# DIGITAL FINANCE IN AFRICA'S FUTURE

*Innovations and implications*

Colloquium hosted by the Johannesburg Institute for Advanced Study (JIAS) and the Human Economy Programme at the University of Pretoria, in association with Disrupting Africa, and held in Johannesburg, South Africa, on 22-26 October 2018

For links to live-streamed sessions, including distance participation, visit the Colloquium website at **https://digitalfinance.africa**

## ABSTRACTS

The Colloquiuim brings together some of Africa's foremost innovators in digital finance, and academics with an interest in the political, economic and social implications of these rapidly developing new financial systems. Each session will involve presentations by innovators as well as academics, followed by discussions. Abstracts of the presentations follow.

**The opening and all the sessions will be live streamed. For links to registration and the webcasts, visit the Colloquium website at https://digitalfinance.africa**

UNIVERSITY OF JOHANNESBURG JIAS NANYANG TECHNOLOGICAL UNIVERSITY SINGAPORE UNIVERSITEIT VAN PRETORIA UNIVERSITY OF PRETORIA YUNIBESITHI YA PRETORIA DISRUPTING AFRICA

## SESSION 1: MOBILE MONEY AND DIGITAL PAYMENTS

### Mobile financial services: the mobile money landscape in Africa

*Dare Okoudjou, founder and CEO, MFS Africa*

According to the 2018 edition of the GSMA's annual Mobile Industry Impact Report, the global mobile industry is demonstrating significant and measurable impact in contributing to the UN's Sustainable Development Goals (SDGs), and is strengthening its commitment to improving lives around the world. The study highlights key findings about mobile money, one of them being that more than 250 million people have started to use mobile money since 2015, bringing the total number of mobile money accounts to nearly 700 million at the end of 2017.

The arrival of mobile money in Africa has opened up the FinTech industry with new arrivals in the financial services space that are bringing in additional key verticals to customers – thus diversifying access to financial products, and deepening financial inclusion. However, with growing calls for regulation; the levelling of the digitization of financial services for all players; and cases around the globe where unregulated mobile and digital financial services have caused more harm than good, and exposed customers and industry to fraud and other illegal activities, we need to unpack the mobile and digital financial services world as it is today, and how we can continue to build it to meet the gaps we foresee for tomorrow. We also need to speak to impact that the mobile and digital financial services players are making on achieving financial inclusion and access for emerging markets and communities. This presentation will unpack and articulate the following points:

- Mobile money – the past 10 years in review.
- Where do we stand now – the market structure and players.
- Looking ahead – the next 10 years.
- What should we be excited about.
- What should we be worried about.
- What known unknown should we pay attention to.

### Mobile financial services: unnoticed vulnerability issues

*Dr Mesfin Fikre Woldmariam, Addis Ababa University*

In my presentation, I will report on the findings of a study of some of the problems surrounding mobile financial services in Africa. Following the deployment of mobile financial services, much has been said and written about their security as well as their vulnerabilities. A failure to identify and understand these vulnerabilities and introduce the necessary mitigating mechanisms have deterred individuals from a massive uptake of the service. To gain a better understanding of the situation, mobile money service users, bank managers, and customer service managers were interviewed. Problems identified in the course of this study include the inability to reverse transactions, a lack of source documents, unsecured passwords in case customers lose their phones, the fact that robbers can force travellers to transfer money to them, language barriers, and a lack of consumer protection with regard to transferring funds to the wrong beneficiaries.

This is a qualitative study, comprising both primary and secondary research. It was guided by a review of academic papers, industry white papers, and document analysis (particularly the analysis of procedural and legal documents related to mobile based financial transaction). This was complemented by primary data collected from financial institutions in the form of interviews. The findings can help financial institutions to design and implement appropriate consumer protection policies as well as technical, legal, and procedural mechanisms for addressing these hitherto unnoticed issues.

