Agenda

Digital Banking Trends
Digital Banking Emerging Best Practices
SA Digital Banking Diagnostic Results
Key Findings and Considerations
**What is Digital Banking?**

**Definition**

- Digital Banking entails the **digitisation of traditional banking services** in order to deliver financial services to customers.
- This entails digitization of marketing, customer onboarding, service channels, processes, as well as products and features such as savings and deposits, loan management, bill payments, and also facilitating digital lifestyle services such as ride hailing, eHealth, EdTech, Telecoms, Media, etc. through ecosystem orchestration, partnerships, and open APIs.

<table>
<thead>
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<th>Key technologies powering Digital banks</th>
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<tr>
<td>Big Data &amp; Artificial Intelligence</td>
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<td>Cloud Computing</td>
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<td>Biometric/ Digital ID</td>
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<td>Open APIs</td>
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<td>Intelligent Automation/RPA</td>
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<td>Chatbots/Robo Advisory</td>
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<th>Types of Digital Banks</th>
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<td>Challenger Banks</td>
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<td>Neo Banks</td>
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<td>Beta Banks</td>
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<td>Nonbanks</td>
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<td>Digitized Incumbents</td>
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There are 5 distinct types of Digital Banks

- **Challenger Banks**
  - New/Challenger banks have full banking licenses and are direct competitors of the traditional banks offering the same services as traditional banks.
  - Essentially, they are Fintechs with banking license.

- **Neo Banks**
  - Neo banks do not have a banking license, but partner with financial institutions to offer bank-licensed services.
  - Typically, neo banks still require customers to have an account at an existing licensed bank.
  - They are completely digital banks that have no physical presence and reach out to customers via mobile apps and web platforms.

- **Beta Banks**
  - Beta banks are joint ventures or subsidiaries of existing banks that offer financial services through the parent company’s license.
  - Beta banks are often set up as a way to enter new markets, offering limited services, to a targeted consumer base.
  - They are targeted at the tech-savvy, millennial customer segment, as well as to provide best-in-class innovative banking services.

- **Nonbanks**
  - Nonbanks have no connections to traditional banking licenses. Instead, they provide financial services by other means.
  - This unique model allows the company to operate independently of existing banks.

- **Digitized Incumbents**
  - These are digitized incumbent banks that are pursuing total digital transformation.
  - They compete with digital challengers by acquiring their capabilities.
  - They segment digital and traditional customers.
Globally Digital Banking is growing and is projected to continue in an upward growth path over the coming years.

The global digital banking market size was valued at $803.8 billion in 2019 and is projected to reach $1610 Billion by 2027.

The retail banks segment commands the largest share in the digital banking market, valued at $574.4 billion in 2019 and is projected to reach $1320 billion in 2027.

The **Digital payment segment** is the largest service segment in the digital banking market and expected to lead the market by 2027.

The digital payments service was valued at $194.5 billion in 2019 and is projected to reach $402.5 billion by 2027.

**North America** is currently dominating the market, valued at $376.2 billion in 2019 and is projected to reach $721.3 billion by 2027.

Source: Digital Banking Report Market Report 2021
Across the world consumers in their large numbers are adopting Digital Banking channels

Digital banking users' percentage share by region

- As of 2021, as many as 2 billion individuals worldwide actively used online banking services with that the number forecast to reach 2.5 billion by 2024
- In 2021, Far East and China already accounted for over 800 million active online banking users which is about 41% of the global market and the figure is expected to reach nearly one billion by 2024.
- This was followed by Europe 19%, North America 12%, Oceania and Central Asia 11%, Middle East and North Africa 7%, Latin America 6% and Sub-Saharan Africa 3%.
- Globally, the use of online and mobile banking is estimated to increase steadily between 2020 and 2024, with the Asian market being the largest.

Source: Source © Statista 2021
In line with the global trend there has been an increase in the adoption of digital channels by consumers in South Africa.

