials and digital natives who not only want everything on their smartphone, but have become somewhat distrustful of banking through the global crisis. How to develop trust and win back the customer will remain at the top of any progressive bank's agenda.

Digital disruption also facilitates the physical banking branches undergoing radical change to improve service levels.

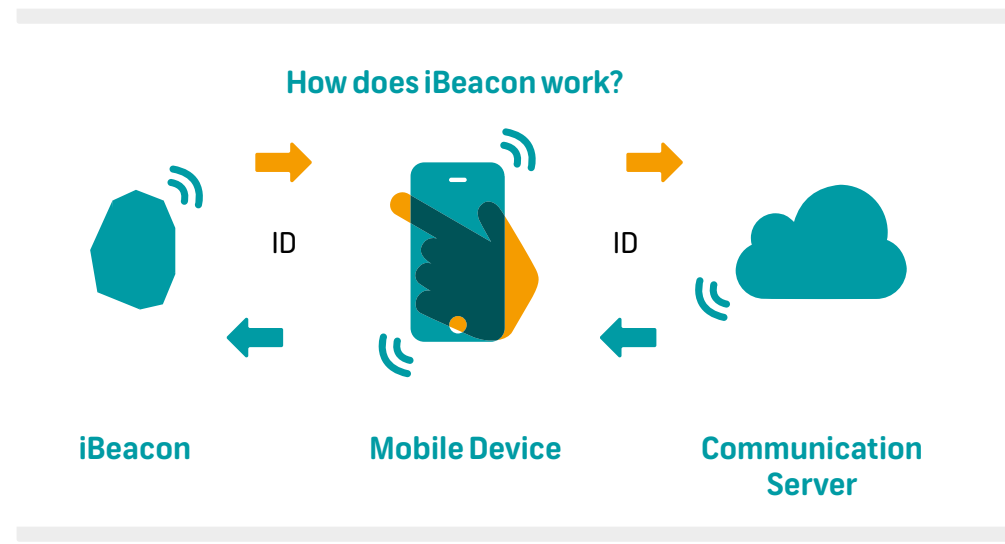
**Bluetooth Low Energy (BLE) and iBeacon technologies offer the ability to provide personalised services when customers visit a branch and this is clearly demonstrated in the consideration of Barclays towards their customers with disabilities.**

In certain branches of the bank, positioning systems notify staff of the arrival of a customer with disabilities, enabling staff to take the required measures to improve the customer experience<sup>24</sup>.

Artificial intelligence technology has also been welcomed with delight in some banks: Customers visiting Japan’s Bank of Tokyo Mitsubishi UFJ can expect a 58 centimetre-tall humanoid robot, named NAO, to address their basic service-related questions in one of 19 languages. It isn’t just a one-sided conversation, NAO is also capable of interacting with customers’ smart devices and evaluating customers’ behaviours as well as facial expressions. This has not only reduced customer waiting time, but has enhanced the overall customer experience <sup>25</sup>.

a time that’s convenient for their customers and yet such a simple concept has not been fully embraced to its maximum potential within the industry <sup>26</sup>. The ability of a bank to combine technologies with human interaction that offers personalised banking services will become one of the key differentiators. Banks are therefore compelled to think more radically about how to service and engage with existing and potential customers in the future.

Sometimes, efficient services may not always demand the use of advanced technology. Despite being technologically savvy, the customers of BofA take advantage of the bank’s digitisation and schedule nearly 21,000 appointments with branch personnel every week using their mobile devices. Scheduling appointments online means that bankers can meet at



# 4

## Leaders' responses

**Innovation** is an imperative for banks operating in emerging markets. The pressure of new market entrants and the billions of currently unbanked potential customers require entirely new ways of doing business. Some banks are taking an incremental, evolutionary approach, while many others are revolutionary in their radical redesign of the way they do business <sup>27,28</sup>. In South Africa, **FNB was the first to offer** company name registration for start-ups, seamlessly integrated into the online cheque account opening process. This service has expanded into supporting businesses with tax and BEE registration processes, **helping** business owners by taking care of red tape and administration, freeing them up to **focus on their core business.**



In an era of **rapid emergence of new technologies** coupled with innovative business models, customers' preferences are deeply interlocked with the use of new digital innovations. Banking and other industries are experiencing digital disruption – these threats also **present opportunities** for institutions with leadership willing **to drive change**. Strategic imperatives offer ways of leading and sustaining innovative changes at all levels <sup>27,28</sup>.

## 4.1

### Strategy for exponential growth

Despite decades of investment in infrastructure, technology and marketing, long-standing Fortune 500 firms in consumer transportation and hospitality now find themselves competing, essentially, with a mobile app. This is, however, only partly true: Exponential organisations that have ushered in the Fourth Industrial Revolution have created a lot more than just a website with an intuitive interface. They have invested heavily and most have failed numerous times and often started as the underdog that no one believed would succeed. They have also cleverly built their business model around their customer; made big bets on technology; and intimately understood the needs they were solving.

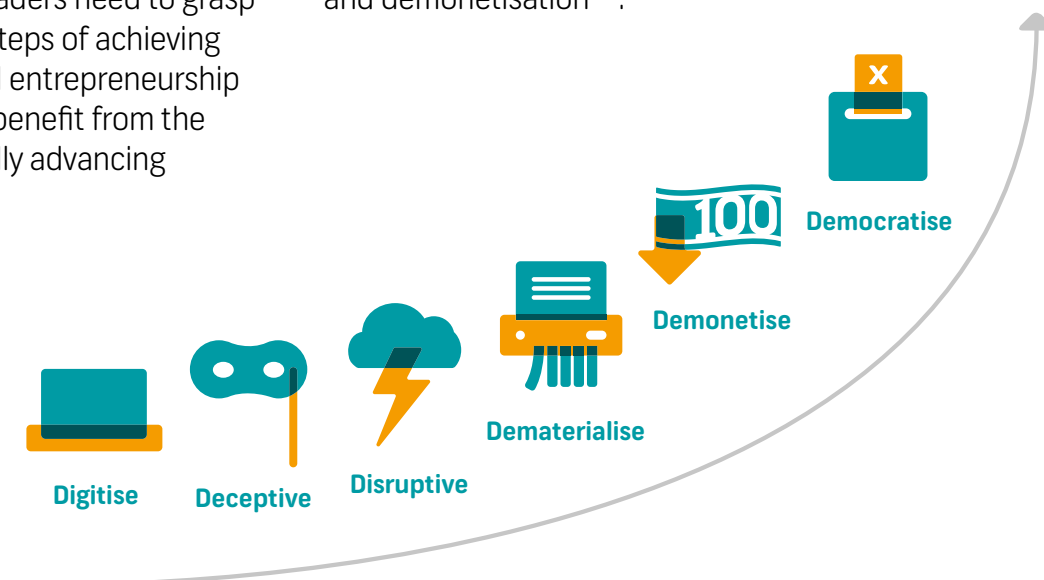
With ever-increasing volatility, uncertainty, ambiguity and complexity in the banking

sector due to digital disruption and other factors, today's leading banks must place greater emphasis on their future preparedness. Developing strong corporate foresight to assist exponential growth will become vital. It must be noted, though, that relatively few organisations have achieved genuine exponential business success in the last two decades and yet this model of growth has set the standard for outlying performance in the 21st century. Household names such as Uber and Airbnb are frequently cited as examples of the asset-lite, hyper-growth, high-tech businesses that are synonymous with a startlingly rapid disruption of their industries.