## SESSION 2: REGULATION

### Digital finance in Africa's future

*Stephen Mwaura Nduati, FinTech consultant*

Digital finance has been described as a key socio-economic catalyst of Africa's developmental agenda that results in inclusive economic growth. It is a proven observation that technology and specifically digital finance have the potential of alleviating extreme poverty. A large body of evidence shows that access to financial services, and indeed overall financial development, is crucial to economic growth and poverty reduction. Yet in Sub-Saharan Africa, only one in five households have access to financial services.

In the past, mainstream financial institutions in developing countries operated on the premise that low-income populations do not save and are bad borrowers, and therefore that institutions which provide services to the poor are essentially unsustainable. However, the last ten to fifteen years has seen a paradigm shift as a lot of innovations across the continent have leveraged the use of technology to enhance access to finance. Technological innovations have now made it possible to extend financial services to millions of poor people at a relatively low cost.

According to IFC's 2018 Digital Access report, the continent is now home to more digital financial services deployments than any other region in the world, harbouring almost half of nearly 700 million individual users worldwide. Mobile money solutions and agent banking now offer affordable, instant, and reliable transactions, savings, credit, and even insurance opportunities in rural villages and urban neighborhoods where no bank had ever established a branch.

Where does Africa's future lie? Africa's future lies in the innovative deployment of products that have the capability of changing the lives of the largest number of Africans. One such product is Safaricom's M-Pesa product that has revolutionized access to and the usage of digital financial services in Kenya.

In 2007, over 70 percent of Kenyan households did not have bank accounts, and relied on informal sources of finance. Presently, more than 25 million Kenyans have mobile money accounts, constituting a penetration level of approximately 79 percent. Currently, millions of Kenyans use M-Pesa to make payments, send remittances, and store funds for short periods. What started as a mobile money transfer system became a success story of financial services development built on a technological platform that makes it cost-effective and safe.

Unique challenges facing Africa include the lack of an enabling environment for the private sector; a lack of capacity and appropriate financial products by providers; a need for regulatory authorities to strike a balance between financial stability and access to financial services, policy coherence and co-ordination across various government initiatives; and a lack of political goodwill. Although technology has the potential to reach those without bank accounts at low cost, it is also associated with various risks, with the potential to destabilise the financial system.

Once the abovementioned hurdles are overcome, the private sector can proactively pursue the development of products and services that would have a developmental impact. In essence, expanding access need not result in instability if the requisite regulatory and supervisory safeguards are in place. It has therefore become important for researchers to focus on how different countries have addressed the respective challenges in a bid to create an enabling environment for the provision of financial services to the poor.

## Digital finance and integrated innovation ecosystems: challenges for Africa's future

*Prof Olufunmilayo Arewa, Beasley School of Law, Temple University*

Stories about digital finance and other disruptive technologies today often draw needed attention to the dissemination of technologies that may enhance the wellbeing of many. The development and diffusion of such technologies should not, however, be considered in isolation, either in time or space. Digital finance offers the prospect of alleviation of a range of acknowledged problems, including those connected to access and participation in financial networks that have become so pervasive and prominent today.

The promise of digital finance in Africa must be considered within broader local and global contexts. The impact of digital finance will likely be more sustained and robust in Africa if approaches to digital finance are integrated with innovation policies more generally. Approaches centered around innovation ecosystems can also incorporate ongoing monitoring of the impact and outcomes of digital finance and other new technologies within Africa in light of current and historical experiences within and outside of Africa.

An integrated innovation ecosystem approach could have a number of advantages. Such an approach could enhance our understanding of how success and failure should be defined and assessed in the digital era within potentially shifting contexts of implementation and use. Innovation ecosystem approaches could also cut across existing bureaucratic and other silos and take account of lessons of past and present experiences with digital era technologies.

One clear lesson of the digital era is that even if disruptive and other new technologies increase social welfare generally, they may also have significant detrimental distributional and other effects.

Anticipating and planning for the consequences of such potentially detrimental effects should be one focus of integrated innovation policies.

Digital finance alone cannot fully address problems of poverty and inequality. Rather, digital finance must be aligned with broader innovation policies that link legal and regulatory environments and technology, economic, business, and other policies, with attention to the impact of such policies on human beings.

