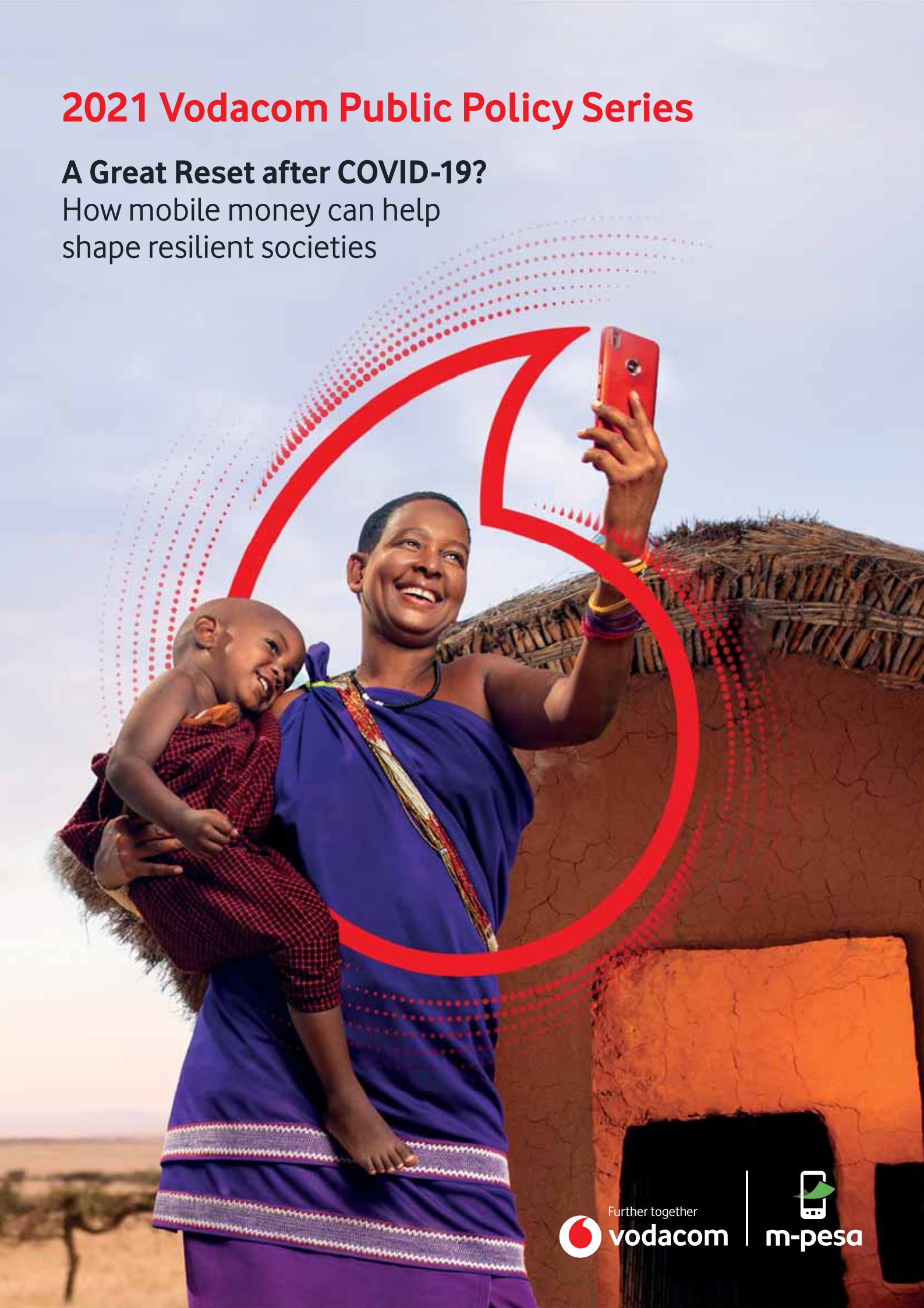
2021 Vodacom Public Policy Series

A Great Reset after COVID-19?

How mobile money can help shape resilient societies



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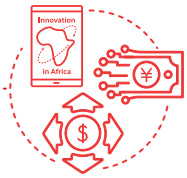
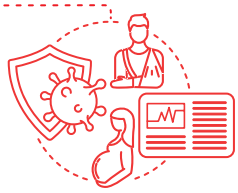
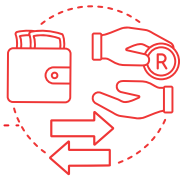






Published by Vodacom Group Limited, November 2019
Registration number 1993/005461/06
Vodacom Corporate Park
082 Vodacom Boulevard
Midrand 1685, South Africa

Welcome to Vodacom's second Public Policy Series report

A Great Reset after COVID-19? How mobile money can help shape resilient societies across Africa

Welcome to Vodacom's second Public Policy Series report 'A Great Reset after COVID-19? How mobile money can help shape resilient societies across Africa'.

The COVID-19 pandemic has brought into sharp focus the need to accelerate efforts towards wider and more reliable access to mobile financial services, which provide an important economic lifeline for many and promote social distancing measures. Mobile money has proven to be a catalyst in shaping more inclusive and resilient societies and will be a critical building block as governments seek to initiate the 'Great Reset' **across Africa and the world.**

As a pioneer of mobile money and with over 53.2 million registered mobile money customers on the continent, the Vodacom Group is encouraged by the progress that has been made. **We hope that this report will inform the debates on ecosystem development and that it will help facilitate an enabling policy and regulatory environment which is critical to foster innovation and economic resilience.**

We would like to express our gratitude and thank all authors for contributing to this report and the wider debate.

Yours sincerely
Nkateko Nyoka

Introduction and executive summary

The past year has brought into **sharp focus** the need to accelerate digital financial service offerings and access to enable a resilient future.

Judith Obholzer

Managing Executive
Public Policy
and Regulatory,
Vodacom Group

Our theme **'A Great Reset after COVID-19? – how mobile money can help shape resilient societies across Africa'** follows a call by the World Economic Forum for the **'Great Reset'**.

Applied to the realm of digital finance, it means building on the strong foundations of mobile money services by ensuring future policy frameworks provide the right incentives for investments in technology and innovation.

We aim to build on this by exploring how mobile and innovative financial service solutions help shape resilient societies across Africa by acting as a catalyst of financial inclusion and entrepreneurship.

Mobile money has been a bedrock during the times of the pandemic, providing financial services to millions of people who have mobile phones, but do not have bank accounts, or only have limited access to banking services. Acting as a lifeline to consumers and small businesses alike by providing a safe, secure and affordable way to send and receive money, top-up airtime, make bill payments, receive salaries, access group savings or short-term loans. However, while mobile money use accelerated, the latest GSMA State of the Industry report highlights that the **'the pandemic created a more complex operating environment', 'with consumer spending down and transaction fees waived'**.[1] The industry understood the urgent need to provide support and stepped forward to help governments and central banks in their efforts to combat the pandemic and alleviate economic hardship. Yet, it became clear that intrusive measures needed to be time-bound in order to avoid undermining the fundamentals of the industry, which could risk undoing the progress towards broad-based access to financial services.

The time is right to explore new ways to safeguard and expand the progress the industry has made over the past fourteen years in order to soften the economic hardship caused by the pandemic. Mobile financial service providers are uniquely placed in paving the way for a **'Great Reset'** that enhances future social and economic resilience by investing in new technologies and service innovations. However, closing existing infrastructure investment and digital financial skills gaps necessitates new partnership models and investment certainty.

This balancing act requires a flexible, enabling policy framework that is progressive enough to keep up with the **'new normal'**. At the same time, the industry needs to take a leap of faith and invest in innovations offering the best technology to drive growth and recovery.

I am excited that this report brings together contributions by leading experts who speak to these broader themes.

1 https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2021/03/GSMA_State-of-the-Industry-Report-on-Mobile-Money-2021_Full-report.pdf

Section 1

Explores how we can increase economic and societal resilience through enabling mobile money policies and regulations on the continent.

Pat Adams, from the SADC Banking Association outlines how mobile and innovative financial services can shape resilient societies by highlighting the economic opportunity of cross-border remittances in the SADC region. She outlines barriers such as high cost driven by lack of competition and regional interoperable systems as key impediments for small scale cross-border remittances. Pat shares how the SADC Banking Association has developed a low-value cross-border scheme known as Transactions Cleared on an Immediate Basis (TCIB) offering an integrated, open loop and real time system, facilitating interoperability between banks and non-banks. She concludes her piece by encouraging private public partnership and a regulatory framework geared towards managing and enabling a growing financial system.

Ashley Olson Onyango, Head of Financial Inclusion at GSMA, discusses how e-KYC solutions provide a huge potential for further driving mobile money adoption and ultimately financial inclusion. However, the pandemic has highlighted the importance of regulatory flexibility and need for funding of appropriate ID infrastructure. In the absence of integrated digital ID systems, a tiered KYC approach makes it easier for the gradual adoption of e-KYC. Tiered KYC is a risk-based approach that compensates for the residual customer risk by restricting account functionality. For instance, the Bank of Ghana permitted the use of SIM registration KYC details for the opening of entry-level mobile money accounts with lower transaction limits. Further, a test-and-learn approach should be considered when exploring e-KYC innovations. The Central Bank of Egypt, as an example, has developed a regulatory sandbox aimed at testing such propositions, which has prompted considerable steps to adopt e-KYC. She concludes that public-private dialogue is necessary to ensure that the cost, effectiveness, governance, scalability, interoperability and robustness of e-KYC solutions are suitable for all stakeholders.

Juliet Maina, Senior Policy Advisor, Data Protection and Cyber Security at Policy Impact Partners, explores the issue of cybersecurity in the mobile money industry. She emphasises that cybersecurity risks require a holistic multifaceted approach to adequately address the myriad of threats and challenges. In order to effectively manage this, Juliet delves into three critical elements of cybersecurity governance, namely people, process, and technology and how mobile operators can use the said elements to stay ahead of cybercriminals.

Craig Rosewarne, Managing Director of Wolfpack Information Risk (Pty) Limited, highlights that cybersecurity is a vital issue for mobile money providers. He outlines cybersecurity key threats and agents. Craig concludes by introducing a cybersecurity framework that can assist organisations in managing the cyber tsunami.

Jeremy Leach, CEO and Founder Inclusivity Solutions, highlights that the imminent impact of the insurance protection gap across sub-Saharan Africa has never been more pronounced than during the pandemic. Less than 10% of adults are covered by insurance in major sub-Saharan African economies, despite 54% of the population having experienced an insurable risk in the last year. He advocates for a human-centred design approach and sees the biggest opportunity in innovative insurtech players closing the gap with many products ready for scale. To support this an enabling and policy environment is needed, including fostering a robust and efficient digital payment infrastructure, consumer education, prioritisation of financial inclusion strategies and allowing new, innovation players such as insurtech's to distribute and operate products.

Section 2

Examines how we can accelerate inclusive and sustainable recovery through innovation.

Jonathan Greenacre, Assistant Professor of International Relations at Boston University, explores new ways on how agent networks can be expanded into frontier communities. Jonathan focuses on developing targeted solutions that encourage agent experimentation in specific frontier communities. He further demonstrates how onerous obligations in legislation can sometimes impede on agent expansion to the detriment of financial inclusion. He concludes by providing a framework to expand agent networks into frontier communities which can inform policy thinking going forward.

Nadine Nagooroo, Executive Head Risk, Regulatory and Compliance at Vodacom Financial Services, shares insights into the proliferation of micro insurance in South Africa and how new regulation on insurance has been a catalyst to the success of micro insurance especially for low income customers. Previously, these had longer waiting periods for policies covering accidental death or disability and had to wait for prolonged periods for authorisation to pay claims after receiving all the necessary documentation. She reiterates the importance of digital transformation as a key driver toward sustainable businesses and learning customer behaviours and patterns.

Anca Bogdana Rusu from cLabs explores trends in blockchain and how it links to financial resilience on the continent. She sets out how digital currencies could be utilised and shines a light on how these currencies can have an impact on underserved communities. Anca shares how CELO has built an innovative blockchain platform, which allows people to send value to each other with only a phone number bypassing the traditional approach of long complicated cryptographic addresses. Anca concludes her paper by acknowledging the concerns regulators have about blockchain. She recommends to start small, test out assumptions, sandbox environments and a collaborative approach with reputable actors paving the way for meaningful blockchain applications accelerating financial access and inclusion.

Irshaan Raghununan, Flow Sales Innovation Lead at Standard Bank, and **Thomas Robinson,** Payments Product Manager at M-Pesa Africa, highlight the opportunities for digital commerce with mobile money. Forecasts on smartphone ownership in sub-Saharan Africa indicate that there will be c. 690 million 3G and 4G enabled devices on the continent by 2025, versus c. 400 million today. The increased prominence of these internet-connected handsets is also creating opportunities for local African businesses to sell online. The development of an integration platform through the M-Pesa Open Application Programme Interface (API) Hub will allow consumers and businesses to easily transact online in a continent where less than 50% of the population still do not have access to affordable payment methods. Putting mobile money on the same footing as traditional payment instruments such as cards, would help create a step change in access and affordability across the continent. With the right enabling regulatory framework, this will foster a stronger culture of innovation and power the next generation of African entrepreneurs and consumers.

This is a critical time for those shaping financial services. Thank you for joining us in engaging in the debate on an enabling policy and regulatory framework, which will be essential for the 'Great Reset' and overcoming – through inclusive, mobile financial services – the socio-economic challenges that the pandemic has brought into clear focus.

Section ONE

‘The new normal’. Increasing economic and societal resilience **through enabling policies and regulations**

In this section:

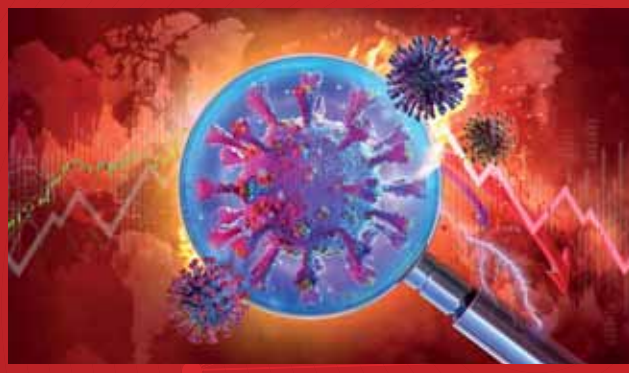
How mobile and innovative financial service solutions can shape resilient societies across Africa

Policy perspectives on e-Kyc in a digital payments age

Cybersecurity considerations in the mobile money industry

The cyber tsunami – opportunities and threats

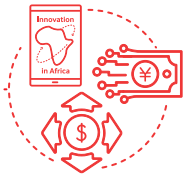
Assessing COVID-19’s watershed impact on digital insurance



ENABLING POLICIES and regulations

INCREASING RESILIENCE

Author: **Pat Adams**
SADC Banking Association



How Mobile and Innovative Financial Service Solutions can

shape resilient societies across Africa by acting as a catalyst of financial inclusion and entrepreneurship

Developing **financial resilience** with Fintech

The 16 member states of the Southern African Development Community (SADC) have a combined estimated population of 345 million, 32% of which were excluded from all forms of financial services in 2020. In most low-income countries, mobile money is accelerating financial inclusion and progress towards the achievement of some of the United Nations Sustainable Development Goals, which contribute to inclusive economic growth by, among others:

- Providing access to economic resources and helping households lift themselves out of poverty and become more resilient to financial shocks.
- Increasing food security and making agricultural value chains more efficient by helping producers access financial services.
- Helping women access financial services, including credit to start and grow a business.
- Increasing the productivity of micro, small and medium enterprises (MSMEs), creating employment and stimulating economic growth.
- Helping migrants and their families send and receive international remittances.

The World Bank explains financial inclusion as meaning that individuals and businesses have access to useful and affordable financial products and services that meet their needs – transactions, payments, savings, credit and insurance – delivered in a responsible and sustainable way. The SADC Council of Ministers in September 2016 approved the SADC Strategy on Financial Inclusion and SME Access to Finance as a means to accelerate financial inclusion programmes among its member states.

The SADC Banking Association (SADC BA) is a recognised structure of the SADC Committee of Central Bank Governors and through it is providing commercial banks in the community with the opportunity to inform the development of financial market infrastructure and a framework for an integrated regional payment environment.

The SADC BA is keen that these efforts translate to improved customer service, cost reductions, and efficiencies in cross-border payments. Within the region, the influx and movement of migrant workers have increased over the years and the need for low-value cross-border remittances in a safe, affordable, efficient and convenient way has become a necessity for people who want to send money home to their families.

In 2010, the SADC Integrated Regional Electronic Settlement System (SIRESS) was launched to process secure, real time, cross-border payments across the region, now known as the SADC-RTGS.