These organisations earned overwhelming levels of success by leveraging a set of business principles and processes that catalysed exponential growth

which have been proposed by popular writers such as Thiel and Masters <sup>29</sup>, as well as, Ismail, Malone, Geest and Diamandis <sup>30</sup>. Steven Kotler, American bestselling author, journalist and entrepreneur, posits that business leaders need to grasp six critical steps of achieving exponential entrepreneurship in order to benefit from the exponentially advancing

technologies. Digitisation, deceptive growth and disruption are three early steps in the exponential growth curve. Other steps include dematerialisation of assets, democratisation of information and demonetisation <sup>31</sup>.



## Exponential Growth curve from “Exponential Organisations”

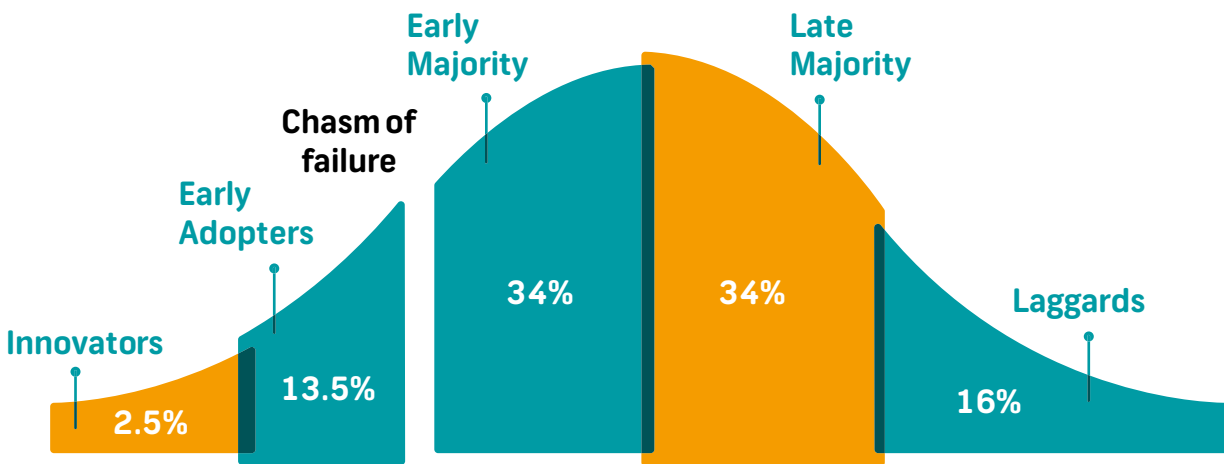
By Salim Ismail

The sequential nature of the exponential paradigm is important. Fully exponential companies were also not always the first or the best at each of these steps, but they did achieve them all with varying degrees of success and often in the same sequence. Digitisation is well understood as being the maximum automation of customer-facing processes - nobody has had to fill in a form to join Uber or stand in a queue to update their Facebook account.

This leads to the deceptive growth of early stage non-linear curves; double small numbers and you still get small numbers.

It's possible that Geoffrey Moore's "chasm of failure" fits neatly into this curve if the next step of disruption is not achieved; early growth just doesn't become disruptive or enjoy the majority usage - it falls into the chasm of failure or mediocrity <sup>32</sup>.

There were other on-demand transport apps before Uber, including South Africa's SnappCab, but none crossed the chasm to achieve such spectacular, non-linear growth.



### Technology Adoption Life Cycle

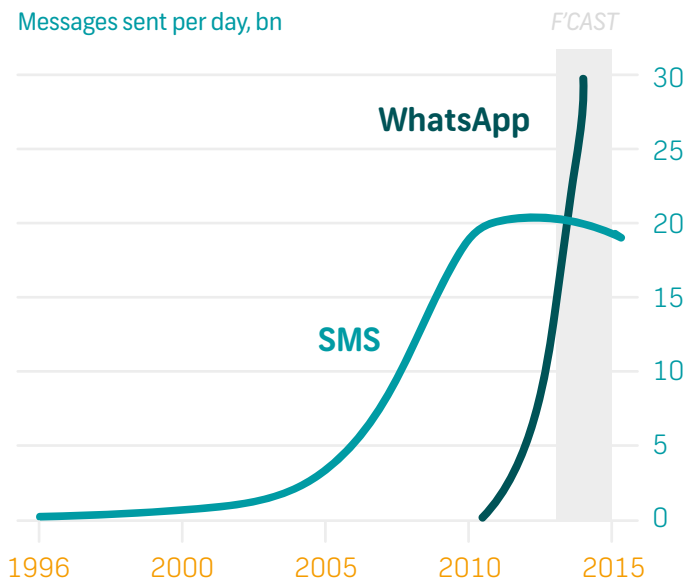
Geoffrey Moore's Technology Adoption Curve

The “network effect” is what helps achieve disruptive pace. The more customers join, the more it creates compound benefits for existing users. Facebook’s early growth was deceptive, but when it started doubling large numbers they became very large numbers. “Over The Top” (OTT) services such as WhatsApp have harnessed the network effect very well to drive message growth using their groups feature, a classic customer intuition that disrupts utility push messaging such as SMS by creating a social experience.

The so-called chasm described by Moore is also a point of discontinuity – incremental improvements cannot create disruption; think candle to light bulb and horse-drawn cart to Model-T. Dematerialisation is simply the abstraction of assets into pure services, often in a peer network such as Airbnb, which itself doesn’t own a single bed and is thus extremely “core-asset lite”.

Demonetisation usually follows this abstraction quickly because traditional asset-based business models rely on these assets to make money. The exponentially-growing base of digitised business customers who call Uber at an airport are quickly eroding the revenue streams of car rental companies whose assets become very

expensive, depreciating parking lots of unused vehicles. The queues, paperwork and car keys have been dematerialised into a slick, expectation-managed, safe transport experience (and time in the back seat to catch up on emails).



WhatsApp is disrupting traditional push messaging such as SMS

The final stage is when the peer network of significant numbers of fully connected people triggers the large-scale democratisation of information.

When Nokia bought Navteq for \$8 billion they tried to control vehicle movement information. This company had rolled out physical sensors on millions of road miles in Europe and Nokia wanted to own and include this data in their GPS product. This would have been an extremely clever product enhancement for their hundreds of millions of customers but they were rapidly disrupted, practically before they even started. Around the same time, the little-known Waze app had started signing up users to its slick maps and GPS user interface. Instead of investing in expensive assets, they simply asked their users to agree to send back their own vehicle movement information. Waze aggregated this data, churned it through algorithms and sent it back to users in the form of road

hazards, traffic hotspots and optimal routes.