Finally, the impact of digital finance and other new technologies is an empirical question that must be continually evaluated to assess the impact of such technologies on inclusion and inequality and other important indicators of human conditions.

## SESSION 3: AGENT NETWORKS

### Evaluating the effectiveness of Agent Networks in driving financial inclusion in Africa

*Valentine Obi, CEO, eTranzact*

What are Agent Networks?

**Overview of the problem of financial inclusion in Africa**: how nearly half of Africa's adult population are underbanked/unbanked.

**Why Agent Banking is the most effective way to solve financial inclusion in Africa**: benefits of an effective agent network for the unbanked, financial service providers (FSPs), and African economies.

**Review the expectations of Agent Banking** in solving the problem of financial inclusion.

**Evaluate the countries where Agent Banking is bringing about financial inclusion** (like Kenya & Ghana), and where the results are yet to materialise (like Nigeria).

**Explore the case studies (Ghana and Nigeria)**: the policies & strategies they put in place, their successes and bottlenecks.

**Drawing on our experience in launching PocketMoni**:

- The impact of regulations: what proposed laws would most effectively impact on Agent Network effectiveness.
- The role of private sector players: where private sector investments can best be channelled for increased Returns on Investment (ROI).
- Leveraging the local entrepreneurial spirit at the grass roots: how local entrepreneurs are allowed to innovate, based on their communities' unique needs and preferences.

## Mobile money networks in Diepsloot (South Africa): structure, hierarchies and the law

*Dr Sean Maliehe, Post-Doctoral Fellow, University of Pretoria*

Development and popular Financial Technology discourses extol the emergence of mobile money as a panacea for financial inclusion and economic development in Africa. This paper critically examines the veracity of these narratives. I use ethnographic insights from the township of Diepsloot, oral sources, and documents in this pursuit. The adoption of mobile money beyond East Africa, however, is marred with an array of challenges. In light of this, the paper explores the contemporary history of mobile money in South Africa, which falls within this category. Specifically, the paper explores the mobile money network system and situates individual stand-alone agents, who are typically immigrants.

I argue that the year 2015 was a historic moment in the rise of mobile money in South Africa. The government amended the Financial Intelligence Centre Act of 2001. The legal concessions and provisions passed by the government paved a way for immigrants to remit through mobile money brokering companies. The emergent mobile money networks, however, placed individual agents in a position of economic and legal marginality while privileging the South African merchants (big agents). On the one hand, the structural configuration shifted any probable punitive outcomes to the immigrant agents' sphere of operation. On the other, the government and South African merchants maintained a normative position of plausible deniability and legal immunity.

## SESSION 4: REMITTANCES

## Remittances and digital payments

*Dr Sibel Kusimba, American University, Washington DC*

The digital finance revolution in Kenya has been grounded in the importance of domestic remittances. The payment channel is now a conduit for services and financial products, ranging from digital credit to sports betting to water and electricity. In the rural areas, however, money transfer remains the most important financial tool people use. An agent network for cash in-cash out remains vitally important.

In this paper I will examine the relationship of remittances to the technological and social infrastructure of digital payment, based mostly on my field work in Kenya. Following Clapperton Mavhunga in his book Transient Workspaces, I define technology as skilled practice and as ways of doing, and I view users as designers and engineers, as builders of projects. From these perspectives I will examine how practices and cultures of remittance sending have built the digital payment infrastructure in Kenya.

In particular, I will focus on how users (as engineers and builders) are creating pathways and networks, shaping their participation in different kinds of groups. I will describe their projects focusing on the following:

- Belonging and presence in the rural home and the natal home, and creators of new homes.
- Funerals and rituals of the life cycle.

- Love relationships.
- Savings groups and informal finance.
- Harambee (community self-help) and fundraising.
- I will then discuss the implications of social/financial network formation for Kenya's future. As a kind of distributive politics, what will these new pathways and networks mean for the goals of inclusion and solidarity? What barriers to belonging and citizenship will these new groups create?