As of January 2021, the total number of transactions settled on the system was **2 019 818** representing the value of

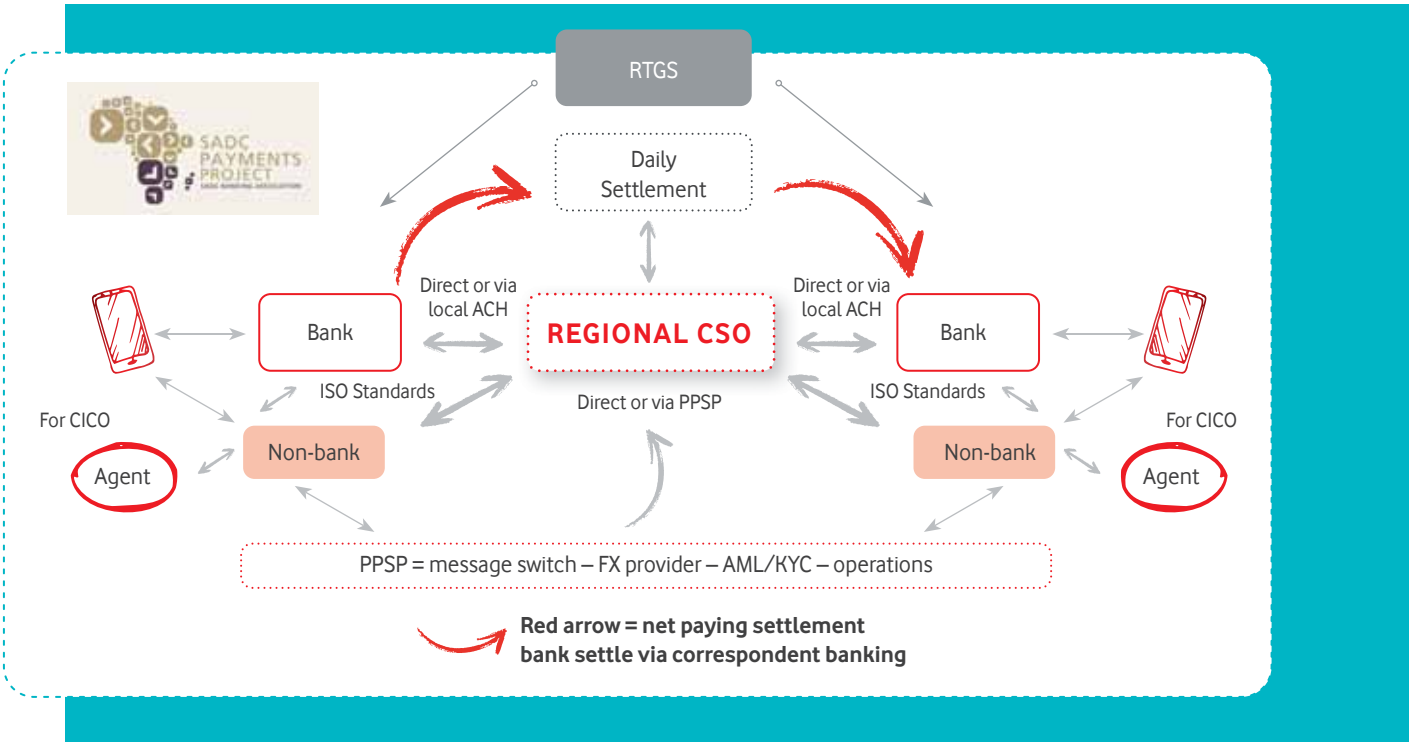
R7.91 trillion

(US$520.66 billion/EUR429.99 billion).

Consulted or Recommended Sources

1 Southern African Development Community – https://www.sadc.int/about-sadc/overview/sadc-facts-figures/.
2 Finmark Trust Annual Report 2020 – https://finmark.org.za/system/documents/files/000/000/296/original/FMT_2020_Annual_Report.pdf?1614067524.
3 GSMA-Harnessing -the-power-of-mobile-money-to-achieve-the-SDGs – https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2019/10/GSMA-Harnessing-the-power-of-mobile-money-to-achieve-the-SDGs.pdf.
4 SADC Banking Association's Beige Book – https://www.sadc-ba-beigebook.com/introduction-and-background/.
5 SADC-RTGS Settlement Statistics and Indicators – January 2021.
6 Southern African Community – https://www.sadc.int/themes/economic-development/finance/banking/.
7 Sochi Accord – https://www.afi-global.org/publications/sochi-accord-fintech-for-financial-inclusion/.
8 World Bank Document – http://documents1.worldbank.org/curated/en/377571554411400279/pdf/Financial-Inclusion.pdf.
9 GSMA Annual Report 2019 – https://www.gsma.com/sotir/wp-content/uploads/2020/03/GSMA-State-of-the-Industry-Report-on-Mobile-Money-2019-Full-Report.pdf.
10 GSMA-State-of-the Industry-Report-2020 – https://www.gsma.com/r/wp-content/uploads/2020/09/GSMA-State-of-Mobile-Internet-Connectivity-Report-2020.pdf.

SADC low-value credit transfers cleared on an immediate basis via an RCSO operating model



Barriers for low-value cross-border remittances

High remittance costs in Southern Africa are said to be the result of insufficient competition in the financial services sector, a lack of interoperability between systems and risk-averse banks closing accounts because of global standards to prevent money laundering and the financing of terrorism. Financial inclusion has also not been prioritised by formal financial services providers, leading to language barriers with marketing initiatives and a lack of consumer awareness, education and trust in banks. There is also a persistent consumer preference for cash.

However, the increasing number of people who have access to mobile technology has created opportunities to bridge the financial inclusion gap to underserved consumers.

The SADC BA has developed a low-value cross-border workstream know as Transactions Cleared on an Immediate Basis (TCIB). TCIB offers open loop, push payments, and real time interoperability between banks and non-banks – a first in the cross-border environment. This workstream contributes to accelerating financial inclusion by providing a safe and secure solution which allows for the underserved and unbanked in the region to make payments.

Among others, TCIB allows instant payment and notification, irrespective of the sophistication of the initiating device, be it a feature phone or smartphone, to an individual or small business in any SADC country. Government and corporates can make an instant payment to an easy to remember alternate identifier – such as a mobile phone number – irrespective of whether the recipient has a bank account or not.

Benefits for all participants in the system include lower costs, better security and increased access to financial services. Other benefits for key participants include:

- For the 72 participating commercial banks, working with non-banks creates the opportunity of more payments from the underbanked and unbanked
- Mobile payment service providers can scale their agent distribution network by leveraging the ubiquity of banks, retailers, spaza shops (informal shops), money changers and airtime resellers, especially in rural areas
- Remittance agents can perform cash transactions on behalf of banks and non-banks. Agents, who can earn a commission, have seven times more reach than ATMs and 20 times more reach than bank branches

From these and other examples, digital inclusion can assist with the acceleration of financial inclusion. Combining new technologies and fresh market entrants contributes to efficient robust remittances, bridging the gap of financial inclusion of the most vulnerable, driving inclusion into the financial sector and creating competition in the market.

The adoption to harmonised regulatory oversight to changing market conditions can play a pivotal role in supporting more open and inclusive payment systems. Regulators are willing to accommodate new market entrants, promote a culture of innovation and fresh business models and cross-sector collaboration to deliver financial services to vulnerable segments of the population, while ensuring consumer protection and financial stability.

Conclusion

Promoting financial inclusion in a responsible and sustainable way requires collaboration between the public and private sectors, and strong regulation and supervision to prevent potential crises that can accompany a rapidly growing financial system. By strengthening and accelerating mobile broadband coverage, utilising fintech and increasing interoperability between banks and non-banks, it is possible to lower costs and meeting the needs of entirely new customer segments, including traditionally underserved and cash reliant customers.

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Head of Financial Inclusion and AgriTech,
Mobile for Development at GSMA

Policy perspectives on e-KYC in a digital payments age

Evolution of e-KYC in mobile money markets

In 2020, there were over 1.2 billion registered mobile money accounts globally, pointing to the importance of digital financial services to the world's underserved[1].

While playing an important role in achieving financial inclusion targets, mobile money has also been instrumental in reducing informal and anonymous cash transactions, thereby ensuring the integrity of countries' financial systems.

The Financial Action Task Force (FATF) recognises that reducing financial exclusion is vital to achieving an effective anti-money laundering/combating the financing of terrorism (AML/CFT) system[2]. A critical component of any AML/CFT system is customer due diligence (CDD), achieved via effective know your customer (KYC) requirements upon registration or otherwise.

The advent of digital financial services in recent years has prompted a new approach to KYC processes, with a number of countries having implemented electronic KYC (e-KYC) to ensure that this process is conducted in a timely, efficient and affordable manner.

In this paper, we examine the methods of e-KYC, infrastructure and policy considerations, as well as the impact of COVID-19 on accelerating e-KYC.

ONE

Financial regulatory identity solutions

Driven primarily by inadequate ID coverage, financial regulators in a number of countries have opted to develop unique customer identification solutions suitable for the financial sector. The World Bank estimates that approximately

1 billion people

globally lack a proper form of identification, majority of whom are in developing countries.[3]

Citizen registration is, in most cases, mandated by separate arms of governments, such as interior ministries, departments and agencies, which fall outside the remit and control of financial regulators. Rolling out registration exercises are long and arduous tasks, prompting financial regulators to develop innovative solutions to address KYC challenges for their licensees.

The DRC and Mozambique are among the countries that are in the process of implementing such financial regulatory identity solutions to support e-KYC or financial service providers.

1 GSMA (2021) State of the Industry Report on Mobile Money 2021.
2 The FATF is an intergovernmental body that sets standards for combating anti-money laundering and terrorists financing.
3 See The World Bank, ID4D Data: Global Identification Challenge by the Numbers.

ONE TWO THREE

TWO

Digital national IDs

Digitisation of National IDs The official identification in a number of countries in sub-Saharan Africa is not digitally enabled. As such, service providers can only verify KYC information manually. This can create long approval timelines, especially for customers in remote areas. Service providers in such cases may be required to transport bulky KYC documentation to the country's' capital for verification, delaying the activation of mobile money accounts. To mitigate this, countries in sub-Saharan Africa have started digitising their national ID systems by undertaking fresh digital registrations. Tanzania and Nigeria are the most recent to undertake this.

Electronic Functional IDs Functional IDs are a form of identification created to manage identification, authentication, and authorisation for specific sectors or use-cases such as voting, national health insurance, driving etc. They are typically not considered for national legal identity. In some countries where alternative forms of ID exist, regulators have permitted service providers to query the databases of such functional IDs electronically, enabling the use of digitised functional IDs to automate the KYC processes.

Voter IDs are the most common forms of digitised functional IDs currently, owing to increased funding from foreign or international donors/partners seeking to assure the integrity of political systems. In Ghana, a majority of mobile money accounts have been onboarded using the Voter's ID, demonstrating the importance of flexibility with functional IDs. E-KYC requires the availability of a robust ID database that can be electronically queried. Out of forty-two (42) sub-Saharan Africa countries reviewed in the Mobile Money Regulatory Index, only eleven (11) have e-KYC infrastructure provided by the government[4]. Functional IDs with electronic query functions provide a good alternative for countries that have low or inadequate national ID coverage.

THREE

KYC harmonisation and remote onboarding

A number of mobile money markets require that SIM card registration and mobile money account registration be undertaken separately. However, a few countries such as Ghana and Eswatini have recently harmonised KYC requirements for both. This implies that a customer only needs to go through the KYC process once to access both the Global System for Mobile Communication (GSM) and a mobile money account[5].

This promising development has made the remote registration of mobile money accounts a reality in both countries. Customers who own registered SIM cards do not have to go to an agent outlet to register for mobile money in these countries.

Considering that SIM card and mobile money registration requirements are similar in most countries, an integrated approach provides a viable solution for promoting e-KYC for mobile money.

4 GSMA Mobile Money Regulatory Index.
5 Alliance for Financial Inclusion (2019) KYC Innovations, Financial Inclusion and Integrity.

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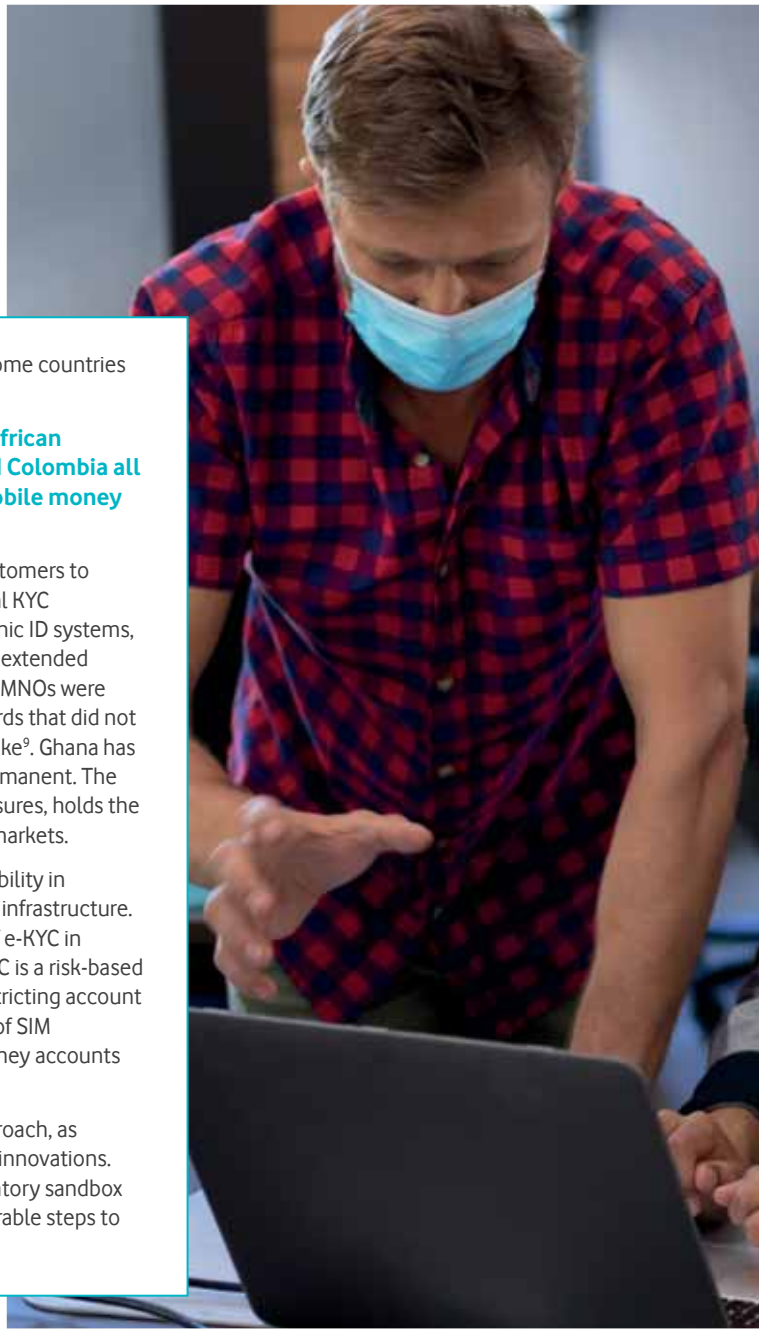
Policy perspectives on e-KYC in a digital payments age continued

The impact of COVID-19 on accelerating e-KYC



The effects of the COVID-19 pandemic accelerated the shift by some countries towards easing the KYC burden and adopting e-KYC solutions[6].

To limit physical contact during COVID-19, Ghana, West African Monetary Union (WAMU) countries[7], Jordan, Pakistan and Colombia all responded rapidly to allow the remote on-boarding of mobile money accounts.

These countries leveraged SIM card KYC information to allow customers to register for mobile money remotely, without the need for physical KYC processes. Some regulators in countries that do not have electronic ID systems, such as the Central Bank of West African States (BCEAO), allowed extended periods for KYC verification for customers on-boarded remotely[8]. MNOs were able to automatically activate mobile money on all active SIM cards that did not have an account previously, therefore driving mobile money uptake[9]. Ghana has since made remote on-boarding of mobile money customers permanent. The increased uptake of mobile money due to these short-term measures, holds the promise of permanency and the same being replicated in other markets.

The pandemic has highlighted the importance of regulatory flexibility in responding to crises and emphasised the need for appropriate ID infrastructure. A tiered KYC approach makes it easier for the gradual adoption of e-KYC in markets that do not have integrated digital ID systems. Tiered KYC is a risk-based approach that compensates for the residual customer risk by restricting account functionality. For instance, the Bank of Ghana permitted the use of SIM registration KYC details for the opening of entry-level mobile money accounts with lower transaction limits.

In times of crisis, regulators should consider a test-and-learn approach, as opposed to an overly restrictive approach, when exploring e-KYC innovations. The Central Bank of Egypt, as an example, has developed a regulatory sandbox aimed at testing such propositions, which has prompted considerable steps to adopt e-KYC.

6 Chadha, S., Kipkemboi, K. and Muthiora, B. (16 July 2020). 'Tracking mobile money regulatory responses to COVID-19', GSMA Mobile for Development Blog.
7 Regulated by La Banque Centrale des États de l'Afrique de l'Ouest (BCEAO)/The Central Bank of West African States.
8 KYC verification in BCEAO is currently being conducted manually over a long period of time therefore slowing down mobile money activation. However, they allowed MNOs to activate MM for their customers pending KYC verification as part of their COVID-19 measures.
9 This was documented in a recent GSMA Digital Identity study: Accelerating Financial Inclusion During a Crisis https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2021/03/Digital-Identity-Accelerating-Financial-Inclusion-During-a-Crisis.pdf.
10 Bahia K (2020) Exploring the relationship between mobile money regulations and usage. GSMA.
11 GSMA (2021) State of the Industry Report on Mobile Money 2021.
12 Bahia K & Kipkemboi, K (2019) Impact of Mobile Money on Financial Sector Development. GSMA.
13 Kipkemboi, K (2019) Innovative Solutions to KYC Regulations in Emerging Markets. GSMA.

Conclusion

A recent paper published by GSMA Intelligence found a strong positive correlation between an enabling regulation and mobile money usage, for example via KYC processes[10]. E-KYC has a huge potential of further driving mobile money adoption and ultimately financial inclusion. The GSMA's recently published State of the Industry Report on Mobile Money demonstrates the increasingly important role of mobile money in financial demarginalisation[11]. Anecdotal evidence also suggests that digital financial services drive more currency and assets to formal financial systems, thus strengthening the oversight role of central banks[12]. However, there is need to address KYC challenges expeditiously in order to sustain the growth of mobile money. Lack of a clear regulatory framework, inflexible regulations and lack of automated ID systems are some of the KYC hurdles identified in a recent GSMA study.[13]

E-KYC will be fundamental in a post-COVID-19 world to achieve widespread financial inclusion and formalise economies. Therefore, policymakers, regulators and providers of digital financial services should continuously engage in dialogue to support the emergence of e-KYC solutions. Such dialogue is necessary to ensure that the cost, effectiveness, governance, scalability, interoperability and robustness of e-KYC solutions are suitable for all stakeholders.