Achieving all the six ingredients of exponential success meant Waze was quickly snapped up by Google for \$1.1 billion, leaving Nokia executives puzzled that the rules of the game had changed – quickly and simply.

**Can  
traditional  
banks adopt  
these  
exponential  
growth  
principles?**

South African banks are unlikely to achieve exponential growth at an enterprise level, simply because of their size and share of the market which is already established in a mature phase of their life cycle. The concepts of exponential growth are more useful in new or existing product lines, a good example being FNB's offering four years ago of discounted mobile devices bundled with cheque accounts.

The bank outsold the local distributor of iPads in a relatively short space of time, demonstrating exponential and disruptive thinking in a market that needed fresh and innovative action. It may be that such growth in parts of a business cannibalises product lines elsewhere, but at lower costs and higher profit margins which is beneficial overall. Executive leadership plays an important role in balancing these internal considerations and recognising how to gain and maintain market leadership.

The FirstRand Group has a strong owner-manager culture due to the entrepreneurial spirit of its founders, which means its business units have a high degree of autonomy to innovate and stay competitive. Internal IT of the large enterprise is also going through an evolution from being an enabler and service provider for business to a partner and catalyst for growth and new thinking. While typically the Fintech ecosystems and partnerships are being incubated by business, it is the IT departments that understand the most about how Fintech actually works and whether or not certain ideas will really take off and disrupt the market. Certain IT assets might be strategically important, and architectural principles must be in place to guide investment decisions, but there shouldn't be holy cows that are protected without sound reason. The world is moving too fast for vested interests in proprietary vendor tech stacks or specific technology

that may delay or prevent teams from betting big or even just prototyping new and disruptive technology. Collaboration is also crucial so that insight and learnings are freely shared across organisational boundaries; failures should be welcomed as stepping stones to success not reasons for blame and points scoring.

Start-ups inherently know these unwritten rules; their survival depends on it - but large organisations risk being too comfortable with their size and dominance. Ideally, each full-function team in a large company should think and act as if they are a business within a broader environment of support and structure. This is the breeding ground for exponential thinking and the highly profitable growth and success that comes with it.

**Transformation and exponential thinking in large organisations requires bold leadership but change is most likely to be evolutionary rather than revolutionary.**





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Changing the mental model to upend the core beliefs becomes the prerequisite step for cultivating new and courageous business models <sup>33</sup>. Leadership of digital businesses is a complex and contradictory undertaking. Leaders need to adopt different modes of thinking and embrace paradoxes <sup>34</sup>. Executives should demonstrate a strong sense of credulous curiosity towards their customers' pain points and the emerging trends in the market.

## 4.2

### Prioritising self-disruption

The success of Facebook as an organisation has often left people pondering how it constantly inspires its employees to reinvent the social networking site. After Facebook reached one billion users in late 2012, each new employee received a tiny booklet capturing a collection of quotes and ideas, representing the company's history and culture.

**“If we don't create the thing that kills Facebook, someone else will. Embracing change isn't enough. It has to be so hard-wired into who we are; not even talking about it seems redundant”<sup>35</sup>.**

These phrases are clearly captured at the back of the booklet. Despite the fact that parts of the booklet may seem

like company propaganda, the ethos of having the urgency to constantly disrupt oneself was unmistakably presented. Facebook's approach continues to generate indisputable financial results exceeding Wall Street's expectations<sup>36</sup>.

In 1997, author Clayton Christensen's *Innovator's Dilemma*, suggested successful companies can put too much emphasis on customers' current demands and fail to adopt new technology or business models that will address their unstated or future needs.

He further added that various organisations may seem to be successful in terms of meeting customer needs, adopting new technologies and taking rivals' strategic intent into consideration, but many of these companies still ended up losing dominance in their market. Christensen calls the anticipation of future needs “disruptive

# “I was blown away by the energy and progressive thinking ... world leading ... streets ahead.”

Participant - FNB Codefest 2015

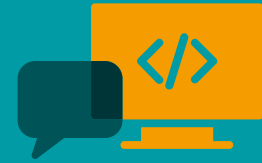
innovation” and argues that a company will eventually fall behind if it does not possess the proclivity to disrupt itself. Therefore, any organisation must continuously support and implement strategic initiatives to promote an internal innovation jumpstart. Running a disruptive initiative within an organisation comes with many challenges. Key stumbling blocks may include the lack of internal buy-in, inadequate resource allocation, rigid hierarchical organisation, out-of-touch culture, as well as ever-widening technology and skill gaps. Given all these challenges, banking leaders invest extra effort to create novel ways to foster collaboration and harness a shared commitment for continual innovation <sup>37</sup>.

**FNB’s Codefest is an annual six-day IT-business sprint that drives innovation of new technology, acceleration of existing projects and collaboration across IT teams in the FirstRand Group. It is an internal adaptation of the widely practiced “hackathon” coding marathon, with unique aspects that ensure specific value to the innovation programme at FNB and IT teams across Ashburton, RMB and WesBank.**

In October 2015, more than 250 developers in 42 teams convened in a single venue to build solutions for business problems and requirements that had been put forward during an “ideation” day one month previously. The sprint concept was borrowed from agile projects and combined

with a 24 hour coding marathon to ensure applications were completed and ready for judging on the last day.

The prototypes ranged across Blockchain, life insurance, fiduciary, sales campaign tool, social trading, lending, FICA document submission, and driver behaviour analysis. Intensive collaboration between teams and unprecedented support for the event resulted in participants remarking that “a solution that would have taken two weeks at the office gets done in 15 hours at the Codefest”; and “It is possible to achieve a working prototype and integrate with other coders and learn to see a bigger picture than my Java cubicle at work”.



**FNB CEO Jacques Celliers visited the Codefest at midnight to see how the teams were getting on, and later tweeted: “Maybe we must call Steve out of retirement to brag about all the cool stuff built at FNB Codefest today.”**

The ability to self-disrupt and go after “moonshots” is what makes Codefest crucial to maintaining the pace of IT innovation in an organisation, and both Standard Bank and Barclays Africa have also run a number of similar successful events. South African banks understand that top coders achieve better ideas at a faster pace when they self-organise under pressure in a highly creative and collaborative workspace. This intense

environment is what FNB Codefest aims to achieve for the non-stop coding marathon, while also giving the experts a chance to show why they are the rock star programmers that have a shot at the big prizes. It also fosters the new model of three intrinsic motivators that *Daniel Pink* posits in his book *Drive: The Surprising Truth About What Motivates Us*. Fear and reward are extrinsic, traditional models of motivation; but autonomy, master and purpose move beyond these and are especially powerful for knowledge workers such as software programmers<sup>38</sup>. View the FNB Codefest video to see why: [www.FNBCodefest.co.za/2015video](http://www.FNBCodefest.co.za/2015video).

The art and science of harnessing sustainable and effective self-disruption

requires a concerted effort.