The proportion of the banked population that used a banking channel to make transactions:

- **Retail Store**: 84% in 2018, 81% in 2019 (-4%)
- **Bank Branch**: 34% in 2018, 37% in 2019 (+9%)
- **Cell phone banking**: 19% in 2018, 23% in 2019 (+21%)
- **Banking app**: 8% in 2018, 12% in 2019 (+50%)
- **Internet banking**: 9% in 2018, 7% in 2019 (-22%)

- The proportion of individuals that used a banking app and cellphone banking increased by 4% points between 2018 and 2019.
- Retail stores have become increasingly popular as a distribution channel for simple transactions with Tyme Bank partnering with Pick ‘n Pay and the Checkers Money Markey product as examples.
- Individuals that used the retail stores to perform transactions between 2018 and 2019 increased 4%.
- Consequently, banks have been reducing the number of physical facilities available for transactions.
- The aggregate number of bank branches owned by the 5 largest banks reduced by 56 branches in 2020 from 3 204 branches in 2019.
- Similarly, the number of ATMs available decreased in 2020.

Source: FinScope survey, 2019
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Leading Incumbents are digitizing rapidly across four components:

1. **Digital customer experience**
   - Digitise the customer journey in order to radically transform/enhance customer experience.

2. **Digital products & services**
   - Innovating and leveraging technology to develop products and services to address customer needs.

3. **Digital operations & Technology**
   - Leverage technology to streamline manual/cumbersome processes in order to improve speed, quality, volumes.

4. **Digital organisation**
   - Build internal environment and capabilities that will result in an organisation that is innovative and responsive in a fast changing environment.
Digital Banks are achieving customer excellence by digitizing the customer journey across 8 key touchpoints, leading to greater customer experience.

- To ensure ~30% increase in CEX, ~50% increase in engagement and ~40-60% reduction in churn leading Digital Banks have focused on each of the three stages of the customer journey, across 8 touchpoints.
Leading Digital Banks are going beyond financial services by offering an ecosystem of services to address digital lifestyle needs to deepen engagement with customers.

Financial Services (*Payments, Lending, Savings, Insurance, Investments*)

- eCommerce
- eHealth
- Transport services
- Communication
- eEducation

In order to deliver varied ecosystems of digital lifestyle services to consumers, leading Digital Banks are partnering with top technology startups/Big tech firms.
Digital Banks are achieving operational and technological excellence by ensuring their top processes are automated and they have an agile digital stack.

### Automation of Top 20 - 30 end-to-end processes that account for ~40 - 50% of costs and 80 - 90% of customer activity

<table>
<thead>
<tr>
<th>Number of processes</th>
<th>Number of FTEs ('000)</th>
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<tr>
<td>0</td>
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<td>10</td>
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<td>600</td>
<td>110</td>
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- **Top ~30 processes**
  - Account opening & onboarding
  - Home Loans
  - Lending (personal, SME, corporate)
  - Customer enquiries
  - Credit card issuance
  - Complaints handlings
  - Cash handling
  - Annual portfolio review

### Tech stack architecture that enables rapid development of products and features

- Confluence
- JIRA
- git
- DC/OS
- docker
- AWS
- CHEF
- sbt
- Maven
- JUnit
- Jenkins
- CODESHIP
- Nagios
- splunk
- kubernetes
- Ansible
- kubernetes

- Leading Digital Banks are able to reduce cost-to-serve by 20% by digitizing and automating their top 20 - 30 processes (50% of total costs) and reducing 40% of costs from each process.
- This in turn leads to enhance customer service (e.g., turnaround times) and customer engagement (e.g., NPS).
Leading Digital Banks are organizing in a way that allows them to innovate rapidly

• Leaders of leading digital banks are embracing rapid innovation and experimentation as a means to successfully delivering Digital Banking propositions
• Leaders are not only embracing innovation but also cascading the message across the organization
• Additionally, leading Digital Banks are reorganizing their delivery teams based on Agile and DevOps principles
• Leading digital banks have also recognized that delivering rapid digital innovation requires critical skills such as critical thinking, creative problem solving, mental flexibility etc..
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### SA Digital Banking Diagnostic findings (1/2)