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Cybersecurity considerations in the mobile money industry

Key elements of cybersecurity governance

Mobile money services have indisputably played an integral role in several developing countries to radically shift the financial inclusion landscape.

With over 1.2 billion registered accounts and 300 million monthly active accounts, mobile money has been especially critical in providing financial access to previously underserved population.

Source: https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2021/03/GSMA_State-of-the-Industry-Report-on-Mobile-Money-2021_Full-report.pdf.

As we navigate through a global pandemic, mobile money services also provide financial support to users in a safe non-contact way allowing people to pay for food, electricity and other life essentials during the global pandemic[2]. However, as more people are now leveraging mobile money solutions to overcome the COVID-19-related challenges, there is also a group that seeks to take advantage of the pandemic to exploit users.

This paper therefore explores three key elements of cybersecurity governance with a specific focus on regulatory considerations.

The aim is to provide a holistic approach to combating cybercrime in the age of COVID-19 and beyond.

Executive summary

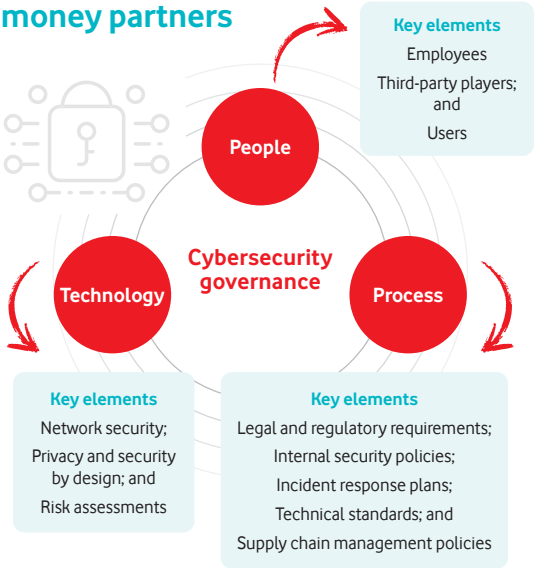
This paper explores the issue of cybersecurity in the mobile money industry and delves into the three core elements of cybersecurity governance, people process and technology[1]. It also emphasises the regulatory considerations that mobile money providers need to look at, especially when operating in multiple considerations. This paper is based on the GSMA paper that looks at the ideal cybersecurity governance framework for mobile money providers and provides substantial recommendations on how this can be implemented.

Cybersecurity is typically thought of as a very technical function within any organisation.

In most companies, this will be left to the technology teams. However, as mobile money services continue to evolve and scale to serve a wider range of users, the ecosystem is now increasingly more complex.

Mobile money services are today leveraging and collaborating with multiple other players to widen the range of services available.[3] This inevitably multiplies the risk of cyberattacks for mobile money providers and users as it increases the number of access points for any malicious actors. Based on this, we must recognise that these risks require a holistic multifaceted approach to adequately address the myriad of threats and challenges in the current cyber environment. A more effective response involves an approach that covers several aspects of the mobile money ecosystem, including the end users. A holistic framework that covers people, process and technology is therefore necessary to understand and address the growing concern of cybercrime in mobile money services.

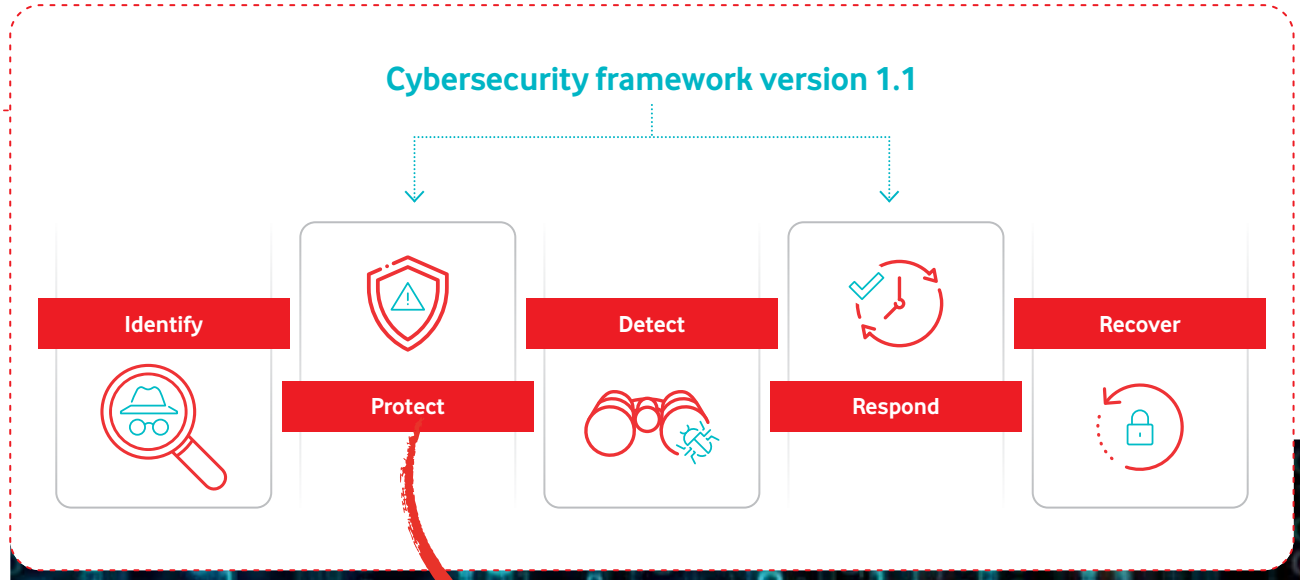
A cybersecurity governance framework for mobile money partners



Source: GSMA Cybersecurity: A governance framework for mobile money providers.

1 GSMA Cybersecurity: A governance framework for mobile money providers.
2 State of the Industry Report on Mobile Money, GSMA, 2021.
3 Serianu (2018). Kenya Cybersecurity Report 2018.
4 https://chiefexecutive.net/almost-90-cyber-attacks-caused-human-error-behavior/.
5 NIST Cybersecurity framework.

In the next section, we will look briefly at each of these elements before making recommendations for the mobile money industry.



People

Statistics show that about 90% of cyberattacks require human intervention for them to be successful.[4] These could be inadvertent, based on error, lack of awareness and poor culture of security, but in some instances, it is malicious and intentional. This is very indicative as it reveals that people are the real centre of the issue when implementing cybersecurity governance.

There are three categories of players in the mobile money ecosystem that should be considered when looking at the people problem – employees of the mobile money provider, end users, and any third-party providers in the ecosystem.

Cybersecurity governance requires the building of a culture of security among each of these groups. This can be done through increased awareness for the users, training/capacity building and accountability mechanisms for the employees, and contractual instruments for all third-party providers. For this to be successful, this also requires further collaboration with key industry players to increase awareness of emerging threats in the industry.

Process

Cybersecurity requires several processes that outline an organisation's security system. In some instances, these policies are developed on the basis of national or sectoral regulatory requirements and are therefore critical for compliance. Organisational processes for cybersecurity should be available to managers, employees and contractors who manage the operational units. Adopting specific policies for employees, contractors and managers limits the risks of data breach. It is important to note that most of these processes leverage the use of technology for effective implementation and monitoring.

Technology

Technology asset management is a major part of cybersecurity. The technology dimension covers the inventory and control of hardware and software assets that support the operations and activities of mobile money services. As cyberattacks become increasingly sophisticated, mobile money providers must continually improve their security mechanisms. However, given the complexity of the ecosystem, there is no one-size-fits all approach. It is important to note that the technological aspects of cybersecurity typically reflect the policies that are in place. These should be able to identify, protect, detect, respond and recover as is provided for in the internationally accepted NIST Cybersecurity Framework.

Source: NIST Cybersecurity Framework[5].

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Senior Policy Advisor, Data Protection and Cyber Security, Policy Impact Partners

Cybersecurity considerations in the Mobile Money Industry continued

Regulatory considerations

Having looked briefly at the cybersecurity governance framework, this section looks at the regulatory considerations that the mobile money needs to have in mind.

To date, only a handful of countries have cybersecurity/ cybercrime legislation in place, which creates a challenge for mobile money providers, especially when looking to operate in multiple jurisdictions.

Mobile money providers looking to leverage new technologies such as the cloud will also find it difficult to do so with regulatory uncertainty. Additionally, due to the lack of harmonisation in the cybercrime laws on the continent, providers will struggle to centralise their security systems. This could lead to increased costs for the provider due to duplicity of infrastructure and databases. There is need for increased dialogue between industry players and stakeholders to ensure that legal and regulatory requirements, or lack thereof, do not create a barrier to innovation and financial inclusion.

Recommendations

Overall, the legal and regulatory framework on cybersecurity and cybercrime continues to lag behind the cybercriminals who are constantly evolving.

Despite this, there are several steps that players in the mobile money industry can take to mitigate risk.

We cover some recommendations below under the people, process and technology segments

People

- Educate consumers on safe behaviours to build their confidence when using mobile money services
- Invest in training and awareness exercises for employees (including board and senior level management) on cyberthreats and how to mitigate these
- Collaborate with other industry players to develop mechanisms to deal with insider threats
- Ensure a strict level of vetting for all employees and third-party players that the mobile money provider engages with

Process

- Ensure compliance with existing and applicable legal and regulatory requirements on cybersecurity
- Develop and enforce a robust information security policy and appoint a main point of contact for all cybersecurity-related incidents in the organisation
- Adopt internationally accepted security standards to facilitate the harmonisation of security approaches across borders, including NIST and ISO
- Ensure that the security standards of the mobile money provider extend to other players in the supply chain via contractual agreements
- Participate in industry forums and specialist groups to stay abreast of new developments and to share best practices that help to harmonise security approaches across borders

Technology

- Ensure the principles of security by design and privacy by design are built into technology solutions, products and services across the entire supply chain
- Adopt tools and technologies that enable the organisation to identify, protect, detect, respond and recover, in accordance with the NIST framework
- Conduct regular risk and vulnerability assessments on security systems to ensure gaps are identified and addressed quickly
- Implement preventive and detective measures to protect the integrity of mobile devices and mobile networks

Author: **Craig Rosewarne**
Managing Director of Wolfpack Information Risk (Pty) Ltd

The cyber tsunami – opportunities and threats

We live in a world where the 24/7 availability of internet-enabled services is expected to maintain our personal, business and governmental ecosystems. The recent COVID-19 pandemic has further accelerated the already fast-paced tech tsunami that has swept the globe.

Cyber incidents are now a common feature in today's global and local headlines. According to the World Economic Forum's 2021 Global Risks Report, 'cybersecurity is one of the key threats of the next decade' alongside the COVID-19 pandemic, climate change, and debt crises. Disruptive technologies and cyber risk were highlighted as major concerns in the recent 2021 SA Country Risk Report. (Source: Institute of Risk Management South African (IRMSA))

Key threat agents and tactics

There is a growing range of threat agents that can cause harm to a country, organisation or an individual. The table below summarises the key threat agents and tactics that telecoms organisations will need to manage.

	Threat agents	Description	Common tactic
Malicious	Hacktivist	Highly motivated individuals or destructive supporter of a cause	Electronic or physical business disruption; theft of sensitive data
	Competitor	Business adversary who competes for revenues or resources (acquisitions, etc.)	Theft of IP or business data
	Corrupt insider	Person who inappropriately uses his or her position to acquire company resources	Organisational or physical business disruption
	Hacker	Derives thrills from intrusion or destruction of property	Network/computing disruption, web hijacking, malware
	Petty criminal/thief	Opportunistic individual with simple profit motive	Theft of hardware, IP, PII, or business data
	Organised criminals	Professional criminals that deploy advanced methods for financial gain	Theft of financial, PII, business data or credentials – may involve collusion
	Disgruntled employee	Current or former employee with intent to harm the company	Abuse of privileges for sabotage, cyber or physical damage to the organisation
	Cyber spy	State-sponsored spy as a trusted insider, supporting idealistic goals	Theft of IP or sensitive data
	Government cyber team	State-sponsored attackers with significant resources	Information theft, network/computing disruption
	Cyber bully/predator	Someone with illogical purpose and irrational behaviour that causes harm	Target safety of staff or family members resulting in psychological or physical harm
	Legal adversary	Adversary in legal proceedings against the company, warranted or not	Access to insiders, IP or business data to enable legal action
	Sensationalist/journalist	Attention-grabber who may employ any method for notoriety	Public announcements for PR crises, theft of business data
	Terrorist	Person or group who relies on the use of violence to support sociopolitical agenda	Violence, property destruction, physical business disruption
Non-malicious	Reckless employee	Current employee who deliberately circumvents safeguards for expediency, but intends no harm or serious consequences	Takes shortcuts and misuses authorisations
	Untrained employee	Current employee with harmless intent but unknowingly misuses system or safeguards	Poor process, unforeseen mistake
	Information partner	Someone with whom the company has voluntarily shared sensitive data	Poor internal protection of company proprietary materials
	Information regulator	Regulatory body that has the right to enforce compliance	Fines, licence suspension or reputational harm

Table 1: Cyber threat agents and tactics utilised
(Source: How to Build a Cyber-Resilient Organization – First edition – Dan Swanson)

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Managing Director of Wolfpack Information Risk (Pty) Ltd

The Cyber Tsunami – opportunities and threats continued

Cybersecurity is a vital issue

Cybersecurity is a vital issue for telecoms and mobile money providers, who must maintain trust and confidence in their services to drive adoption and use and innovate in new directions.

According to the 2019 Cybersecurity: A governance framework for mobile money providers report[1], the global financial cost of cybercrime for telecoms and mobile money providers is difficult to estimate because it is unevenly distributed among countries and data on cybercrime remains sparse due to underreporting. In Kenya, one of the world's largest mobile money markets, the estimated cost of cybercrime in 2018 was US$295 million, US$88.5 million of which were direct costs and US$206.5 million indirect costs[2].

This demonstrates that, invariably, indirect costs may be more expensive for mobile money providers than direct costs. Cyberattacks that harm a mobile money provider's reputation and lead to customer dissatisfaction and loss of trust may affect its mobile money business and put a dent in its core mobile business.

Direct Costs	Indirect Costs
• Financial loss • Corruption, loss or destruction of data • Unauthorised access to confidential information • Compromised systems and applications • Opportunity costs, including disruption in service delivery	• Reputational damage and liability risk for the company and their brand • Loss of consumer trust • The financial cost of securing networks post-security breach • Regulatory fines and penalties for non-compliance • Loss of intellectual property • Weakened market competitiveness • Online fraud and financial crimes resulting from stolen personal data

Table 2: The direct and indirect costs of cybercrime for telecoms and mobile money providers
(Source: Cybersecurity – A governance framework for mobile money providers – https://www.gsma.com).

1 Source: gsma.com.
2 (Source: Serianu 2018 – Kenya Cybersecurity Report 2018).

A holistic cybersecurity framework covering people, process and technology is necessary to address the growing range of cyber risks facing providers.

The example below is a cybersecurity framework highlighting the key domains that require constant attention and may assist in assessing cybersecurity capabilities and inform organisational as well as public-private debates on cybersecurity readiness.

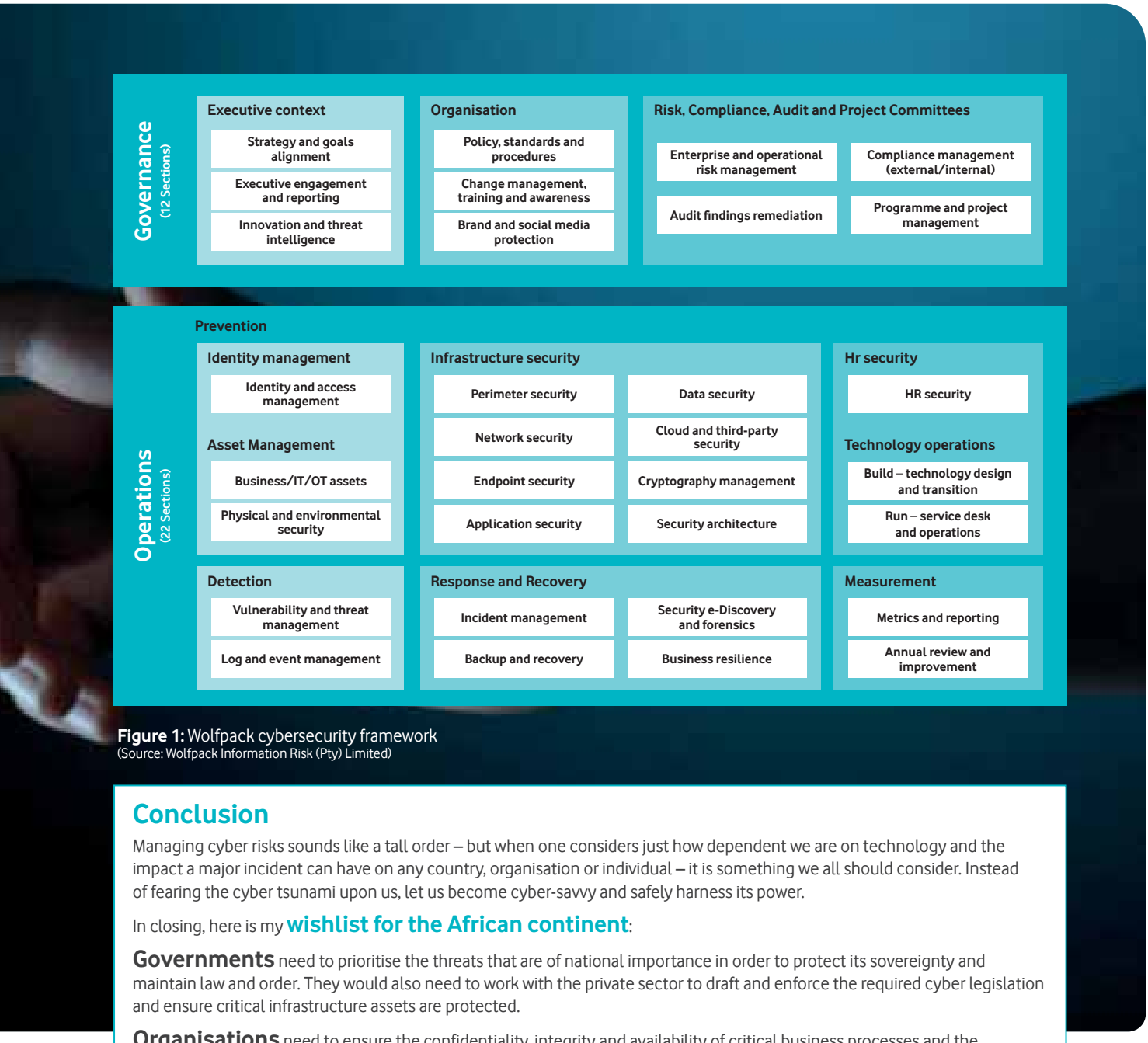


Figure 1: Wolfpack cybersecurity framework
(Source: Wolfpack Information Risk (Pty) Limited)

Conclusion

Managing cyber risks sounds like a tall order – but when one considers just how dependent we are on technology and the impact a major incident can have on any country, organisation or individual – it is something we all should consider. Instead of fearing the cyber tsunami upon us, let us become cyber-savvy and safely harness its power.