Mohamed A. El-Erian, Chief Economic Adviser at Allianz and the Chairman of President Barack Obama’s Global Development Council, suggested that companies should reform their core capabilities by benchmarking against other potential rivals beyond those in their industry. Leaders should increase their focus on customers and drive organisational-wide transformations at every level<sup>39</sup>. Leaders must re-engineer their processes and organisational dynamics to achieve strategic ambidexterity – winning in the playing field through both exploration and exploitation – which will greatly determine the future competitiveness of their organisations<sup>40</sup>.

## 4.3

### Cloud as a Fintech enabler

Another technology innovation that offers disruptive tendencies is cloud. Essentially, it's a pay-per-use model that offers a short-term, cost-effective alternative to on-site fixed infrastructure. An enterprise can move applications to the cloud where a partner will maintain them and provide access to the users over the internet or a private network. Banks are cautious about this model due to data privacy regulations, and many central banks require customer information to remain within the borders of the country of operation. Cloud providers aggregate hosting requirements from multiple customers and achieve economies of scale by further virtualising their servers and hardware.

Smaller banks, however, have been successful with cloud. Britain's Tesco Bank moved to Amazon's hosting service (AWS)

in just eight months and now benefits from the reduced infrastructure costs and speed of bringing new applications online <sup>41</sup>. The downside to the model is developing new applications on the proprietary platform of the provider, as well as placing a huge reliance on them for availability of systems to customers and employees.

Cloud itself is not a new concept - the internal network of a bank is its own cloud and employees use it to gain access to systems that usually reside in a separately located data centre. For the established enterprise with huge investments in large fixed-cost infrastructure assets like data centres, it requires a massive shift in thinking to change their operating model. Data centre floor space requirements should be halving every year as existing legacy applications are

virtualised onto much smaller data centre footprints. The next logical step is to move these into the cloud and benefit from the economies of scale that will continue to come from assets being shared across multiple companies that are becoming continually smaller in size and physical space.

For customers, the internet is their cloud and arguably one of the biggest drivers of disruption and exponential technology; ubiquitous access to anything, anywhere at any time. The global race is on to leverage this to build really useful tools, which also provide information that customers need. Spanish banking group Banco Bilbao Vizcaya Argentaria has invested billions of Euros in digital transformation and acquired a cloud computing provider to support its strategy of switching customers to digital platforms <sup>42</sup>.

A 2014 survey of technology executives at financial institutions revealed that cloud computing holds the potential to reshape the partnership between corporate tech departments and financial institution business units <sup>43</sup>. Different business demands can be addressed too, as banks can choose several types of cloud applications such as private clouds for the more sensitive

data, and public clouds to store other information. More frequently, banks are going with a hybrid model that combines the two. Says Tom Groenfeldt in his article on Forbes.com:

**“Agility and time-to-market also augur for a more aggressive cloud strategy. When a competitor ups the ante on your mobile application and your bank wants to quickly match it to avoid losing customers, saying ‘months or weeks’ is unacceptable. If cloud can answer ‘hours and minutes’, cloud is where that application is going.”**

Cloud is an essential ingredient for the DevOps revolution taking place in IT organisations and bringing lean manufacturing

principles into the processes of maintaining, testing and supporting software. According to Puppet Labs' 2015 State of DevOps report, “Organisational investment in DevOps is strongly correlated with organisational culture; the ability of development, operations, and InfoSec teams to achieve win-win outcomes.”

## High performing IT organisations using DevOps practices

have

**60** times  
less  
failure,



recover **168 times** faster,

deploy **30 times** more frequently

and have **200 times shorter lead times.**

Deploying infrastructure in the cloud is a speedier and more cost-effective solution than using internal data centres, and contributes to lean practices and dramatic improvements in IT service levels. While cloud is an established practice, the use cases it enables are getting significant traction. In addition to DevOps there is also the API economy, cognitive computing

and distributed computation, all of which require established, secure and mature cloud usage behaviour and practices. More and more banks are overcoming their fears about security and regulatory risks and enthusiastically turning to cloud services <sup>44</sup>.

## 4.4

### Fostering cooperation with start-ups

In a recent Harvard Business Review article titled "*Big Companies Should Collaborate with Start-ups*", the author outlined the rationales and how imperative it is for the large organisations to partner with emerging entrepreneurs <sup>45</sup>.

The new preferences of the customer threaten the traditional business models of financial services companies and large banks whose growth and success has typically relied on fixed-cost infrastructure and manual processes. Industry hype is being driven by so-called Fintechs whose greenfield, customer-centric innovations are hot topics in every boardroom in the industry.

Nearly 30 new banking licences were granted to start-up banks in the UK just in the last decade, many of these with fully digitised processes and ambitions of exponential growth through

disruption of high street banking. In the USA, Google has banking licences in over 30 states; and in South Africa, bank customer digitisation and process innovation is already well advanced, in some cases even more so than in developed countries. However if digitisation is just an early stage in achieving outlying performance in a largely undisrupted industry, then the race for exponential growth is wide open.

The broader financial services landscape in South Africa has seen a groundswell of Fintech-related initiatives, most of which indicate a preference for collaboration between large banks and start-ups.



**Established banks in South Africa are creating these ecosystems for entrepreneurs and harnessing next-generation thinking so they can stay ahead of the curve in the race for digital disruption and exponential growth.**

These leading institutions are aggressively partnering and purchasing start-ups or white-label capabilities to increase the innovative offerings in their value chain.

Last year Standard Bank announced a range of physical and virtual incubators, aimed at helping early stage entrepreneurs with facilities, mentoring and an expanded network. Standard Bank benefits from access to disruptive technologies in these incubators, plus it is investing in social entrepreneurs whose disruptive ideas can benefit

society. Barclays has a global accelerator programme called TechStars, which includes a physical presence in Cape Town and offers a 13 week programme for start-ups that includes access to senior executives, industry experts and mentors.

RMI Holdings CEO Herman Bosman says its tech incubator AlphaCode is an enabler for start-ups and offers investment opportunities for the company, which has a good track record of picking industry winners - Outsurance, Discovery, MMI and FirstRand. Nedbank's Business Accelerator focuses more on established entrepreneurs and provides a media platform through 702 and Cape Talk for young companies to gain exposure and achieve continued growth.

Some conditions for disruption are already in place: Traditional banks have huge infrastructures,

operate under extremely restrictive regulation and have high cost to income (CTI) ratios above 50%. Start-up banks, in comparison, are lean and can achieve below 10% CTI, easily achieving the very thin margins needed to entice and switch ever more price-sensitive banking consumers. On the other hand, much of the main banks' infrastructure can be considered its strength - robust IT platforms that offer very high volume transacting; cross-border trade and settlements through a multinational presence; and very strong and trusted brands linked to vast networks of bricks and mortar points of presence that support a 70% banked mass market population. The nature of disruption is likely to exploit the cost and regulatory burden, while attacking the infrastructure benefits. The problem for start-ups is that the incumbents understand this and are already doing it.

Arguably there is also a long, slow burn of customer growth to the left of the exponential curve as the huge unbanked population in South Africa trickle into the slowing economy. This is a dual challenge for local banks: To the left – bank the unbanked; to the right – achieve outlying performance with digitised, profitable customers.