## SESSION 5: G2P PAYMENTS

### Digitizing financial lives of the poor through G2Ps: Citizenship, behavioural fixes, and wealth extraction

*Prof Solène Morvant-Roux, University of Geneva*

A new approach to financialization is gaining ground in the South where the zero-cash advocates have been driving the agenda towards digital financial transactions. In that context, social payments and their millions of recipients have been identified as the perfect target to meet this agenda. Actually, while more than half of the world population still lacks any kind of social protection (International Labour Office 2017), social programmes have been strongly supported by the World Bank and other international organisations such as the ILO since the end of the 1990s. Known as government-to-people cash transfers (G2P), or conditional cash transfers (CCT), such redistribution policies aim to fight short and long-run poverty and hunger by setting up a 'social protection floor' (International Labour Conference 2011) for low-income population segments in the Global South (Hanlon et al 2010).

According to its promoters, digital social payments have the potential to increase the efficiency and transparency of the programmes, reduce their delivery costs, and enhance their outreach in rural and isolated areas (Klapper & Singer 2017).

Digital social payments not only allow a shift away from hand-to-hand cash distribution, but also expedite the implementation of a broad financial inclusion agenda. Indeed, in countries where fewer than 30% of the population has access to financial services (Demirguc-Kunt et al 2015), the transition to digital social payments was the first step towards introducing a wide array of banking services such as basic bank accounts (current, savings, etc), as well as credit and payment services. Under these new arrangements, social payments should no longer be delivered in cash by state employees, but the money should be deposited in individual bank accounts, which recipient would then withdraw with banking cards.

Looking at the case of a famous social programme in Mexico (Prospera), my study seeks to uncover what is really going on behind the official discourses around efficiency and transparency. It shows that while digital payments play a key role in maintaining recipients' access to G2P, and therefore build citizenship, they also offer a lens for studying low-income people's cognitive dispositions (via the

intricate data that financial transactions generate), as well as prospective tools for reshaping people's 'decision architectures'. A shift is under way: from focusing on the small money of the recipients to the perspective of big data collection, these new policies may transform previous rights to social protection into a right to consume financial services. Therefore, rather than focusing on the provision of funds to the poor, digital cash transfers open up a new zone for finance to profit from the poor. This, in turn, reshapes the relationship between the poor and the state, the poor as debtors and their creditors, and the state and financial services providers.

## Financial inclusion via social cash transfers: the case of South Africa

*Lena Gronbach, Human Economy Programme, University of Pretoria*

In recent years, two separate but potentially complementary development strategies have emerged in the global South: the rise of digital payment technologies with their enormous potential to boost financial inclusion, and the extension of social cash transfer programmes as a means to address poverty and inequality. Increasingly, these two strategies have converged into a single headline objective: to replace cash-based payments with digital transfers into 'financially inclusive' accounts, thus creating the basis for the sale of additional financial services to grant recipients. According to the proponents of this strategy, this will create a 'triple-win scenario', benefitting the state, private financial companies, and the poor alike.

South Africa, which boasts the largest social cash transfer system on the continent, has assumed a pioneering role in implementing this 'G2P approach'. In 2012 the country's Social Security Agency SASSA appointed a private financial company as the sole paymaster for its extensive social grant programme and introduced a new electronic, biometrically-enabled payment system. While this has contributed significantly to the increase in bank account ownership and access to formal financial services among low-income households, the case has not been without controversy. Instead of realizing the promised 'triple-win scenario', the outcomes for all there parties have been mixed, with grant beneficiaries carrying a disproportionate share of the social and financial costs of South Africa's 'G2P experiment'.

This paper outlines how South Africa used its rapidly expanding social grant system to 'bank the unbanked' at an unprecedented scale, using digital payments and biometric technology, and discusses the main issues that emerged in this process. These include the protection of beneficiary data, the harshly-criticized practice of cross-selling financial services to grant recipients, debit deductions from beneficiaries' bank accounts, the relationship between the state and its financial contractor, and the financial and logistical implications of SASSA's decision to replace its private contractor with a state-owned entity in 2017. The paper argues that, despite its potential to act as a catalyst for financial inclusion, the 'G2P approach' in its current form, as well as the broader financial inclusion agenda and its strong focus on consumer credit, require a fundamental re-thinking in order to make finance work for the poor instead of the other way round.