In closing, here is my **wishlist for the African continent**:

Governments need to prioritise the threats that are of national importance in order to protect its sovereignty and maintain law and order. They would also need to work with the private sector to draft and enforce the required cyber legislation and ensure critical infrastructure assets are protected.

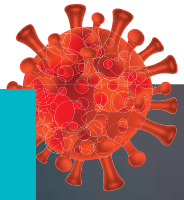
Organisations need to ensure the confidentiality, integrity and availability of critical business processes and the underlying people and technology assets, systems, hardware and infrastructure that are managed to support business objectives.

People need to consider their roles as a citizen of the country as well as their democratic rights to privacy and safety. They need to be vigilant when at work to ensure their actions do not jeopardise the organisation in any way. Finally, they have a role to play in protecting their personal assets (identity, finances, reputation) and family members, especially children, from the growing range of cyberthreats.

Craig Rosewarne is the Managing Director of Wolfpack Information Risk (Pty) Limited. For more information on Wolfpack's advisory, awareness or training services, please email info@wolfpackrisk.com or visit its website https://wolfpackrisk.com/.

Author: **Jeremy Leach**
CEO and Founder, Inclusivity Solutions

Assessing COVID-19's watershed **impact** on digital insurance



Executive summary

While the full extent of the economic devastation caused by COVID-19 is unlikely to be known for some time, it is fair to say that emerging consumers have suffered disproportionately from the pandemic. A key reason is because most of the income and employment in emerging markets is generated by small businesses and more recently gig economy workers. It is these businesses that suffered the most during lockdown – loss of business means loss of income. Sadly, few of these consumers have a reliable safety net such as insurance or savings to lean on when shock events such as these happen.

The insurance industry has long been aware of the low-to-middle income protection gap but has struggled to get the right balance of product market-fit to reach the sort of scale required to protect the most vulnerable. In many instances, COVID-19 was a much-needed wake-up call for the industry, not only did the pandemic expose the opportunity for low-cost, well-designed and efficiently executed products, but it also exposed a lack of capabilities that prevented many of the insurers themselves from running at full, and in many cases even partial, capacity. It is now time to respond with insurance products that layer value in a way that meets the customer where he or she is at in their daily journey.

Exacerbation of the protection gap

Never has the significance of the insurance protection gap in emerging markets been more pronounced than since the global pandemic outbreak of COVID-19 in 2020.

In these markets only one[1] in four of the 5.4 billion emerging consumers had insurance to protect them against shock events. Bring it closer to home and the numbers become even more tragic, where less than[2] 10% of adults in the major sub-Saharan African (SSA) countries are covered by insurance, despite 54% of the total population in these countries having experienced an insurable risk in the last year.

And COVID-19 is exacerbating the situation even further because most of these consumers are self-employed and heavily reliant on the income generated from their businesses, or the safety net of remittances provided by extended family members. The sad reality though is that the lockdowns have prevented these individuals from going to work and digital alternatives are simply not an option. With no income and few[3] emergency reserves to help them cope, the poverty divide in these markets is deepening every day.

ONE TWO THREE

How the **insurance industry** is responding

It has long been acknowledged within the industry that insurance providers have not responded fast enough in addressing the growing protection gap in emerging markets giving rise to a generation of low-cost digital insurance providers that leverage mobile as the primary distribution channel. Even though there are now 93 mobile-enabled insurance services being offered across 27 countries, the challenges of scaling a complex financial solution to a mass market with limited understanding of insurance are immense. Nevertheless, the pandemic has exposed three areas where the industry deserves to interrogate and address, or risk further alienating emerging consumers and lose out on the significant market opportunity:

ONE

Delivering on the promise

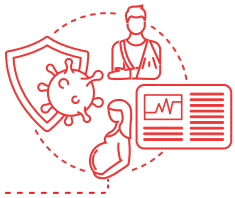
In a survey of 80 insurers[5] across 27 African countries, Cenfri and FSD Africa found that most providers surveyed had not fulfilled their role in responding to large systemic risk events. Medical claims worth thousands of Kenyan shillings from customers who had diligently paid their monthly premiums were turned down by insurers claiming that COVID-19 was not covered as part of their existing health policies. This is a particularly problematic situation as research has shown time and again that insurance companies on the continent suffer a huge trust deficit with consumers. Not fulfilling their promise to protect their customers at a critical time like COVID-19 serves to further tarnish the reputation of insurance making it harder for financial inclusion to have the sort of impact that is needed. Here there is a clear role for regulators to extinguish opportunities for exploitation and hold insurance organisations accountable for delivering on their promises. On the flip side, however, the gains for insurance providers who do deliver against their promises can be significant as in the case[6] of Pioneer Insurance in the Philippines, which benefited from three consecutive years of exponential revenue growth following its efficient pay-out of many claims after typhoon Hyan. A similar boom insurance reportedly followed previous SARS epidemic in SE Asia.

At Inclusivity Solutions we deliberately design all our products to have no exclusions, including pandemics. In our case every product that we take to market is supported by rigorous human centred design research and co-creation workshops to ensure that products are aligned to customers' real pain points, are simple to understand and easy to navigate. Our obsession is for all products to address the risks that really matter and play a material role in adding value to our policy holders.

1 * The Landscape of micro insurance 2020 https://microinsurancenetwork.org/landscape-microinsurance.
2 Cenfri https://cenfri.org/articles/what-we-learnt-about-the-risk-protection-gap-in-sub-saharan-africa-by-engaging-with-finscope-consumer-data/.
3 BFA Global survey https://datastudio.google.com/u/0/reporting/1yyG5QHGV-v-bxw6pJNZvwtqnIfCLj-7q/page/kJOKB.
4 GSMA Mobile-enabled-Insurance report https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2018/09/2017-SOTIR-Spotlight-on-mobile-enabled-insurance-services.pdf.
5 Cenfri Africa's insurance fails to deliver on COVID-19 https://cenfri.org/articles/africas-insurance-fails-to-deliver-on-COVID-19/.
6 Pioneer Insurance case study CGAP https://customersguide.cgap.org/sites/customersguide.cgap.org/files/resource/2018/07/CGAP-Pioneer-Case-Study.pdf .

Author: **Jeremy Leach**
CEO and Founder, Inclusivity Solutions

Assessing COVID-19's watershed impact on digital insurance continued



TWO

Harnessing the efficiencies of digitisation

A strong emerging trend since the onset of COVID-19 has been the urgency with which the industry is realising the need for digitisation. Insurers operating in many emerging markets are still dependent on cumbersome, paper-based processes[7], which slow down the acquisition and transaction time of an insurance policy. Similarly, the lack of investment in information technology within the insurance firms themselves has resulted in significant business interruption during lockdown as few employees were able to work from home and broker networks are still dependent on face-to-face customer engagements.

The emergence of new, innovative insurtech players[8] has served to mitigate many of the challenges that traditional insurers face by offering some or all the insurance value chain elements 'as a Service'. Insurers are now able to directly integrate and go-to-market with new digitised services in a fraction of the time that it would have taken for them to build and operate it themselves.

We are seeing this speed-to-market digitisation efficiency play out first hand with a pilot that we are running with a partner where we were able to digitise an existing product that was previously dependent on face-to-face broker interactions using manual processes. We were able to design, launch and operate the product in under six weeks. However, regulators need to respond faster to the role that insurtech providers play in facilitating the value chain for insurance. In some countries, regulators are thwarting this efficiency by not differentiating between the licensed insurer and the insurtech provider, insisting on creating an extra layer of red tape before the solution is approved or prohibiting electronic signatures for digital or call centre sales.

THREE

Emerging types and models of insurance

For organisations such as the UNDP9, COVID-19 has spurred an increased focus in product policy development around business interruption insurance for micro, small and medium businesses (MSME). This sector contributes more than any other sector to GDP in most emerging markets. In Zambia for example, of the 1.2 million MSMEs operating, approximately only 1% are covered by insurance and negative business continuity caused by a pandemic is expected to have a catastrophic economic effect on the country. This is propelling insurance providers to develop unique 'bundled' models for targeted segments and customers such as MSMEs and entrepreneurs. We are starting to see for example, bundled insurance offerings that include property damage, income protection and life cover all rolled into one.

A recent example is Thandizo10, a Zambian product available to FNB MSME customers. The product is a bundle of property damage protection, life and hospital cash.

Additionally, we are seeing a natural insurance extension to e-commerce and marketplace provider products in an area called 'embedded' insurance, which essentially offers insurance to consumers as a check-box option when purchasing another product – 'would you like insurance with that?'. A good example of this is travel insurance that is sold when buying a flight ticket, or device insurance for an electronic device or utility appliance. This distribution medium offers a scalable, secure and logical channel for low-cost insurance and allows the e-commerce provider to layer value for the customer.

Conclusion

The black swan effect of COVID-19 has undoubtedly compelled insurers and regulators to think and act differently – all good news for the consumer. However, the industry still has a long way to go in reaching the sort of financial inclusion targets that will have any meaningful impact on Sustainable Development Goals[11].

Insurers need to ensure that every product is designed in such a way that it meets the needs of their clients and remove typical exclusions, including pandemics. Furthermore, distribution partners and insurers should recognise that, if well designed and efficiently implemented, there is an opportunity to expand access to the 92% to 95% of the adult population that do not have access to insurance. Regulators need to facilitate the 'enablers' of the insurance offerings, these include a robust and efficient digital payment infrastructure, consumer education, digitally empowered consumers, prioritisation of financial inclusion strategies and allowing new innovation players such as insurtechs to distribute and operate products. There is no shortage of insurance opportunity in emerging markets. COVID-19 if anything, has exposed this more than ever. It is now up to the providers to respond with insurance products that layer value in a way that meets the customer where he or she is at in their daily journey. Insurance is seldom a product that people wake up knowing that they want, so it is the role of the providers to make the offer relevant, affordable and accessible.

7 Cenfri Impact of COVID-19 on Insurance Sector https://cenfri.org/publications/impact-of-COVID-19-on-the-insurance-sector-ghana-malawi-and-zimbabwe/.
8 Cenfri Insurtech Tracker https://cenfri.org/databases/insurtech-tracker/.
9 UNDP https://www.undp.org/content/undp/en/home/blog/2020/a-chance-for-universal-healthcare-in-sub-saharan-africa.html.
10 Thandizo https://inclusivitysolutions.com/hollard-insurance-and-fnb-zambia-unveil-new-insurance-product/.
11 Sustainable Development Goals https://www.undp.org/content/undp/en/home/sustainable-development-goals.html.

Section TWO

Accelerating inclusive and sustainable recovery through innovation

In this section:

A new approach to expanding agent ecosystems

Digital currencies – industry trends and impact on resiliency

Micro insurance – lessons from South Africa

Pay by M-Pesa – a new future for digital commerce with mobile money

2 RECOVERY through INNOVATION

Author: **Jonathan Greenacre, PhD**
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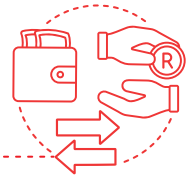
A new approach to expanding agent ecosystems



Executive summary

We need a new regulatory approach to build agent ecosystems in frontier communities. This approach should focus on developing targeted solutions that encourage agent experimentation in specific frontier communities. Understanding 'institutions' in specific agent communities can help us develop targeted solutions. The results are often surprising: something as simple as financial education or strengthening roads may be more effective than helping a specific agent ecosystem expand into frontier communities.

A new framework

Macro nation-wide policy recommendations are insufficient for expanding agents into frontier communities, broadly defined as rural areas with low population size and density.

This is because nation-wide policies tend to support agent growth in urban, highly-populated communities but provide little guidance and support for penetrating frontier communities.

There are isolated examples in which firms have managed to provide agents in frontier communities, such as Safaricom's M-Pesa service in Kenya. However, generally, agents remain clustered in urban areas (CGAP, 2020).

We need to develop targeted policies that support experimentation in specific frontier communities, including using lessons from instances in which firms have successfully penetrated frontier communities. Such policies might involve investing in mobile phone communication in frontier community A, delivering better financial education programmes to agents in frontier community B, and addressing barriers female agents face in frontier community C.

To develop targeted policies that a policymaker must understand, what is **actually happening** in specific communities and how he or she can help, which involves asking three main questions, each of which underpin a **new framework** for agent expansion. Let us unpack some of these terms.

ONE — How is experimentation taking place in this agent network?

Experimentation is key because mobile money firms must tailor any new agent ecosystem to the specific environment of each frontier community. Usually this process involves trial and error, as explored further in diagrams 1 to 6.

TWO — What are the 'binding constraints' to continued experimenting and expansion?

Binding constraints means the factors that are preventing agents in a community from continued expansion and growth. The key point is that studying individual communities can reveal the very wide range of factors that can impede experimentation and growth. These could include: local gender norms which prevent female agents from obtaining credit, environmental factors, poor infrastructure such as roads, electricity, lack of communications infrastructure, lack of financial training amongst staff, corruption problems in local government agencies and beyond.

THREE — How can policymakers address binding constraints in a community and facilitate further expansion?

Addressing binding constraints involves addressing barriers to continued agent expansion operating in the specific community, using regulatory and, crucially, non-regulatory ways. As can be seen from the paragraph above, binding constraints can be much wider than we might assume and so our policy tools must be much broader too.

Let us use mobile money firm liability for agent activity as an example of the breadth of tools we may need, far beyond regulation, to stimulate agent expansion. Originally, a mobile money firm was not liable for actions of its agents (for example, the M-Pesa Terms and Conditions, clause 18.11). Recently, regulation has reversed this situation and makes mobile money firms liable for actions of their agents. Section 14(4) of Kenya's National Payment System Regulations was a first mover, later copied by a large number of countries (e.g. Tanzania's Electronic Money Regulations, s 37).

Agent liability may have some benefits but can be unhelpful for agent expansion into frontier communities

It raises regulatory costs on a mobile money firm, which may discourage the firm from expanding into frontier communities.

More fundamentally, **agent liability will discourage a mobile money firm from experimenting with different ways to profitably penetrate a frontier community.** This is because the management of the mobile money firm can say to themselves "the central bank can fine us for any 'mistakes' of our agents".

More fundamentally still, **agent liability fails to provide the sort of targeted solutions we need to stimulate agent expansion in specific frontier communities.** This is because this rule may fail to address the actual binding constraint to continued agent expansion in a specific community. For example, perhaps the binding constraints in frontier community A is poor roads. Imposing agent liability rules on a mobile money firm will not address these binding constraints and so is a waste of public resources. A policymaker could use these resources more efficiently by alleviating the binding constraints in frontier community A, through, for example, strengthening roads in the community.

The framework r**evolves around understanding what is actually happening in specific frontier communities,** so how do we work this out? **Understanding institutions operating in a community can help.**

Institutions

'Institutions' underpin every technical innovation and so understanding them tells us how an agent ecosystem operates.

There are two main types:

- **Macro institutions** (high-level, nationwide), such as laws and regulations
- **Micro institutions** (local) such as contracts, informal practices, and social conventions such as gender norms

For example, M-Pesa in Kenya is subject to both types of institutions:

- **Macro:** National Payment Systems Regulations, Agent Banking Regulations
- **Micro:** Terms and Conditions between Safaricom and Agents; Terms and Conditions between Safaricom and Customers; Contract between Safaricom and agent aggregators such as TopImage; Contract between Safaricom and banks, informal practices between mobile money actors particularly Safaricom, agents, agent aggregators, and customers, social sanctions and gender norms

Most people tend to focus on macro institutions for agent ecosystems but we must focus on micro institutions if we are going to improve policymaking and ultimately support agent expansion into frontier areas. This is because most of the rules and innovation in agent networks takes place through experimentation at the **micro** level. So, policymaker needs to support that experimentation.

Elinor Ostrom, Nobel Prize winning economist (2009) provides us with a methodology for studying micro institutions in specific frontier communities and ultimately designing highly targeted policy solutions. Elinor Ostrom studied 'common pool resources', which are broadly resources which no one owns, such as sections of particularly remote forests, parts of lakes, and areas of the ocean. Economics assumed that users of common pool resources (such as fisherman on a lake) would overharvest the resources (such as the first) and the system would collapse. Elinor Ostrom studied micro institutions in real world common pool resources and found that often users came up with rules and enforcement mechanisms to prevent overharvesting. She also proposed targeted solutions to help specific communities operate better.

We can use her framework to get beyond our assumptions about agent ecosystems and studying what **actually** happens in agent ecosystems.

Author: **Jonathan Greenacre, PhD**
Assistant Professor of International Relations
at Boston University

A New Approach to Expanding Agent Ecosystems continued

Application: Waijir in Kenya

Let us use this new institutional framework to determine targeted policy solutions for Waijir, a small frontier community in the north-west of rural Kenya. Waijir does exist, but the discussion below is fictional only.