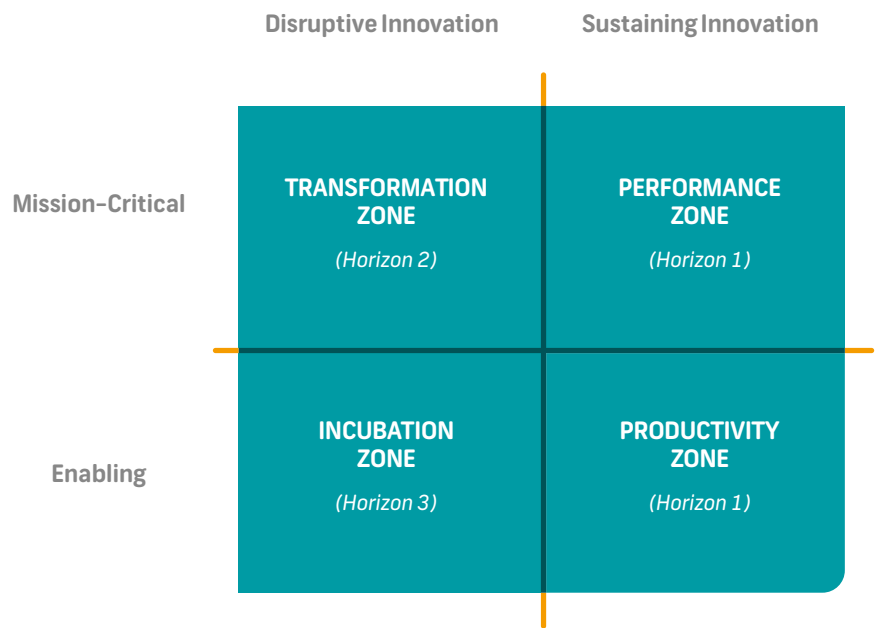
**Innovation investment in South African banking is indeed driven by technology and improved customer-centricity, but first-mover advantage will depend on sorting the hype from genuine long-term value.**



Technology start-ups within the Fintech arena are swiftly building trust with these digital natives through the convenience and simplicity of their offerings, but so far they seem unlikely to convert this to the life-partner trust levels that big brand banks still enjoy. Here the burdensome regulation works in favour of the established banks; they have simply worked a lot harder and a lot longer to achieve compliance and credibility in the industry.

**The successful banks of the future will build on this by moving the disruptive business models from incubation to transformation so they diversify their trust equity into the digital convenience that Fintech offers.**

Some would argue that partnerships and incubators



**“Zone to Win” – Geoffrey Moore**

are still mainly peripheral activities for established banks and that disruptive thinking and innovation needs to extend right through an enterprise to truly harness its full potential. The counter argument is that many of these Fintech solutions are still in the hype cycle phase and the bank’s periphery is the correct place for them until they are proven for mainstream.

In his latest book, *Zone to Win*, Geoffrey Moore argues for four different zones within an organisation that enable prioritisation and planning of resources to take advantage of disruptive innovation, while also actually running a successful business on established, currently profitable business models <sup>46</sup>.

The performance and productivity zones rely on a model of sustaining innovation to make profit and manage costs respectively. These are the areas of hard numbers and established technologies. For a bank, core business revolves around large volume lending and deposit taking that requires robust transactional banking platforms. The Incubation zone is more than a think tank for playing with cool stuff, it has an executive level mandate to position the organisation to catch the next wave – arguably the partnerships and ecosystems that banks in South Africa have created in the last 10 years.

The difficult part, Moore predicts, is scaling the profitable, disruptive innovations into the transformation zone, where the enterprise has decided and announced that it will run a new line of business that is

mission-critical to the evolution of their industry. Companies who fail to do this successfully are overtaken. Examples Moore cites in the tech world include Blackberry, Netscape, Lotus and Nokia.

Banks do not want to be on this list but they cannot rely on their traditional shock absorbers of regulation, size, infrastructure and brand value to keep themselves off the list.

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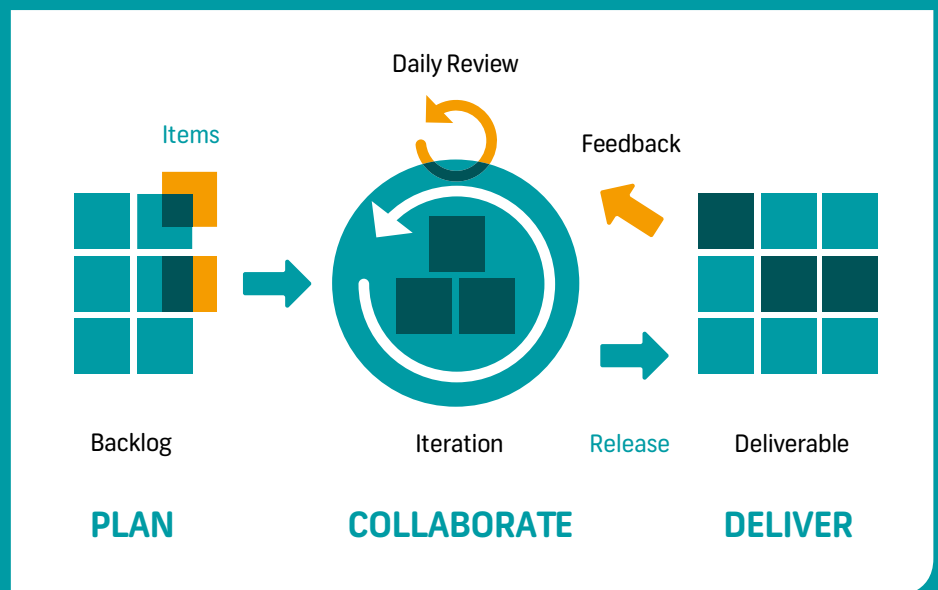
# 4.5

## Embracing Agile with zeal

Increasing competition in the financial services sector has motivated South African banks to embrace Agile and DevOps methodologies. Agile is an approach that emphasises the product development process with quick, iterative product development. Through the fundamental concept of test and learn approaches, and frequent collaboration among teams, empowered IT developers are able to respond quickly to changing customer needs and desires. Rooted in the Agile approach, DevOps is the practice that emphasises the partnership, communication and integration between software developers and IT operations personnel that may lead to improved business and IT benefits. In South Africa, the 154-year-old banking giant Standard Bank embarked on a multi-year digital transformation focused strongly towards a

shift to Agile methodology. Barclays Africa is also enjoying the success of an 18-month long company-wide Agile adoption campaign.

### The Agile way: rapid, iterative cycles of product development



Banks are also driving more Agile business models which include how they run operations and IT projects. Standard Bank has made a shift to Agile software development, which it credits with an improvement in service delivery and efficiencies of internal processes. Chief Technology Officer Mike Murphy told McKinsey in a recent interview: "By the end of 2016 we're aiming to have the rest of Application Development organisation using Agile development. Much more emphasis on collaboration and co-location, we gave teams autonomy, set a maximum time for sprints and each team member goes through training. Before Agile our developers might post a 38 percent testing-failure rate; after Agile a 3 percent failure rate <sup>47</sup>."