In addition, the paper tentatively explores the potential of mobile money as a payment channel for social cash transfers, based on a number of recent pilot studies in Latin America and Africa. The use of mobile money as an alternative to the costly cash disbursements that are still the norm in rural areas is currently under discussion in South Africa and a number of other developing countries, especially in light of the tremendous success of M-PESA in Kenya and East Africa. However, it is debatable whether the use of mobile money for G2P transfers is as cost-effective and technologically feasible in practice as the enthusiastic reports on its success as an alternative to traditional banking suggest.

## SESSION 6: INSURANCE

### Taking digital insurance products to market

*Jeremy Leach, founder and CEO, Inclusivity Solutions*

Inclusivity Solutions designs, builds and operates digital insurance solutions for and through mobile operators and other financial institutions in emerging markets. In 2018, it launched three digital insurance products with partners in Rwanda, Kenya and Cotê d'Ivoire. In this presentation, I will discuss the journey in taking these products to market, and will elaborate on some of the social, political and economic hurdles and successes along the way. Topics that will be covered include market research methodologies employed, including human-centred design; consumer engagement; managing partnerships; and government policy and regulation.

## SESSION 7: START-UP CAPITAL

Abstracts to come

## SESSION 8: THE BLOCKCHAIN

### The South African Reserve Bank's approach to FinTech

*Gerhard van Deventer, South African Reserve Bank*

I will discuss how 'FinTech regulation' fits into the ambit of the South African Reserve Bank (SARB), including providing some background to the establishment of the Fintech Unit in the SARB, as well as its purpose. The talk will cover the three focus areas for the unit, namely the policy and regulatory implications of FinTech; FinTech data collection; and innovation facilitation. These focus areas include the work the SARB is currently doing on updating its position on what many are now calling 'crypto assets', global and local collaboration – including participation in the Intergovernmental Fintech Working Group -- and its own blockchain trial with Project Khokha.

## The Blockchain and decentralised finance

*Ross McEwan, Chief Technology Officer, Wala / Dala Foundation*

I will look at the attributes of blockchains that make them suitable for solving socio-economic and financial inclusion problems that globally affect so many people today. I will explore the use cases of and opportunities for blockchains that will allow us to create a decentralized financial ecosystem, and why I believe this is the future. Lastly, I will discuss the challenges and necessary evolution of regulation within this space.

Today, two billion adults around the world don't have access to a basic account. This is due to a number of factors, primarily a lack of formal and verifiable identity, inadequate access, poor financial literacy, and unfriendly regulatory environments. In many markets, mobile money provided by the mobile network operators has come some way to addressing this. I will aim to demonstrate how blockchain solutions can further build on the efforts made so far, and tackle financial inclusion more effectively.

Blockchains can remove barriers to financial inclusion, namely borders, censorship, and opacity. Public blockchains, with the caveat that they are sufficiently decentralized and sybil-resistant, do not recognize geographic borders. This means that complex use cases, such as remittance, become technically very simple. They are also extremely resistant to censorship; provided consumers have access to the internet, it is nearly impossible to stop transactions from happening. Transactions on the blockchain are also immutable, and cannot be changed. They provide a single version of the truth: the transactions that occurred, and the order in which they occurred. Lastly, a public blockchain is transparent; this means that it is both auditable and traceable. This increases the accountability of individuals, corporations, and governments.

There are real use cases for decentralized finance, and teams around the world are currently developing the future. In particular, I will talk about self-sovereign identity and reputation management, lending, micro tasks, and the sharing economy.

I will close with a discussion of regulation around the world, focusing on emerging markets in Africa. I will highlight where regulation seems to be today, what is going well and what isn't, and what should change in the future.

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