Stage 1 **What is happening within the agent ecosystem?**

Diagram 1

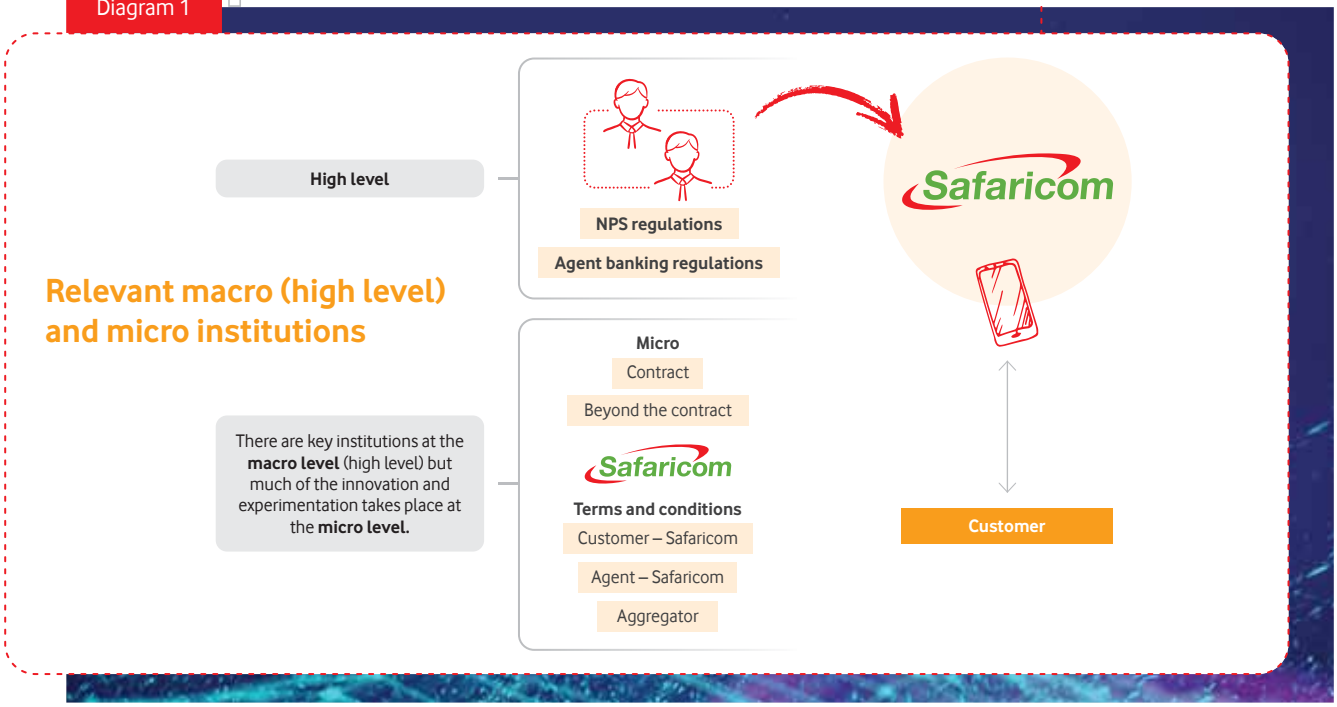


Diagram 2

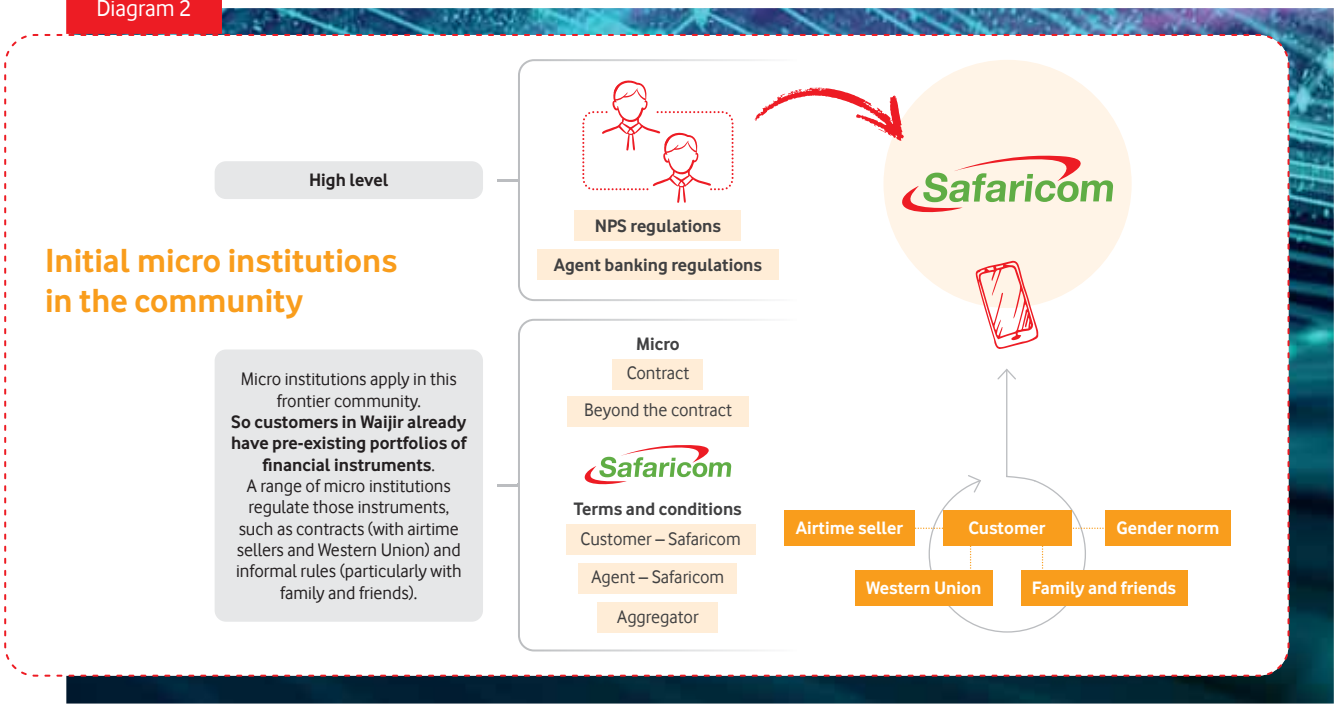


Diagram 3

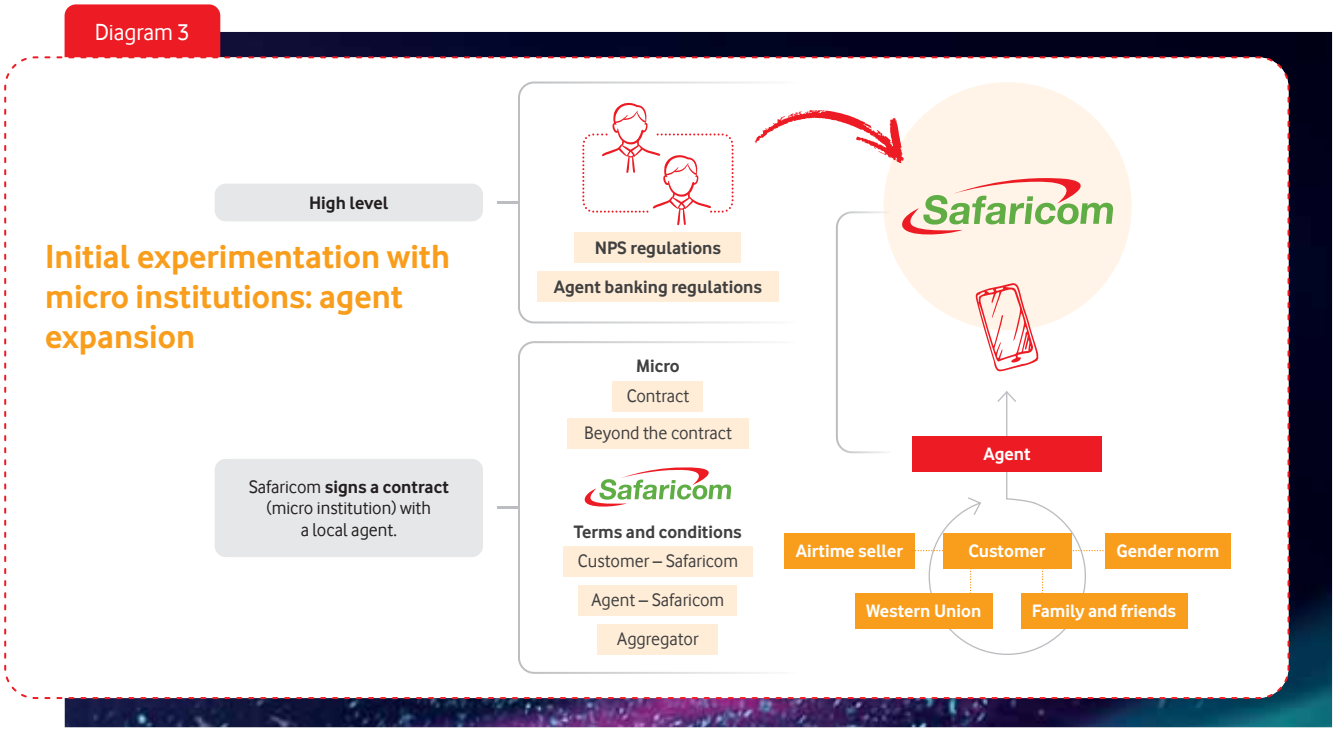
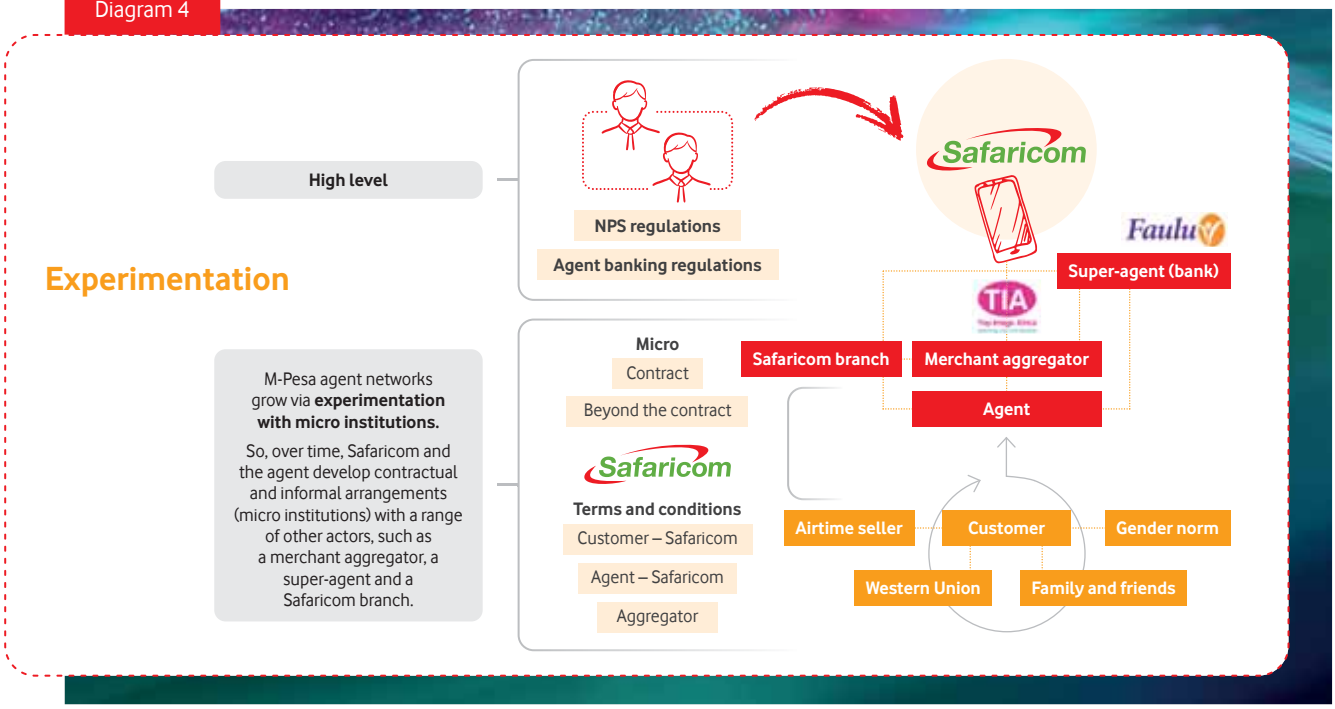


Diagram 4



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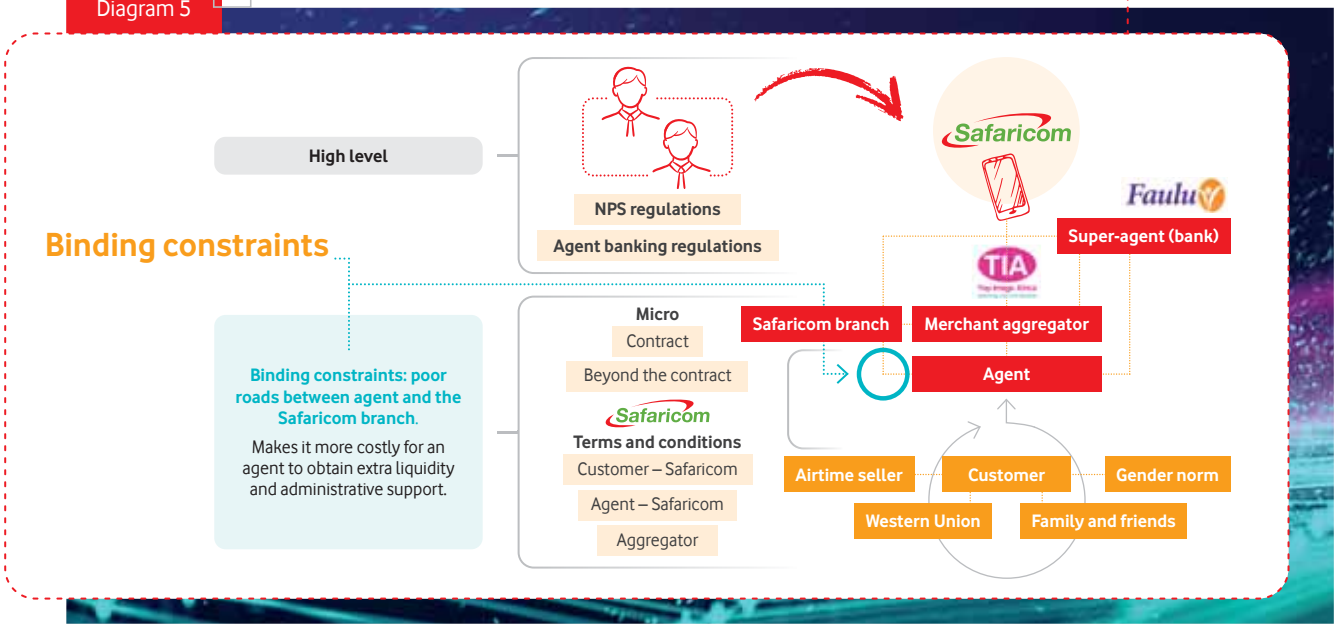
A New Approach to expanding agent ecosystems continued

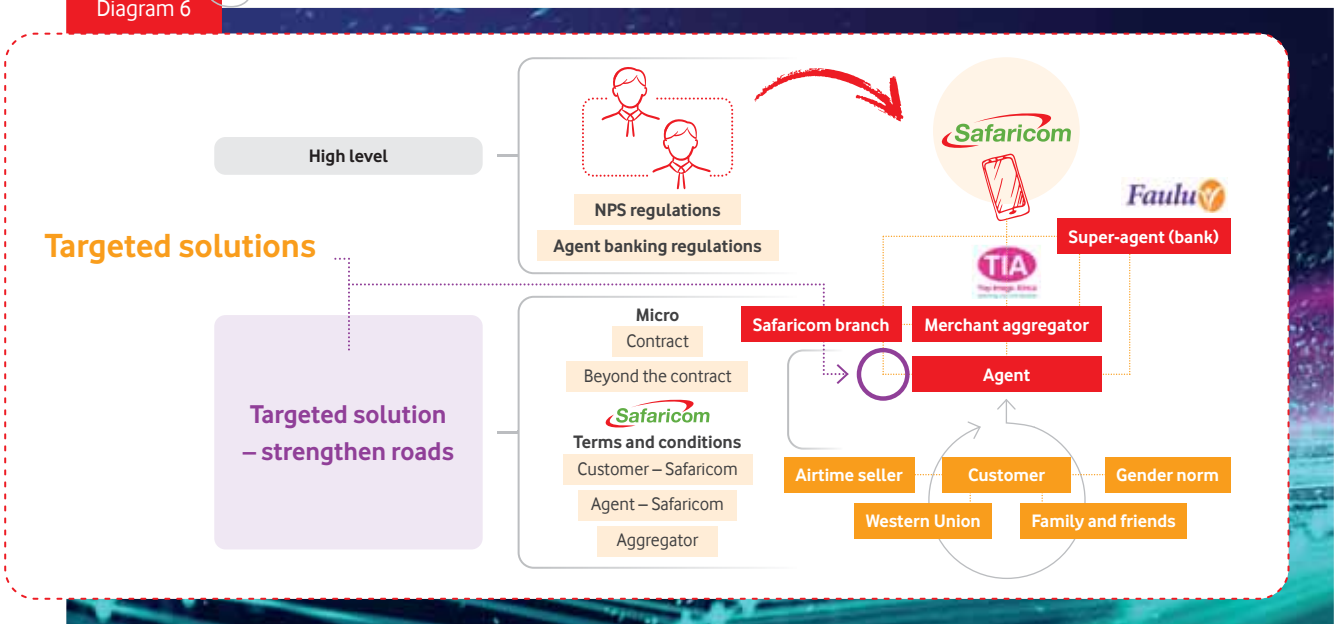
Stage 2 **What are the 'binding constraints' to continued experimentation and expansion?**

Diagram 5



Stage 3 **How can policymakers address binding constraints in a community and facilitate further expansion?**

Diagram 6



Next Steps: We should use this framework to study how agents expand in actual frontier communities. That way we can begin building a much wider toolkit of policy choices – both regulation and beyond – that can most efficiently build agent ecosystems in specific communities.