At a recent Africa DevOps Day industry conference Peter Rix, CTO of Barclays Africa, spoke about the bank's Agile transformation programme that has put hundreds of people through training. He noted too that Barclay's Africa also built an Agile workspace called co-labs, which fosters innovation and collaboration for feature teams

working on high profile, digital transformation projects.

**Its investment in Agile is paying dividends through a motivated IT workforce, better partnership with business, greater trust levels and quicker speed to market with IT enabled projects <sup>48</sup>.**

A recent example of this is the bank's newly launched open API for SMEs, which provides external parties with access to the bank's products and services. This is the first of its kind "banking as a service" (BAAS) product to be launched in South Africa and also supports the rise of the API economy as a key enabler of the type of digital disruption caused by Fintech.

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The 12 key principles of Agile were agreed in 2001 and formed the "Agile Manifesto", which is universally accepted as guiding serious attempts at embedding any Agile methodology of software development <sup>49</sup>. Business and IT

leaders who are looking for more agility in their software project teams should review these principles and consider how to make practical changes that encourage their adoption. Importantly it is not an "all or nothing" approach - it can be a toolbox of ideas and approaches that should also be considered as cultural improvements, not only process or operational imperatives.

For example the fifth principle requires leaders to "build projects around motivated individuals, give them the environment and support they need, and trust them to get the job done". While at face value this is common sense and good practice, it is surprising how many projects fail because of environmental issues. The hierarchical nature of organisations does not naturally form spaces within which multi-functional teams can self-organise and be semi-autonomous. Today's knowledge workers simply do not perform well in the command and control worlds of many large organisations and radical cultural changes are required. Often the top level executives and bottom rungs of an organisation

intuitively understand this; it is the middle management layers that often get in the way.

By definition, middle management exists to retain the structure of an organisation; it keeps people organised and under control. Agile is definitely seen as a threat to this means of control and research shows that middle management will act like the immune system of an organism and isolate the Agile virus, cutting it off from the host and killing it. The world is moving too fast and the stakes of disruptive innovation are too high for organisations to risk losing the benefits of Agile by allowing career managers to protect their empires. Some organisations have managed to adopt Agile very successfully – and take most of their middle management team with them on the journey.

Suncorp, one of the largest banking and insurance companies in Australia, started a five year journey of Agile adoption led by the new CIO in 2007. After two years, the benefits were already apparent. A key learning in the journey was the need for a “symbiotic relationship between line

management and the Agile teams”. While the Suncorp Agile journey was led from the top, it became clear that the traditional line manager’s handbook differs from the Agile way of working and “Daunting Dysfunctions” arose as a result. The Agile way of building software encourages self-organisation and a large degree of autonomy by project teams. This approach has resonated well with IT teams that want to build software quicker and collaborate closely with their customers as well as other teams across organisational boundaries. However, this could be seen as disruptive or even a threat to the highly structured environment that management has created, and it might therefore become difficult for these software projects to be delivered <sup>50</sup>.

Two examples of managerial dysfunctions on Agile projects at Suncorp was “back door conflict resolution” and “corridor interventions”. Line managers exerted their authority counter-productively and this affected trust and relationships. To help prevent such dysfunctions, Suncorp developed a social contract for project teams to counteract this

influence, even stating, “We have zero tolerance for bullying”. Characterising managers as bullies is an unfair generalisation but it is clear that the required symbiotic relationship between Agile teams and line managers required significant focus on the human aspects of software development. Ultimately, they were successful and found that “teams that have gone agile show an almost immediate increase in safety and morale. They feel appreciated, empowered, valued. This benefit, while hard to quantify, is firmly believed by senior leaders to be the key to sustainable success.” It is essentially a test of leadership: Management is based on the transactional style, but Agile ways of working are creating an imperative for more “servant leadership” in the workplace. Key aspects of successful Agile project environments - such as trust, empowerment and support - require a radical new way of thinking about how we lead people in organisations, and especially in the software projects that keep the business competitive.

## 4.6

### New eyes on services redesign

Marcel Proust famously said: “The real voyage of discovery consists not in seeking new lands but seeing with new eyes,” and the banking sector leadership will be compelled to review how they do business. Banks must offer customers “what they need”, not “what the bank has” and increase the quality of hyper-personalised products and services.

To combine digital and physical channels to grow market share without (or with the minimum use of) traditional branches will become the mainstream approach. Agile banks understand that with everything they do, they must be highly disciplined in infusing their own blend of customer-focused approach. The obsession with understanding customers' perspectives and behaviours provides them with greater insights to design their operations and service suites

more effectively. These banks affirm their proclivity to continually anticipate future change and improve all aspects of what they do.

The area of customer experience is arguably where technological disruption has had the greatest impact in the last ten years. Customers expect a fully digital, seamless on-boarding experience; no queues, no forms, no admin. And, while millennials might not be the most profitable bank customers yet, locking in their loyalty now through slick processes is crucial. Standard Bank has gone beyond millennials and launched a kid's savings app that encourages children aged 7-13 to save using incentivising goals and chores managed by their parents. Children are important influencers of household spend (and brand choice), so banks must think smarter about all customer



segments and how they can enhance their sales and service experience.

Banks also don't want to become back-end utilities for someone else's customer-centric front-end that provides additional value-added services. WhatsApp, for example, is an OTT provider of rich messaging features that uses the telco's data network, but owns the customer experience entirely.

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**WhatsApp's  
exponential  
innovation  
was rewarded  
with..  
Facebook.**

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There is now very little loyalty to the utility data provider for a WhatsApp user - they will jump from fibre at home, to LTE in the car and WiFi in the coffee shop. They just need to connect so they can use WhatsApp. Bearing this in mind, banks need to continuously innovate to infiltrate the customer's online and mobile experience in order to retain their current brand loyalty. FNB's online and mobile platforms have been rated the best for banking in South Africa for three years running; and the more innovative and customer-centric experiences enabled on those platforms will ensure customers turn to their banking app for banking services. Although Google has banking licences and Facebook offers money transfer, they still have a long way to go to offer the breadth of banking products that any of the major banks in South Africa provide, many of them

already on their digital platforms. Disruption could, though, also come through user devices and platforms and the concept of apps and browsers may change entirely. UnionPay could simply brand and bundle cheap mobile phones with its payment cards across Africa. This would put a proprietary mobile banking platform in the hands of hundreds of millions of customers transacting and connecting across the continent on utility telcos and banking infrastructure.