<table>
<thead>
<tr>
<th>Customer Experience</th>
<th>Digital Products</th>
<th>Operations &amp; Technology</th>
<th>Organisation</th>
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<tbody>
<tr>
<td>1. Digital Marketing</td>
<td>6. Innovating and leveraging AI technology/Big Data to enhance customer value propositions</td>
<td>10. Investment in digitised operations (i.e., Robotics Process Automation/ Intelligent Automation)</td>
<td>13. Investment in talent and skills to roll out digital products</td>
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<tr>
<td>2. Automation and personalisation of customer journey to segment of one</td>
<td>7. Leveraging APIs technology to drive partnerships between organization and Fintechs</td>
<td>11. Leveraging technology to reduce the costs and time associated with serving banking customers</td>
<td>14. Movement towards an organization structure that enables the execution of digital banking</td>
</tr>
<tr>
<td>3. Digital channels offerings</td>
<td>8. Innovating/incubating products and services leveraging technology</td>
<td>12. Investment in a technology stack that enables the roll out of digitized and data led propositions.</td>
<td>15. A mindset and behavioural change and methodologies allowing for agile, responsive, iterative, collaborative digital product development and execution</td>
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<td>4. Leveraging technology to promote remote banking</td>
<td>9. Leveraging of data to offer personalized customer value propositions</td>
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<td>5. Impact of digitization of customer facing processes on customer experience</td>
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#### Impact of Digitization of Customer Facing Processes

|-----------------------------|-----------------------------|----------------------------------|---------------------------------|

- Customer Experience
  - Low
  - Basic
  - Good
  - Best-in-class

- Digital Products
  - Low
  - Basic
  - Good
  - Best-in-class

- Operations & Technology
  - Low
  - Basic
  - Good
  - Best-in-class

- Organisation
  - Low
  - Basic
  - Good
  - Best-in-class
SA Digital Banking Diagnostic findings (2/2)

Customer Experience
- Large proportion of banks have digitised the customer journey in order to radically transform/enhance customer experience.
- Although this is happening at a wider scale, there is still more room for improvement to fully transform/enhance customers' experience to be best in class.

Digital Products & Services
- Small proportion of banks are innovating and leveraging technology/data to develop products and services to address customer needs, while majority of banks are still figuring it out.

Digitise Operations
- Small proportion of banks have agile tech stacks to rapidly deploy products.
- Majority of banks are having plans in place to digitise operations and others have just begun the journey with no material impact to point out at the moment.

Digitise the Organisation
- Small proportion of banks have built internal environment and capabilities that will result in an organisation that is innovative and responsive in a fast-changing environment.
- Majority of banks are having plans in place to digitize their organisations, whilst others have just started implementing their plans.
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The SA Digital banking survey further identified several benefits as well as drawbacks emanating from Digital Banking

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Drawbacks</th>
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<tr>
<td><strong>Convenience and constant access:</strong> The digitization of banking means that customers can now access their accounts 24/7 and carry out all manner of transactions with a few touches of a button.</td>
<td><strong>Downtime/ Operational Stability:</strong> if you rely solely on an online bank, you could be challenged to access your accounts should your bank experience an online or mobile app outage and you have no branch to visit.</td>
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<td><strong>Simplified customers journey:</strong> Digital Banks can onboard new customers so much more easily than traditional banks. It is usually a paperless process with documents like proof of ID, employment and address uploaded via smartphones and verified quickly and efficiently.</td>
<td><strong>Security issues:</strong> Although security is of higher importance to Digital Banks, there is always the chance that personal information e.g., user username and password could be hacked.</td>
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<td><strong>Personalisation:</strong> Digital Banks are able to use alternative data to design products and services that meet individual specific requirements/needs</td>
<td><strong>Technology illiteracy:</strong> For those who are not tech-savvy, online banking and mobile banking apps might be very difficult to use.</td>
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<td><strong>Lower fees:</strong> Automated services, the lack of physical branches and less employees means that Digital Banks banks have considerably fewer costs than traditional banks. These savings can be passed down to customers as reduced charges and services.</td>
<td><strong>Lack of a personal relationship:</strong> Digital banks de-emphasise face to face contact which may lead to some customers not being serviced adequately</td>
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<td><strong>Rapid product and feature development:</strong> Digital banks are quickly able to deploy new features and services in response to customer behaviour/data</td>
<td><strong>Digital Penetration:</strong> Smartphone ownership and data penetration is still low in South Africa, both critical enablers for Digital Banking adoption</td>
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<td><strong>Process agility and responsiveness:</strong> Digital banks use less cumbersome and more flexible processes than traditional banks in serving their customers and thus deliver a seamless/faster/simpler customer experience.</td>
<td><strong>Third Party risk management:</strong> many banks are outsourcing all or part of their digital strategy to Fintechs and other third-party vendors.</td>
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Six key considerations for the Financial Sector (1/2)