We should start with mobile money case studies for a range of reasons. Mobile money has proven particularly effective in helping women emerge from poverty (Jack and Suri, 2016), payment systems underpin all major technological innovations and COVID-19 has revealed the continued importance of the service across developing countries (The Economist, 2020). We can then apply the institutional approach to a much wider range of services which use agents. These can include Hello Tractor (the so-called 'Uber for tractors' operating in Nigeria), Bboxx (providing solar energy in rural areas of Rwanda, Kenya, and other developing countries) and beyond.

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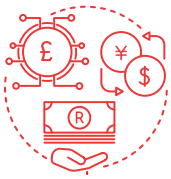

Digital Currencies – industry trends and impact on resiliency

Trends in **blockchain technology**

Summary

This piece details the major trends in blockchain technology with respect to financial services and demonstrates how these trends and broader access to the technology can lead to financial resilience across the continent. It also highlights some of the prominent use cases where the technology has been proven useful and ways in which blockchain can be used to enhance mobile money product offerings while reducing costs and frictions. It concludes with an appeal to regulators to take a proportionate and pro-innovation approach to regulating uses of blockchain technology, in a way which does not crowd-out the benefits.

Currently, the world's financial system excludes roughly one in three adults. Accessing digital currencies on mobile phones has the potential to bring financial inclusion to the billions of smartphone users around the world. Despite this potential, less than 1% of the world currently uses blockchain technology. Addressing these pain points are top of mind for industry players.

Which is why one of the biggest trends in the blockchain industry is increasing usability. The simplest way to think about blockchain is that it is a database – a storage infrastructure for data – that is secured by both encryption and by being decentralised.

With many copies spread across many locations, all kept up-to-date simultaneously, changes can only be made to the data when there is consensus that it is correct to do so. In the case of blockchain transactions, one needs to generate a private/public key pair to receive a payment and enter in someone's public key in order to send a payment. Remembering and safely storing access to these keys can be cumbersome. While these may seem like small obstacles, experience has shown that small differences in the user experience lead to large differences in adoption rates. As mobile money practitioners know well, even 4-digit PINs can be misplaced and hard to remember, let alone a long hexadecimal cryptographic address.

One of the main trends in the past year which will continue in the industry is providing user-friendly interfaces and easier ways to access, transact and use the digital currencies. The approach the Celo ecosystem took was to build a **mobile-first blockchain platform** that is optimised for fast, secure transactions and usage on low-end devices in resource constrained environments. Taking a page from the mobile money industry book, Celo enables people to send value with only a phone number – bypassing the traditional approach of long, complicated cryptographic addresses. To preserve privacy, a hash of the phone number is stored on the blockchain rather than the phone number itself. Through numerous user research trips, the teams building on Celo have prioritised building with their users and incorporating user feedback into the products as a way to solve for usability.

Enabling anyone with a mobile phone to send digital currency as easily as sending a text message is the first part of the equation. Just as critical, the currencies need to be free from the daily fluctuations associated with the most popular digital currencies, whose price volatility makes them undesirable for merchants to accept as payment. Which takes us to the next major trend in the blockchain industry – **the rise of stablecoins**, stable-value digital currencies pegged to either fiat or the price of a commodity. To date, the vast majority of existing stablecoins are pegged to the USD, but projects looking to issue stablecoins pegged to other currencies are on the rise. As an example, cEUR is being launched on Celo to help expand access to those who are looking for a digital euro. The appeal of stablecoins is the elimination of price volatility, making them useful instruments for payments, but also offer the user the comfort of not having to adapt to a new currency.

With the rise of use of stablecoins, the industry could now focus on providing a wide range of financial services in a way that was insulated from wide price volatility.

DeFi (Decentralised Finance) refers to financial services with no central authority and is one of the biggest current trends in blockchain. It involves taking traditional elements of the financial system and replacing the middleman with a smart contract. DeFi applications usually combine use of stablecoins, smart contracts and, in some cases, proprietary software to offer services such as investing, lending, micro finance as well as more sophisticated financial products. 2020 has already witnessed an explosion of DEFI services, with Forbes estimating the total value of DeFi surpassing USD74.8 billion[1].

1 https://www.forbes.com/sites/kenrapoza/2021/03/21/whats-the-big-deal-about-defi-and-how-do-you-invesin-it/?sh=3f9140bbe89c.

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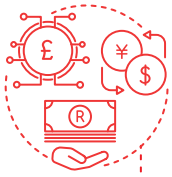
Digital Currencies – industry trends and impact on resiliency continued



With the growth of the blockchain usage, traditional tech and fintech have started to pay close attention and if 2020 has been the year of fintech adoption, 2021 is looking to intensify that trend and bring about more **fintech and big tech blockchain adoption and integration.** With major players such as Square, Revolut, PayPal and Visa including digital currencies as ways to pay for goods and services, the banking and financial sector is expected to show exponential growth in blockchain adoption in the coming years.

Up until recently, the idea of a **'central bank digital currency' (or CBDC)** was a niche notion, where research was largely academic in focus. In between the announcement of Facebook's Libra project in June 2019 and China announcing the development of the digital Yuan around the same time, the conversation moved from 'if' to 'when' for many central bankers. What was once an interesting 'thought experiment' about the future of money, became an existential debate on the validity of the traditional payments system, as central bankers contemplated the challenge of competing against giant technology companies, with billions of dedicated users. According to the BIS, close to 90 central banks are now actively looking into CBDC and the number is expected to keep growing, as well as the maturity of their research and prototypes.

What do current industry trends mean in practice for end users?

Industry trend

Usability

Benefits
Data shows that four billion people primarily use their phones for internet access. With the rise of mobile money, customers now expect to be able to quickly and safely transfer funds to and from their phones. A mobile-first approach, such as the one taken by the Celo ecosystem, building for low-end devices operating in resource constrained environments, means the benefits of digital currencies can now be accessed by a wide range of potential users and help move the needle towards financial inclusion.

Industry trend

DeFi

Benefits
The main benefit of DeFi will ultimately come from empowering local entrepreneurs to take advantage of open blockchain platforms to build solutions that are accessible, affordable and appropriate for their communities, at low cost, without any vendor lock-in risks. We are already seeing a wave of fintech entrepreneurs on the continent using blockchain to bring traditional saving circles online to keep record of transactions and create financial histories for those otherwise excluded.

In addition to bringing local capital into the formal market, DeFi can connect local need for capital with international offers of capital. An excellent example is **EthicHub**, a marketplace which connects individuals who have small amounts to lend with farmers in Mexico looking to access capital.

Industry trend

Fintech adoption

Benefits

The more traditional financial and fintech players integrate digital currencies and blockchain into their products, the easier to access the technology becomes for regular users and the cheaper the services these institutions offer can be. Due to the programmable nature of digital currencies, fintechs can start offering very cheaply highly-customised products to their clients. Loan terms can be built into the currency itself, ensuring compliance with the terms of the loan and making it easy and fast to spot fraud attempts. The same goes for financial providers which help deliver on government cash transfer programmes.

In addition, because these entities are licensed financial providers, they are already with KYC and AML requirements and can enable blockchain-based financial services to comply with existing requirements.

Industry trend

Stablecoins

Benefits

Stablecoins offer many benefits for transferring value compared to fiat currencies. They enable faster payments at lower costs with 24/7 global access – not only for the end user but for the money transfer industry. In terms of liquidity management for payments, with a digital asset one would not need to pre-fund accounts in the destination 48 hours in advance. This is expensive and locks up capital. Rather instant settlement would be possible, freeing up funds.

Full traceability of funds – improved AML/CTF compliance and lower compliance costs precisely because of the traceability feature. Reducing costs and being able to include new customers previously not included due to cost of sending money.

Being able to move liquidity in real time reduces the pain of banks 'derisking' countries and communities. Due to low cost, high speed and traceability it can bring into the formal financial market significant amounts of remittances previously remitted through informal channels, increasing the flow of hard currencies into emerging economies.

Industry trend

CBDC

Benefits

A central bank digital currency, issued on a blockchain, could enable the central bank to access in real time aggregate transactional history. This in turn could enable policymakers to observe the economy's response to shocks or policy changes almost immediately and more accurately and calibrate as need, thus providing an essential tool for macro economic stability management. A thorough investigation of the monetary policy implications of issuing a CBDC on Celo is provided in a whitepaper published by the cLabs team focused on 'Influencing the Velocity of Central Bank Digital Currencies.'

Aside from providing the central bank a new channel for the transmission of monetary policy, CBDC could help to support economic growth, development and communities. Due to low cost, high speed and traceability, it can bring into the formal financial market significant amounts of remittances previously remitted through informal channels, increasing the flow of hard currencies into emerging economies.

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Digital currencies – industry trends and impact on resiliency continued

Building financial resilience in practice on the Celo platform

Speaking mid-March during the **2021 Africa Financial Industry Summit** by the International Finance Corporation (IFC), a member of the World Bank Group, the Governor of the Central Bank of Kenya, Patrick Njoroge, indicated that the issue he sees with blockchain technology is moving from ideas to actual solutions[2].

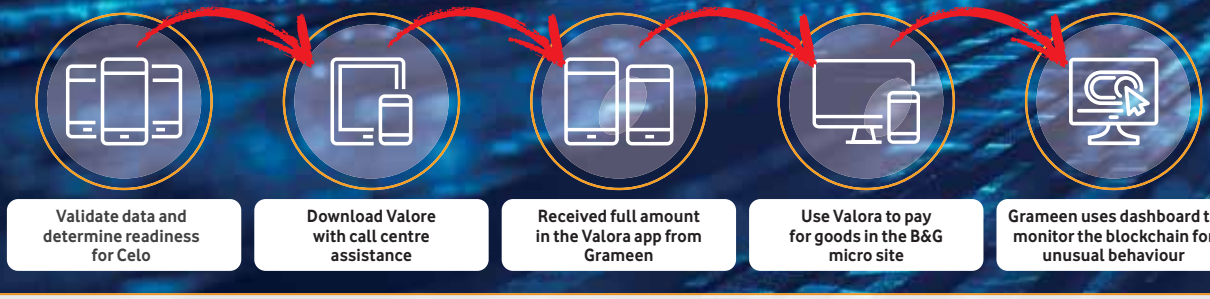
The industry agrees – making a technology easy to use makes little difference to adoption unless it has some practical use cases. Some of the main use cases associated with blockchain technology go back to its use as a decentralised ledger – land registration, supply chain management, digital identity, carbon emission trading. All of these are relevant use cases for enabling society to be more resilient to income and natural disaster shocks. In the past year though, the COVID-19 pandemic has shown that blockchain can also be used to digitally transfer money – either in the form of humanitarian assistance, as payment for work performed online or as global remittances.

1 Delivering humanitarian **aid** on blockchain

The GSMA[3] data shows that The COVID-19 pandemic has accelerated the shift from cash to digitally delivered financial assistance. However, city mobility restrictions and the risk of COVID-19 infection would have made delivering aid in an expeditious and safe manner difficult through traditional means. The provision of digital cash proved to be one of the effective digital tools in the pandemic response.[4]

Last summer during the height of the pandemic-related lockdowns in the Philippines, the Grameen Foundation partnered with the Celo Alliance for Prosperity to **successfully deliver humanitarian aid** to 3 500 micro entrepreneurs. Together, the organisations leveraged cryptocurrency and blockchain expertise to create a program that gave recipients the opportunity to download Valora – a global remittance payments app built on the Celo platform – and use cUSD to meet basic critical needs, such as purchasing food and medicine, as well as collect aid in a secure way.

User journey for Grameen COVID-19 relief



The requirement of the program donor was that fund usage would be restricted to approved types of goods. Since digital currencies are programmable, conditionality could be programmed directly into the money itself, ensuring compliance with the terms of the program. Along the disbursement value chain, this amounts to significant savings at the issuing organisation level – both for merchants who accept the funds and the monitoring entity.

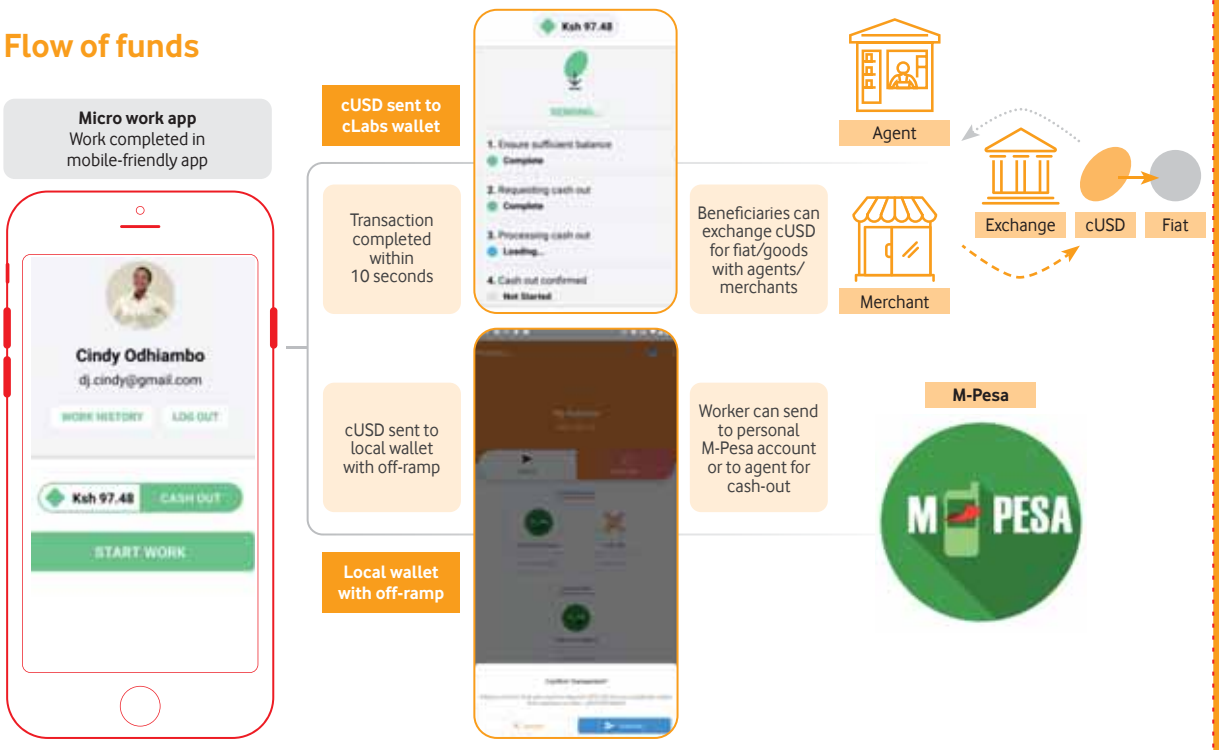
The disbursement also involved a transfer from Grameen's account in the US to the Valora wallets of beneficiaries in the Philippines. This was completed in only minutes, and each transaction only cost <$.01. This resulted in a 99.5% reduction in costs, compared to 2% to 3% cost of the average Philippine remittance. With a 98% onboarding success rate – in addition to significant cost savings – this project demonstrated not only the ability of Celo to support aid operations in an efficient way even among low-tech populations and constrained environments, but exemplified the great value proposition stable-value that digital currencies have in the context of cross-border transactions.

Micro payments for micro work 2

According to the International Labor Organization (ILO), full or partial COVID-19 lockdown measures have affected nearly 2.7 billion workers, or four in five of the global workforce. Nearly two billion people work informally, concentrated in developing markets – and this population has been particularly vulnerable to the global downturn resulting from the pandemic. This includes refugees who lack access to labour markets. Many were faced with the difficult choice between staying at home, safe from potential COVID-19 exposure, or being able to earn money to feed their families. Few of those working in the informal sector have the option of working from the safety of their homes. However, many of these individuals have access to phones, even low-cost second-hand smartphones. At the same time, the potential market for AI training micro tasks was around US$9 billion in 2019 and projected to be US$24 billion by 2023. The industry is struggling to find enough gig-workers to meet their data training needs, especially at prices starting at US$2 to US$3 per hour.

For individuals in most emerging markets, this could be an enticing proposition. Unfortunately, the online marketplace for micro tasks is currently designed for those who have access to a desktop and bank account. High transaction costs, delayed payments, and considerable up-front investment in a desktop have been cited as significant barriers in the viability of micro work, especially for online workers who receive micro payments.

Flow of funds



Just recently Corsali, previously known as Toca, – a micro work application launched on the Celo platform, Appen, and MercyCorps launched a pilot to test whether digital stablecoins and mobile wallets can ease frictions and reduce costs in cross-border payments for low-income youth. This project builds on momentum in the micro work industry with two innovations:

- Creating a smartphone app to reach the billions without access to computers
- Integrating a mobile-first digital currency as a payment rail to reduce transaction costs, simplifying cross-border payments

As part of the pilot project, individuals perform work on their phones through the Toca application and can claim payments whenever they want. Payments are in stable-value digital currency and participants can cash out anytime to M-Pesa via a third-party integration.

2 https://bitcoinke.io/2021/03/crypto-lacks-use-case-says-cbk-governor/.
3 https://www.gsma.com/mobilefordevelopment/resources/mobile-for-humanitarian-innovation-annual-report-feb-2021/.
4 https://www.odi.org/sites/odi.org.uk/files/resource-documents/digital_covid_briefing_ note_web.pdf.

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Digital currencies – industry trends and impact on resiliency continued

2 **Micro payments** for micro work continued

This was the first attempt to match micro work with integrated micro payments in a way that is scalable, cheap, and fast, allowing users to cash out their funds without paying large fees or waiting to accumulate considerable amounts. The mobile micro work solution leverages budget smartphones to make work accessible in developing countries. Additionally, with the inclusion of micro payments on-chain, the solution enables workers to retain more of their earnings by substantially lowering transfer fees up to 99%.