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**Around the globe, these leading organisations within the financial institutions are increasingly embracing design thinking as a management ethos.**

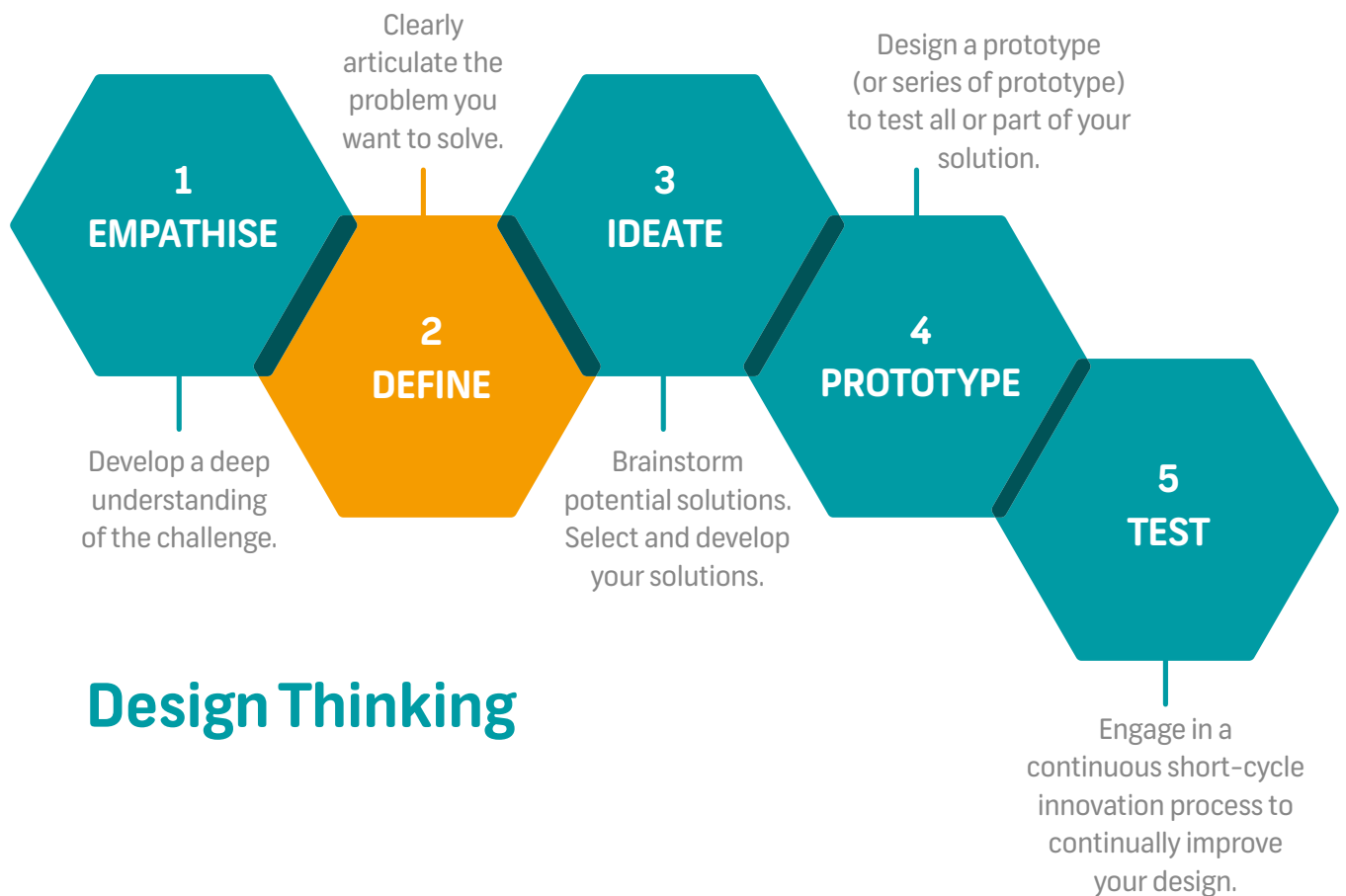
Trendsetting banks have no fear of adopting new ways to view a challenge and adapting themselves to the rapidly changing needs of existing clientele, so they constantly explore viable means for service redesign and anchor their approaches on the “design thinking” principles.

**Around the globe, these leading organisations within the financial institutions are increasingly embracing design thinking as a management ethos** <sup>51</sup>.

Design thinking is a practice originally used by product designers to resolve complex challenges and deliver client-centred solutions. A design mindset is not problem-focused but a possibility-driven way of challenging issues at hand. By credulously empathising with the pain-points and understanding the aspirations of the customers, design thinking seeks to experiment with creative

possibilities and explore pragmatic actions oriented towards producing a desirable future for the clients. Design thinking principles allow organisations to create offerings with added “wow” factors.

According to a 2014 assessment by the Design Management Institute, design-led companies have outdone other S&P 500 companies over by an astonishing 219% during the past 10 years. Due to the remarkable success rate of these design-led firms, design thinking methodology has evolved beyond making objects. Trendsetting banks must learn how to strategise like designers, and apply design thinking principles to all of their stakeholders, including the workplace itself. Moreover, many leading banks are adopting design thinking as one of the core differentiators for strategic management and organisational change.



## Design Thinking

But it is also worth noting that while design thinking can assist organisations to innovate, the pursuit of radical innovation at times may require other auxiliary methods. In a recent study, Gustafsson, Kristensson and Witell stated that the customers' inputs are greatly influenced by their recent experiences. The study found that companies can only achieve better results in its product development if customers are given the right prerequisites for

participating actively in the development processes. Moreover, the really radical solutions are difficult to imagine based on experiences with current products<sup>52</sup> and therefore it is equally important to really listen to what the customers are actually saying as well as to observe what they are actually doing<sup>53</sup>. At times, it may be just as important to pay attention to some of the "crazier" behaviours of the outliers, as customers' action may assist the

organisation to achieve more disruptive innovation.

Moreover, do not just listen to the customers – leaders should pay attention to their frontline employees. Empowering and educating the employees, aligned with effective feedback systems, will essentially permit the companies to become more responsive, adaptive and competitive<sup>54</sup>.

## 4.7

### Invest in talent

As stated in the previous section, employees can make profound contributions towards a company's innovativeness. In fact, none of the above-stated recommendations can be realized without a new breed of talent – those who are equipped with the right skills and the right mindset for the era of digital disruption.

Across all industries, talent continues to be a dominant theme for doing business in emerging markets. Increasingly, banks are becoming creative in their quest to attract and retain the right personnel. IT skills in banking are particularly scarce and their highly marketable skills are easily exported. The banking sector must strive to be the employer of choice for young entrepreneurial skills – people who are willing and able to disrupt from the inside, as

well as bring the fresh thinking and crucial skills into the organisation.

Most main banks in South Africa offer innovation rewards programmes.

## **FNB's innovators programme has run since 2004 and has paid out over R42 million in incentive rewards to staff for developing and implementing the best ideas.**

Market-related salaries are also important to retain skills, but intrinsic rewards philosophies are also playing an increasingly important role in the choice of company for experienced IT professionals.

Recent Accenture research highlighted that 61 percent

of digital leaders cited skills shortages as one of the top business challenges and are concerned about how they can attract and retain top digital talent <sup>55</sup>. It is increasingly harder for banks to pre-empt how it should reshape their workforce in the era of digital disruption. Matching labour supply and demand in the era of digital disruption thus requires a holistic but innovative approach.

As online recruitment platforms make it easier to headhunt, and more difficult to retain top talent, progressive institutions that offer self-directed learning may win the digital battle for employee retention, while allowing continual up-skilling of their talent. Institutions that create an in-house platform for learning, sharing of ideas and peer-approval can not only monitor the progress of their

personnel but encourage growth in their areas of strength.