1. Digital Literacy & Consumer Education
   - Digital Literacy and Digital Divide: Collaborative effort among financial sector stakeholders is needed to provide adequate digital infrastructure and services to rural areas and enable necessary conditions to empower consumers to compete in the digital economy.
   - Fit-for-Purpose Consumer Education: Digital Banks need to build in fit for purpose consumer education throughout the customer journey processes, to ensure that consumers are informed of risks and benefits emanating from digital banking activities, as well as how these products and services work.
   - Informed consent: Digital Banks need to provide clear and accessible information upfront about how customer data will be used (e.g., terms and conditions), and keep the customer in the loop around usage of their data on an ongoing basis.

2. Data Protection & Data Privacy
   - Transparency: Digital Banks should be transparent to the customers regarding the data that is collected about them, how is used and whether it is shared with a third party.
   - Data protection: A clear liability framework should be in place that ensures the responsible party is held accountable for data security and for harms caused by breaches of its respective data security duties of care and Digital Banks need to be able to identify where data were improperly used or accessed in the event of a security breach.
   - Data Misuse: Safeguards should be in place to ensure that there is no inappropriate use of consumer data beyond the scope of their consent.

3. Cybersecurity and Digital Identity
   - Cybersecurity: To mitigate cybersecurity risk, a multi-pronged strategy including, multifactor authentication, cyber risk assessment, cyber insurance and employees training should be put in place.
   - Digital Identity theft: A multi-layered approach involving advanced identity verification, intelligent data use and continuous behavioral monitoring, could give the financial sector the power to fight back, against Digital Identity theft.
   - AML/CFT: Digital Banks should deploy Regtech tools i.e., Artificial Intelligence (AI) to help monitor customer behaviors and quickly flag potential risks.

A transition towards digital banking propositions will require commensurate digital literacy and consumer education to bring customers along.

Digital Bank’s dependency on data to serve customers consequently requires enhanced data privacy and data protection practices.

Digital Banking increases the risks around AML/ CFT, eKYC, and Cybersecurity and will require practices to mitigate against these.
Six key considerations for the Financial Sector (2/2)

| **4** Data Ethics | Digital Banks intensified use of Big Data to serve their customers needs to be underpinned by a data ethical framework that ensures customers are treated fairly
| | ▪ **Data governance and Data Mindfulness**: There must be a framework in place to guide how Digital Banks manage, utilise, and protect customer data.
| | ▪ **Algorithmic Bias and Discrimination**: Digital Banks must have a data ethics framework in place and to also fully demonstrate their comprehension of data algorithms to ensure they are in a position to protect consumers from any form of discrimination that may emanate from the use of algorithms.
| | ▪ **Responsible data-led innovation**: There is a need to have ethical framework in place to ensure that innovation is not for the detriment of customers, otherwise we risk losing confidence amongst the public and gains from financial sector innovation.

| **5** Partnerships & Third-Party Risk | Digital banks dependency on third party servicers providers and Fintech/Digital ecosystem partners requires a 3rd party management framework that mitigates inherent risks
| | ▪ **Business continuity management**: A holistic management process must be put in place that identifies potential impacts that threaten Digital Banks and provides a framework for building resilience and capability for an effective response that safeguards the interests of its key stakeholders, reputation, brand and value-creating activities.
| | ▪ **Leveling the playing field**: Level the playing field between Digital Banks and third-parties by ensuring that through agreements entered, third-parties are compelled to uphold banks regulatory compliance standards.
| | ▪ **Interoperability & API management**: The financial sector must work in collaboration with other industry standards bodies domestically and globally to promote interoperability and API standardization.

| **6** Digital Operational Risk | Digital Banks emphasis of the Digital Channel increases digital operational and technological risks that may negatively affect customers in adverse/stress scenarios
| | ▪ **System reliability**: Financial institutions should look into backup solutions. These systems not only can help companies bounce back from attacks, they can also minimize the effect of disasters and support business continuity.
| | ▪ **Regtech and compliance**: Digital Banks must consider deploying Regtech tools i.e., Artificial Intelligence (AI) to help monitor operational and technological risks and quickly flag potential risks.