	TransferWise	PayPal	WorldRemit	Western Union	celo
Fees	US$3.33	US$1.44 (28.8%)	US$1.95 (39%)	US$5.55 (113%)	<US$0.01 (0.3%)
Timing	1 –3 days	1 – 2 days	Same day	<1 hour	5 – 10 seconds

At scale, this solution can be a key component of increasing financial resilience in emerging markets, especially for informal workers such as street vendors, who are not able to earn money during national or city-wide lockdowns. The opportunity to earn income while working at home from their mobile devices enables them to stay safe, while also being able to feed themselves and their families.

When it comes to closing the financial inclusion gender gap, research shows that digital financial services give women greater control over their own finances, including safe, convenient, and discreet access to financial accounts. A digital micro work application with integrated payments takes this one step further, enabling women not only to receive their earnings directly through their mobile wallet, but also to earn cash directly from their mobile phone. This also has the potential to bring youth into the labour market – they can earn funds while studying to pay for school-related expenses. It could also enable individuals with disabilities that affect their mobility to earn income and by working on increasingly more advanced tasks, increase that income.

Ultimately, the ability to match the labour demand and supply in a way that does not require people to leave their community or homes creates an entry point for increased financial inclusion and resilience, resulting in sustainable economic growth.

Digital currencies and cross-border payments

As the pandemic-related lockdowns continued to spread, the volume of remittances has significantly decreased compared to pre-COVID-19 times. World Bank projects remittance volumes will decline by 14% by the end of 2021. Most of the drop has been caused by decline in economic activity and employment in host countries, complemented by additional factors related to oil prices and depreciation of other currencies against the US dollar.

On top of that, the cost of remittances has not decreased since 2019 and the cost remains the highest in sub-Saharan Africa, at 8.5%[5], with the banks being the most expensive channel and mobile operators the cheapest at 2.8%. Despite the continued calls to reduce the costs of remittances to the continent and MTOs and mobile operators working towards that goal, bank de-risking is impacting these entities, which are at increased risks of having bank accounts closed down due to perceived risk of non-compliance with AML and CFT standards.

One of the most important topics when addressing any transfer of value on or off-chain is the ability to ensure legal behaviour and comply with AML/TF regulations[6]. In the world of fiat currencies, automated transaction monitoring solutions that scrutinise customer behaviours are an effective way for financial institutions to satisfy AML/CFT requirements. Despite the common misperception that digital currency transactions are indecipherable, blockchain monitoring solutions allow regulated businesses to achieve similar, if not superior, results when it comes to handling digital currencies.

Traditional fiat transaction monitoring techniques focus on identifying anomalies in behaviour at the immediate point where customer funds are deposited or withdrawn from a financial institution. Financial institutions will always know who is sending or receiving those funds, but they generally will not have further information about the flow of funds that precedes or follows their direct interactions with their customers, and so must look to patterns or characteristics of the immediate transaction to determine if the activity in question presents any unacceptable risks, or is suspicious.

In contrast, a Virtual Assets Service Provider (VASP) may not always know the identity of the individual or entity that is behind the immediate transaction with its customers. However, the transparency of public blockchains makes it possible for the VASP to view the history of the flow of funds to or from its ultimate source or destination, revealing further information that can provide an unprecedented view of risk. Customer activity monitoring in the digital asset space, therefore, can entail scrutinising not only information about the immediate interaction between a business and its customers, but obtaining further information about the flow of funds to determine if its customers are engaged in activity that is high risk or suspicious. This allows for a level of transparency that is not possible in the fiat currency world and one that would enable MTOs and mobile operators who enable their customers to transfer value on-chain to significantly de-risk their cross-border payment operations.

In addition to increased transparency into the flow of funds, as well as increased ability to comply with AML/FT regulations, mobile operators or MTOs transferring value on-chain would be able to solve much of the interoperability problem. For example, a mobile operator enabling value transfer on-chain within its own network would allow a user in France to remit funds to its family in Senegal in under five seconds and at a cost potentially below US$.001, depending on the blockchain they use. By building mobile money offerings in open source blockchains, mobile operators would be able to brand their own wallets at no cost.

By building a mobile money offering on a platform that is mobile-first and designed to support multiple fiat-pegged currencies, MNOs would be able to add cross-border payments to their toolkit of service offerings. This would enable mobile money operators to build a successful business outside the continent, connecting both sides of the remittance flow – a service that so far has proven elusive.

How regulation can enable the use of blockchain technology to increase resiliency

Across the continent, there is a high level of variation in approaches to blockchain, digital assets, digital currencies, and their uses. Due to the novelty of the technology, as well as its use cases across industries, there is a lack of clarity in what type of activities require licensing or approvals. In order to reap the great benefits the technology can bring, regulators should adopt a proportionate, principle-based, and pro-innovation approach to blockchain.

The current state of regulation regarding the blockchain industry, as well as many of the concerns and questions raised by regulators, is in many ways reminiscent of the early days of mobile money. How can you trust that value is transferred safely? What about KYC? What if the handset fails to complete the transaction? Will it not be used by bad actors to launder money? How do you know it will make the impact on financial inclusion you say it will? These questions are equally familiar to the pioneers of mobile money and those working with digital currencies.

And the approach in answering these questions should also be similar: start small, test assumptions, test for risks in sandbox environments, work with reputable actors and enable them to succeed in your jurisdiction.

As exemplified earlier in this piece, blockchain technology can have a remarkable impact on financial inclusion, empowerment of local entrepreneurs and even enabling governments to do their jobs more efficiently, from delivering social payments to offering economic opportunities to their citizens to eliminating fraud and misuse of public funds. In instances where the technology has been allowed to thrive, the early results have been favourable. However, the industry cannot flourish in the absence of regulatory guidance – the risk is too high; and regulatory guidance should be informed by conversations with the industry players, pilots carefully run in sandboxes as well as the benefits the technology can bring.

The question today is not whether digital currencies will become mainstream and create a long-lasting impact that empowers people, advances the SDGs, and promotes economic growth. The question is: which country in the continent will be known to have played the same seminal role in advancing digital currencies and blockchain technologies as Kenya played with mobile money.

5 https://www.knomad.org/.

6 In May 2019, the US Treasury's Financial Crimes Enforcement Network (FinCEN) noted in guidance that regulated businesses can comply with their AML requirements "by incorporating procedures into their AML Programs that allow them to track and monitor the transaction history of a [cryptocurrency] through publicly visible ledgers."

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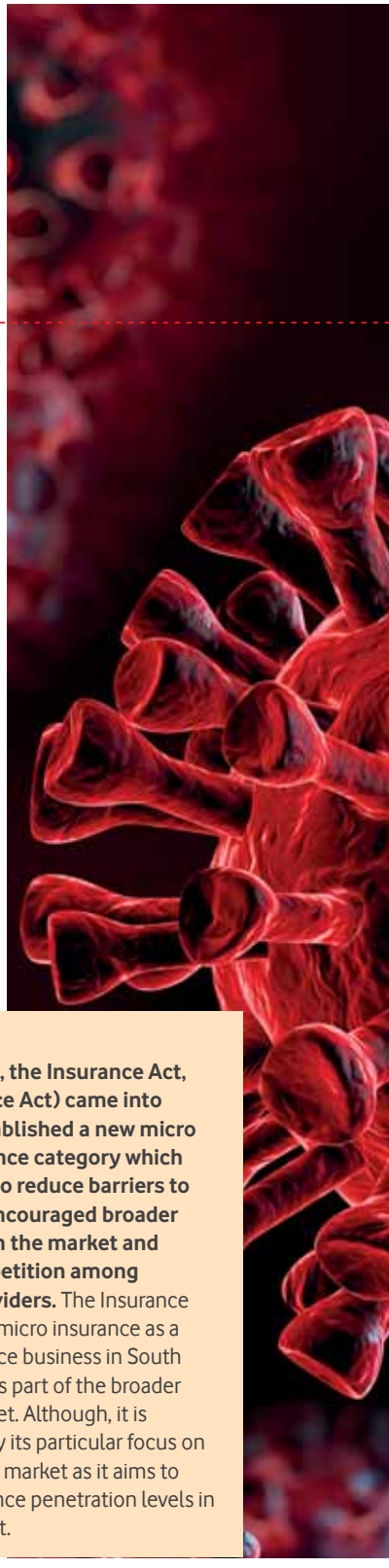
Micro insurance – lessons from South Africa

The COVID-19 pandemic has caused catastrophic global disruption. In South Africa, apart from the devastating loss of lives, the impact to the economy as a result of the nationwide lockdown imposed on the 27 March 2020, has been significant. This has left economies, businesses and individuals scrambling to adapt or, in many cases, simply survive. In developing countries like South Africa, adverse events, such as the pandemic, leave the larger poorer segments of the population more exposed and vulnerable.

Almost every industry has been hard hit, with the insurance industry not being spared from the fall out. Micro insurance, which refers to insurance services or products offered to customers with low income who would ordinarily have limited access to traditional insurance services or products, has also been severely impacted. This article will focus on the impact of COVID-19 on the evolution of the micro insurance regulatory framework, Vodacom Life Assurance Company's long-term insurance, funeral products and some of the challenges and opportunities that have emerged as a result of this crisis.



South African market overview and micro insurance framework

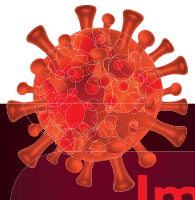
While South Africa has the largest and most established insurance market in Africa as noted in a recent study by McKinsey, the actual market penetration rate of approximately 14%, is still low. The low penetration rate is usually attributed to a lack of trust in insurance products, which is strongly linked to the low levels of financial literacy among the lower income groups, the high complexity of financial products and the cumbersome claims process. A report by Fitch noted that most households that can afford cover already do so and with almost eight million households still falling into the lower income brackets, affordability remains a key issue. Other key challenges include inappropriate distribution channels and unsuitable insurance products. The regulatory regime also pays a pivotal role as the ultimate goal is to achieve consumer protection.

The National Treasury has tried to ensure a stable financial services sector that is accessible to all South Africans by publishing policies and bills that enforce financial inclusion as many people remain excluded from formal financial services. As such in 2011, National Treasury released their 'Micro insurance Policy Framework' (Micro insurance Policy) document in 2011, which made provision for the introduction of a proportionate and appropriate regulatory and supervisory framework for micro insurers. The Micro insurance Policy highlighted the need to provide affordable insurance products to all South Africans that meet their observed needs. The Micro insurance Policy was developed in response to a discussion paper issued in 2008: 'The future of Micro insurance in South Africa,' which addressed the low penetration levels of insurance products among low-income earners in South Africa.

The core principles underpinning the micro insurance licence in terms of the Insurance Act include a micro insurer being allowed to conduct both life and non-life insurance business in the same entity as a composite insurer. Whereas, traditional insurers are not allowed to do so and separate entities and licences are required for an insurer to conduct life insurance or non-life insurance business. The classes of life insurance in the micro insurance licence includes credit life insurance, risk insurance and funeral cover.

The advantages of the new regulation of micro insurance is that it protects low-income customers in several ways, for example, no waiting periods are allowed for policies covering accidental death or disability and for credit risk policies, including a turnaround time of a two-business day period to authorise and pay claims after receiving all the necessary documentation. The introduction of the micro insurance products are intended to be more accessible, affordable and fair for customers and to provide a regulatory framework that will make it easier for low income customers to access insurance. Benefits provided under micro insurance policies will be subject to defined financial limits depending on the nature of the policy. There are restrictions and caps imposed on micro insurance with policies being limited to R100 000 per life insurance and policies being limited to R300 000 per non-life insurance (excluding accident and health insurance which is limited to R100 000 per life insured).

On 1 July 2018, the Insurance Act, 2017 (Insurance Act) came into effect and established a new micro insurance licence category which was intended to reduce barriers to entry, which encouraged broader participation in the market and promote competition among insurance providers. The Insurance Act introduced micro insurance as a class of insurance business in South Africa that forms part of the broader insurance market. Although, it is distinguished by its particular focus on the low-income market as it aims to increase insurance penetration levels in its target market.



Impact of COVID-19 on South African funeral market

Life and funeral insurance have for a long time been considered a grudge purchase but since the COVID-19 global pandemic insurers have seen a surge in interest as people are faced with the importance and uncertainty of life. As a result, some insurers have experienced an increase in new funeral insurance policies since the COVID-19 pandemic started. On the other hand, one of the biggest challenges of COVID-19 has been the devastating impact on customers' finances. There has been a decrease in most customers' disposable income because most new jobs have been put on hold during the COVID-19 lockdown. Therefore, despite the increase in consumer interest and sales, this has not been sustainable resulting in higher lapses due to non-payment of premiums. Consequently, some insurers allow clients flexibility on the payment of their premiums if they run into financial problems.

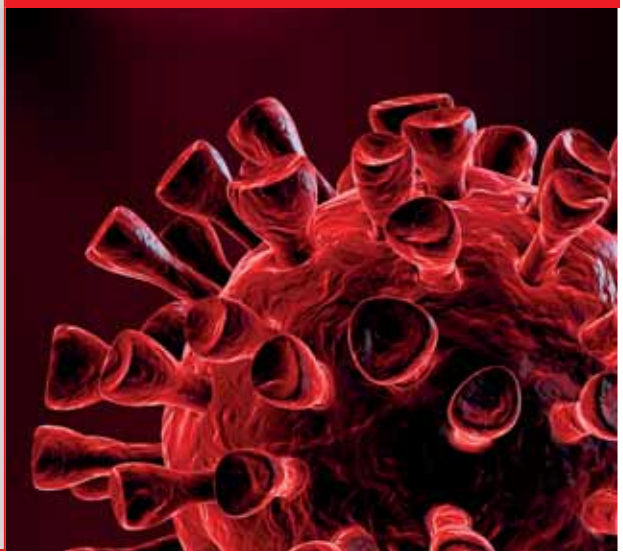
In addition, the tragic loss of lives has increased due to the COVID-19 pandemic has caused a rapid increase in funeral claims and pay-outs. The life insurers have not yet reached their peak with respect to the increasing claims ratios as the mortality rates associated with the pandemic is still high. Currently South Africa is going through the final stages of the second wave and the Department of Health anticipates a third wave during the winter months of June to August 2021. The increased claims ratio places strain on liquidity and solvency requirements.

With COVID-19, face-to-face interaction has effectively stopped, with many customers now using digital channels. Insurers had to position themselves to respond to communications and servicing customers online. Remote working has been a culture shock for many companies and insurers have had to ensure the continuance of operations with minimum disruptions to customers. As remote working became the new norm and insurers moved more of their operations online, the insurers experienced an increased level of criminal activity. There have also been an increasing number of scams committed, including imposter scams. In the funeral market there have been syndicates targeting funeral schemes and orchestrating material claims pay-outs.

As a result, insurers had to be in a constant race to stay one step ahead of cybercriminals by escalating their cyber fraud prevention and monitoring activities including updating and implementing more stringent controls.

The financial services regulators also established a framework for collecting data on underwriting, market and liquidity risks from insurance companies to proactively monitor the impacts of COVID-19.

The Financial Sector Conduct Authority and the Prudential Authority also jointly issued directives to the insurance industry on precautionary measures to reduce the risk of exposure, transmission and the spread of COVID-19 as well as guidance on how to deal with non-payment of premiums, payment of broker commissions, extensions on insurer reporting obligations and relief on solvency requirements adversely impacted due to the pandemic. The regulators have acted with flexibility in maintaining the regulatory and supervisory framework while upholding prudential standards and promoting principles of customer fairness.



COVID-19

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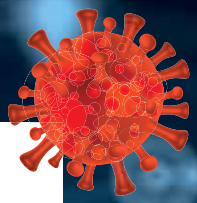
Micro insurance – lessons from South Africa continued

Impact of COVID-19 on Vodacom Financial Services



Although Vodacom Financial Services (Pty) Limited does not have a micro insurance licence, its subsidiary company, Vodacom Life Assurance Company (RF) Limited (VLA) provides funeral insurance and credit life insurance to customers with low income.

The Vodacom contract cover solution is designed to cover the outstanding balance on contracts for Vodacom contract customers at a cost of R9.99 per month. The outstanding contract amount is paid to Vodacom and a R5 000 funeral benefit is paid to the deceased's family. This product continues to perform well despite COVID-19. In addition to the low monthly premiums, the primary premium collection method is an 'add to bill' capability where premiums are collected together with Vodacom airtime/data subscription amount.

The Vodacom Prepaid Funeral Cover product is a weekly funeral product with premiums as little as R3 per week for R3 000 cover. This product is specifically designed with the low-income segment in mind who usually get paid on a weekly basis. The Vodacom family funeral product is also constructed to promote financial inclusion by ensuring products are affordable across all market segments. It is designed in a modular fashion and allows the prospective policyholder to customise the product by either selecting a core funeral benefit or adding in other value-added services such as a repatriation benefit, loyalty benefit etc. The principles underpinning both these products include affordability, financial inclusion and flexibility, to allow policyholders to select the benefits that they require.

During the COVID-19 pandemic, VLA, like other insurers also experienced an increase in funeral sales, as consumers recognised the importance of funeral cover especially during the pandemic. As customer experience is a key focus within the business, the digital journeys were revised and simplified for customers, more staff were added to the call centre to deal with claims, queries and sales. This resulted in a positive reduction in the 'not taken up' (NTU) rate by almost 10%. The business also focused on diversifying its distribution channels to be more accessible to consumers by partnering with funeral parlours and social influencers.

In order to mitigate the risk relating to lapsing of policies, there were certain concessions provided to existing policyholders who were unable to pay premiums as a result of challenges during the pandemic. Premium holidays were extended to qualifying policyholders only. The business proactively implemented key risk indicators such as new business, policy retentions and claims metrics together with operational business resilience plans which were monitored daily. All these factors, together with the business' agile and efficient approach in responding to the changes during the pandemic, has resulted in a year-on-year growth of 22% across the life and funeral company.