Investing in talents is not merely about implementing innovative training solutions, leveraging the latest human resource management technologies and/or introducing incentives. It is also about how leaders can institute the appropriate practices that actively raise employee engagement, strengthen creativity, inspire positivity and reduce bureaucratic culture.

# 5

## Banking beyond money

- digitisation thinking should do the same

Successful banks have managed to create ecosystems around their customers that touch many more aspects of their lives than just financial. These banks aim to become partners for people and businesses throughout their life stages. Banking has gone much further than transactional payments, deposits, credit and investments, touching the essence of almost every area of customers' lives.

FNB's eBucks programme created a rewards ecosystem that provides significant value for its partners, participating businesses and customers, who were rewarded for specific behaviours. Not only did this have financial benefit, but a variety of value-adding services made the lives of the bank's customers easier. FNB's business customers also benefit from highly innovative Software as a Service (SaaS) products such as Instant

Accounting, Cashflow and Invoicing, all tools that are available free of charge within the bank's secure digital platforms. In the race to digitise their customer base, banks must ensure their digital platforms evolve beyond the core money transactional requirements.

Technologies like cognitive computing mean that digitisation includes the automation of financial advice in a trusted ecosystem. This could easily extend to business, marketing, operational, and industry insights. IBM's Watson is pioneering the way in which AI is being delivered, and it is becoming increasingly more humanlike.

**Financial services across the globe are racing to adopt the concept of robo-advisers, automated systems that can dispense the best financial advice to customers faster and more conveniently than their human counterpart, the financial adviser.**



If we really are in the second half of the chessboard and technologies will get exponentially more disruptive, then businesses must act quickly and experimentally to understand how they can extract value from these concepts, many of which are still hype but might become mainstream.

With the explosion of the Internet of Things (IoT) Bluetooth sensors called iBeacons could, for example, be picked up by the customer's banking app on their mobile device when they enter a store. This enables highly customised push messaging, personalised product offers, welcome messages, wait time information and more.

On-the-spot credit approval linked to time- and location-based special offers, coupled with loyalty programmes, starts to create a real shop-better

value proposition with significant "braai marketing equity" – as Afrihost CEO Gian Visser calls *"giving our clients an experience they will want to talk about around a braai"*.

Businesses and entrepreneurs can benefit as well from this extended ecosystem of connected and intelligent devices. Payment innovations like SnapScan, Zapper and Payment Pebble already offer new mobile POS solutions for businesses and their customers. The question now is, will the IoT open up the concept of Device as a Service and go beyond payments in the front office and through to supply chain and operations innovations in the back office?

## **New entrants, new tech, new thinking – what does this mean for the finance industry and how well are banks responding? How do large organisations ensure execution of such ideas?**

There is no silver bullet: Strong executive leadership that creates space for agile teams and enables capable people to deliver in trusted environments is key. Successfully out-innovating market rivals usually also requires partnerships; focused organic or inorganic skills acquisition; and the willingness to ruthlessly de-prioritise non value-adding projects.

Start-ups appear to be threatening traditional banking models – is this being taken as seriously as it should be, and where do big banks start to respond to potential threats?

What is the right model? Inside-out thinking (eg Larry Ellison / Oracle) drives scalable, enterprise-engineered architectures; outside-in thinking (eg Steve Jobs / Apple) drives customer-centric channels and intuitive user experience. The right culture in a large organisation will integrate the best of both of these paradigms while a healthy boardroom debate will achieve the right balance between them.

It is no secret that a major concern for the big banks is having their lunch eaten by the likes of Apple, Google, Facebook and Amazon - and we can expect these internet behemoths to build on their consumer relationships and make further inroads into the payments arena next year. Apple launched its Apple Pay mobile payments service this year, and others such as Samsung are set to bring to market similar offerings. While Barclays has its own wallet, Pingit, it will be interesting to see if other

banks attempt to stake their claim in this market - or leave it to the big tech firms.

As Tom Goodwin, Senior VP of Havas Media, rightfully pointed out, “Uber, the world’s largest taxi company, owns no vehicles. Facebook, the world’s most popular media owner, creates no content. Alibaba, the most valuable retailer, has no inventory. And Airbnb, the world’s largest accommodation provider, owns no real estate. Something interesting is happening”.

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# Digital disruption

in the banking industry  
is gaining traction but  
**incumbents are responding  
and innovating.**

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Fintech players are likely to  
**consolidate during the next five years**  
and durable threats will test the  
big banks' success in converting  
**innovation into core capabilities.**

# About the authors

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Peter Alkema is the CIO of FNB Business and has more than fifteen years' experience in IT developing innovative solutions in CRM, Procurement, Finance and HR. Peter has an MSc Mechanical Engineering from Wits University and is currently busy with his PhD researching Agile software development in large organisations.

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## About FNB

FNB is the oldest bank in South Africa, and can be traced back to the Eastern Province Bank formed in Grahamstown in 1838. Today, FNB trades as a division of FirstRand Bank Limited. When looking at FNB's history, two things in particular stand out. The first is a story of survival - different circumstances in South Africa have posed many great challenges in our history, all of which FNB has successfully met. This track record provides a strong foundation for our future challenges. The second is a story of people - our history has always been firmly influenced by the needs of the people we serve.

The Acacia tree in our brand logo is a suitable representation of our history. Our roots run deep in South Africa, and we have grown thanks to our commitment to serving the needs of our clients and communities.

A landmark development in FNB's history took place in 1998 when the financial services interests of Rand Merchant Bank Holdings and Anglo American were merged to form FirstRand Limited. In the process, FNB was delisted from the JSE on 22 May 1998 to become a wholly-owned subsidiary of FirstRand, which was listed on the JSE on 25 May 1998. On 30 June 1999, the banking interests of FirstRand formally merged into a single entity to form FirstRand Bank. FNB, WesBank, Ashburton and RMB now trade as divisions of FirstRand Bank.

## About GIBS

Founded in 2000, the University of Pretoria's Gordon Institute of Business Science (GIBS) is an internationally accredited business school, based in Johannesburg, South Africa's economic hub. As the business school for business, we focus on general management in dynamic markets to significantly improve responsible individual and organisational performance, primarily in the South African environment and increasingly in our broader African environment, through the provision of high quality business and management education. In May 2016 the annual UK Financial Times Executive Education rankings, a global benchmark for providers of executive education, once again ranked GIBS as the top South African and African business school. This is the 13th year running that GIBS has been ranked among the top business schools worldwide. In October 2015 the GIBS MBA was ranked among the top 100 business schools globally in the prestigious Financial Times Executive MBA Rankings. GIBS is the only business school in Africa to appear in this ranking.

GIBS is accredited by the Association of MBAs (AMBA), the Association to Advance Collegiate Schools of Business (AACSB), the Council on Higher Education (CHE) and is a member of the South African Business Schools Association (SABSA), and the Association of African Business Schools (AABS). For more information, visit [www.gibs.co.za](http://www.gibs.co.za)

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