VLA experienced an increase in claim ratios, which is also attributed to the pandemic. However, the overall claims ratio remains within budget. On the solvency capital requirements, VLA established a COVID-19 mortality reserve to ensure that it is optimally capitalised to pay insurance claims during the pandemic. The reserves give comfort to policyholders that VLA is able to fulfil its purpose and provide uninterrupted service and products to its customers during this difficult time. Other industry insurers have also created reserves to ensure they are able to pay claims.

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Recommendations and conclusion

The pandemic has demonstrated that work that is least disrupted is work that is done online. So, while there should be more focus on digital technology across micro insurance, it should also be noted that the lower income market may not respond to this as well as your higher segment markets.

The COVID-19 pandemic has highlighted some of the economic and social challenges that we as country face specifically as it relates to those in the lower income segments of the market. As such, digitisation needs to be customised at a segment level to be most effective. Digital transformation forces insurers to adapt by re-learning customer behaviours and patterns with the use of big data and artificial intelligence. In South Africa there is still much work to be done with the digitisation of micro insurance. However, in order to build sustainable businesses it is imperative for insurers to incorporate this into their strategy.

Micro insurance policyholders who are in the informal sector are usually seasonal workers and are likely to have irregular income streams which make it difficult for them to maintain regular premium payments. Therefore, affordability and flexibility around the payment of premiums is a critical aspect for both insurers and policyholders. Consideration can also be taken from the Insurance Regulatory and Development Authority of India (IRDAI) which issued various circulars to address the COVID-19 pandemic situation and ensure business continuity of insurers and other insurance entities. The IRDAI issued a directive on the extension of grace periods for premium payments. For example, IRDAI extended the grace period for all life insurance policies where the premium falls due in the month of March 2020 until end of May 2020. Insurers that have not yet offered flexible premium payments should consider offering relief measures like premium holidays, reduced premium amounts and flexible premium periods. The concept of pausing your funeral policy for a period of time during financial difficulty, as opposed to it lapsing due to non-payment of premiums, is also something that could be offered to policyholders.

In addition, there may be opportunities to review the current regulations for premium collection for micro insurance policies. Currently, all premium collectors need to be authorised financial service providers (FSPs). There may be an opportunity to either reduce the requirements for FSPs who only collect micro insurance premiums or provide exemptions to enable easier and more efficient ways of collecting premiums, specifically for underprivileged policyholders who do not have access to digital platforms.

Insurers with digital premium collection mechanisms in place, like mobile money or bank transfers, have not been significantly affected by COVID-19. However, micro insurance policies paid in cash have been negatively affected by the pandemic. Due to the restrictions on movement and social distancing, customers have struggled to pay their premium in cash. Premium collection is also expected to become more challenging as customers' ability to pay in cash has become difficult during the COVID-19 pandemic. For instance, in the funeral industry there are many customers who still pay premiums by physically going to funeral parlours. These customers should be provided with easier options of paying premiums, such as collecting premiums via airtime and enabling insurers to collect premiums when customers top up airtime.

Similarly, insurers should change the way in which they process claims due to COVID-19. Underprivileged policyholders struggle with completing claims forms and most often funeral parlour agents assist the customers with completing and submitting the claim forms. This requires face-to-face interaction. Therefore, to ensure that funeral claims can still be processed and paid, insurers should allow policyholders to complete the claim forms and take pictures of the forms and supporting documents themselves, which can be sent directly to the insurers. This will allow for fast claim pay-outs. Insurers could also consider allowing for an exemption to waiting periods for COVID-19-related deaths. Often funeral policies have a six-month waiting period in order to protect against anti-selection risk. However, as a value add to policyholders, a waiver of the waiting period could be provided at claims stage.

In conclusion, the COVID-19 pandemic has forced insurers into unknown territories while at the same time highlighting some real social and economic challenges especially in the low-income segment. The introduction of the lockdown restrictions has affected insurers' operations, which have traditionally required physical engagement. The global pandemic is also affecting insurers' ability to launch new products, conclude new sales, collect premiums, service existing customers and process and pay insurance claims. While the COVID-19 pandemic has exposed pre-existing weaknesses in the insurance sector, it also provided an opportunity for insurers and regulators to become better equipped to embrace and adopt innovation and develop their insurance markets. Albert Einstein said, "In the middle of adversity there is often great opportunity." Despite the uncertain, evolving and unpredictable times that insurers find themselves in, there lies great opportunities for those who are agile and dynamic in their response to the new opportunities emerging as the world tries to find its new normal.

Authors:
Irshaan Raghununan Flow Sales Innovation Lead, Standard Bank
Thomas Robinson Payments Product Manager, M-Pesa Africa

Pay by M-Pesa – a new future for digital commerce with mobile money

During the widespread and unprecedented upheaval caused by the coronavirus pandemic, the ability to stay connected online has been a lifeline for many. Thanks to the internet, individuals across the world can keep in touch with friends and family, enjoy music, video and gaming online and purchase goods and services without having to visit a store. Crucially, businesses have managed to continue to thrive as employees work from home.

In Africa, digitalisation is on the rise, and e-commerce is starting to take off. Pre-pandemic projections indicate that online payment volumes across the continent are expected to reach US$65 billion by the end of 2025, with digital services identified as a key growth area. Over the last year, the coronavirus pandemic has catalysed this growth further as consumers and enterprise have sought to move online in order to respect social distancing measures.

Forecasts on smartphone ownership in sub-Saharan Africa indicate that there will be c. 690 million 3G and 4G enabled devices on the continent by 2025, versus c. 400 million today. The increased prominence of these internet-connected handsets is also creating opportunities for local African businesses to sell online.

Developing an integration platform to allow consumers and businesses to transact online

M-Pesa has recognised this opportunity and has created an integration platform to allow consumers and businesses to easily transact online in a continent where less than 50% of the population still do not have access to affordable financial institutions and payment methods. The M-Pesa Open Application Programme Interface (API) hub allows third parties to integrate into all six of M-Pesa's sub-Saharan African markets through a single integration. A suite of APIs have been designed and built on the hub, which make it easy for merchants and businesses across the continent to plug into M-Pesa, build an online till and begin accepting M-Pesa payments. The online payments solution includes functionality for refunds and reversals, along with security, fraud and settlement features. M-Pesa's API solutions also exist for additional enterprise-use cases, such as disbursements as well as salary and bill payments.

With many countries facing lockdown measures and curfews to curb the rising coronavirus infection rates, the need for online payments functionality is critical now more than ever before. The ability to accept online payments offers a lifeline for many businesses which cannot operate normally in physical locations.

The role of digital foreign exchange

In addition to creating opportunities for local African merchants, the internet has opened-up Africa to the world. Consumers across sub-Saharan Africa now have even greater opportunity to access global goods and services from the top global merchants. This is where digital foreign exchange services become an incredibly important element.

Over the last 10 years, Standard Bank's Foreign Exchange business has been continuously looking at what new technology to deploy to cater for clients internal and broader industry requirements. One exciting piece of technology that was built is the foreign exchange application interface: a digital distillation of an incredibly intricate network of FX pricing engines and settlement infrastructure across African currencies in which Standard Bank makes a market.

In 2020, the opportunity to partner with M-Pesa to connect these APIs materialised. This resulted in the creation of a Dynamic Currency Conversion (DCC) engine for an e-commerce payment solution that will be added to M-Pesa's service offering. This service allows global merchants to easily sell their goods and services to M-Pesa's 47 million active users across six sub-Saharan African markets, 24 hours a day, seven days a week – without having to manage foreign exchange and settlement risk.

M-Pesa has also been growing a partnership network of payment service providers and aggregators who will technically integrate with the M-Pesa and Standard Bank API solution to offer M-Pesa as a payment vehicle to the top global merchants. This allows global merchants to acquire M-Pesa without the need to invest in integrating directly with the M-Pesa platform.

By enabling cross-border e-commerce through M-Pesa, marketplace traders on the African continent will also be able to sell goods and services through global social network marketplaces. This will allow SMEs and micro merchants to continue to earn a living safely despite coronavirus.

Key considerations to democratise cross-border e-commerce access

A key element to consider when implementing and enabling cross-border e-commerce via customers' M-Pesa wallets is regulator participation and support. As consumer and merchant behaviour evolves, so too must the frameworks by which to govern them. It is important that mobile money providers, authorised dealers and central banks work together to ensure that these services reach as many as consumers as their needs evolve. In addition, understanding consumer behaviour, cross-border purchase volumes and reasons for these payments will become an important metric to measure by all parties involved in this business as this should bring financial inclusion benefit to the markets where it launches.

M-Pesa's aim is to democratise this access. Putting mobile money on the same footing as traditional payment instruments such as cards, would help create a step change in access and affordability across the continent. This will foster a stronger culture of innovation and power the next generation of African entrepreneurs and consumers; critical drivers of future growth.

Standard Bank and M-Pesa, while organisations from different sectors that traditionally service different ends of the economic pyramid, are both committed to democratising e-commerce access and empowering consumers and businesses across Africa. In the context of the pandemic, the e-commerce service will provide enhanced functionality to a transactional service that is already part of the daily lives of millions.

Contributors' biographies

Anca Bogdana Rusu

Anca Bogdana Rusu leads strategic partnerships, policy and advocacy at cLabs, working on Celo.

Anca joined cLabs after having spent over eight years at the World Bank and International Finance Corporation (IFC) focused on financial inclusion and fintech. Anca has worked both with regulators and public authorities, as well as with private sector institutions on digital financial services in emerging markets in Africa, Latin America and Europe. Her work looks at how technology can advance financial inclusion for those unserved by the formal financial sector, as well as bridging the gender gap for access to financial services.

Anca received her Master of Public Policy at Georgetown University and studied economics at the Academy of Economic Studie in Bucharest. She also holds certificates in FinTech from MIT Media Lab and Human-Centered Design for Social Innovation from IDEO and Acumen.

Jonathan Greenacre, PhD

Jonathan Greenacre is a scholar and lawyer. He focuses on developing new regulatory frameworks for the digital revolution.

Jonathan has a Masters in Law and Finance and a PhD in Law from Oxford University. Before academia, Jonathan practised law in a commercial law firm.

He has provided legal and regulatory advice to the United Nations, International Monetary Fund, World Bank, and central banks in Africa and the Pacific.

Jeremy Leach

Founder and CEO, Inclusivity Solutions. Jeremy has been involved in advising, researching and implementing digital financial services across emerging markets.

Jeremy is now founder and CEO of Inclusivity Solutions, an inclusive Insurtech focused on designing, building and operating digital insurance businesses in emerging markets.

An experienced executive in both the private and public sector, Jeremy has been a director at BFA, a global consultancy focused on strategy and innovation in responsible digital financial services. As Divisional Director and Head of Micro insurance at the Hollard Insurance Group he drove a range of insurance innovations internationally, from product development to new distribution channels to consumer engagement. Prior to Hollard, Jeremy was Executive Director at FinMark Trust where his leadership on insurance and mobile money had global impact.

Jeremy is a Chartered Certified Accountant (UK) and holds an MSc in International Development (Bath, UK).

He is a founding member and adviser to Cenfri, and has had the privilege of serving on the South African Minister of Finance's Short Term Insurance Advisory Committee, among other roles.

He speaks regularly at international conferences on micro insurance, digital insurance, mobile money and innovation in financial services.

Nadine Nagooroo

Nadine Nagooroo is the Executive Head Risk, Regulatory and Compliance at Vodacom Financial Services.

After graduating with a B Proc and a LLB degree from UKZN, Nadine built a formidable career in legal, compliance and risk management in the insurance industry. She became a Certified Financial Planner and earned a Master's Degree in Insurance Law and Commercial Law while studying part-time at UNISA.

Today, Nadine is responsible for navigating the regulatory and risk environments in order to enable the development of new, innovative and disruptive products across the payments, insurance and lending portfolios at Vodacom. She has also successfully led the Vodacom long-term insurance business during significant changes to its operating model and effectively launched the current funeral products, which have all contributed towards transforming a loss-making business into a profit-making business.

Her unique combination of legal, compliance and risk management expertise coupled with her strong business acumen across the fintech space has been the cornerstone of her success.

Nadine is a wife and mother who balances work and family and still has time to be community focused. Her charity of choice is Acts of Love, a faith-based community charity organisation, with specific focus on Educare, which teaches orphaned children core Maths skills and English literacy.

Irshaan Raghununan

Irshaan is the Innovation Head for Standard Banks Global markets sales business.

Irshaans' primary responsibilities are to leverage the banks technology to improve client experience, especially where it relates to treasury risk management. A key focus area at the moment is API's built for managing foreign exchange risk where is arises from digital platforms.

Since 2019, Irshaan has been working closely with the M-Pesa team to deploy online payment capability, guiding technology teams to build a fully capable FX API that caters for e-commerce specific requirements. Irshaan has been in banking before and since he graduated from the University of Johannesburg in 2009 with a BCom Law Degree. He specialised in the financial markets business and has been with Standard Bank since 2012 holding various positions in the Corporate and Investment Bank.

Irshaan is excited about the power of mobile money across the continent and is obsessed and dedicated to delivering solutions that exponentially drive financial markets in Africa.

Thomas Robinson

Thomas currently works at M-Pesa Africa where he is responsible for the scaling the M-Pesa online payments platform.

Thomas leads the team who delivered M-Pesa's online payments' APIs, which give third parties access to all six M-Pesa markets through a single integration. Thomas is also responsible for M-Pesa's online payments partnerships, from generating leads and agreeing deals to technically integrating with key strategic partners.

Prior to M-Pesa, Thomas worked at the UK start-up Starling Bank, where he led and optimised engagements with payment schemes and payment processors as the bank scaled from 300 000 to over one million customers.

Thomas began his career in 2016 on a leadership programme at a major UK retail bank. During this time, Thomas led projects across operations, risk, and product management, including leading a compliance programme across markets in Eastern Europe and South-East Asia.

Thomas holds an MA (Hons) French and German from the University of Edinburgh and was a semi-finalist in the 2020 UK Young Banker of the Year.

He is passionate about the power of technology to empower individuals, organisations and communities to live better financial lives.

Contributors' biographies continued

Craig Rosewarne

Craig has 20+ years' management experience in the fields of information risk and cybersecurity.

He is a frequent speaker and trainer at local and international events. He is proudly South African and an even prouder husband and father to three healthy 'cubs'.

Craig Rosewarne is the MD of Wolfpack Information Risk – a South African firm established in 2011 that provides information risk and cybersecurity services to governments and organisations. He founded Alert Africa in 2015 to provide free awareness resources and assistance to victims of cybercrime or harassment.

He provides regular opinion pieces via TV, radio and print/online media.

Pat Adams

Manager – Communications and Training, SADC Banking Association NPC.

Pat is an experienced professional having worked in the public and private sectors at a regional and international level. She ran her own company, Zenico International, since 2002 and was a service provider to the SADC Banking Association among other clients prior to joining the SADC Banking Association in June 2011.

Zenico was a founding member of the South Africa Mozambique Chamber of Commerce where she served as treasurer since 2004 until 2016. Zenico ran the Chamber from January 2008 to May 2011. Zenico ran the Chamber from January 2008 to May 2011. She has worked closely with various government departments in Mozambique. She has worked on projects funded by such organisations such as the World bank, GTZ, CIDA and others.

Her experience working on capacity building initiatives in the SADC region and beyond has spanned over 20 years. She has been delivering training to SADC-RTGS participants on SADC-RTGS payments since June 2015 in-country, in-house and now currently online.

In June 2017, she climbed Kilimanjaro as part of the Trek for Mandela team to raise funds for young girls at underprivileged schools who did not have access to sanitary towels.

Ashley Olson Onyango

Ashley joined the GSMA in March 2021 as the Head of Financial Inclusion and AgriTech.

Prior to joining GSMA, Ashley had been living and working in East Africa, championing financial inclusion and the development of agrifood systems across sub-Saharan Africa for over 11 years. During this time, Ashley designed and managed funds, investing in agribusinesses and fintechs across the continent, with Root Capital and Africa Enterprise Challenge Fund (AECF), to catalyse innovation and growth for wide impact. Ashley has played key roles in driving and supporting gender lens investing in her work. She also worked with Mastercard Foundation and Financial Sector Deepening Africa (FSDA), managing large multi-million-dollar programmes, partnering and working with a wide array of implementing partners and key stakeholders in the industry.

Editors

Judith Obholzer

Managing Executive: Public Policy and Regulatory, Vodacom Group.

Judith Obholzer heads Vodacom Group's policy and regulatory department. Her portfolio includes the management of the company's regional public policy strategy and engagements with senior regulatory stakeholders, international organisations, and governments in Ghana, Lesotho, Mozambique, Tanzania and the Democratic Republic of Congo. Prior to joining Vodacom, she held various positions at Vodafone leading on economic regulation, new digital business and mobile payments regulations. She also worked at the Department of Economic and Social Affairs of the United Nations. Judith holds an MSc in International Strategy and Economics from the University of St. Andrews and a BA in Philosophy and Economics from the University of Bayreuth.

Victoria Mojuto

Executive Head: Mobile Money and Tax, Vodacom Group.

Ms Victoria Mojuto is an Economist by training. On 1 April 2015, she was appointed by Vodacom Group as Executive Head primarily responsible for Mobile Financial Services regulation and Tax regulation across the five African markets, DRC, Tanzania, Mozambique, Lesotho and Ghana.

She holds a BSc from the University of Pretoria and MBA from the University of Athens (ALBA, Athens, Greece).

Ms Mojuto started her career at the Johannesburg Stock Exchange (JSE) in 2008 as an equity analyst and held various positions within the organisation. She proceeded to work for the National Energy Regulator of South Africa (NERSA) in 2010 as an Economist with specialisation in competition economics and tariff setting. She has received various training in regulation and public policy from the University of Michigan (USA) and IP3 in Washington DC (USA) and University College of London (UK).

Further together