ICTs for FINANCIAL SERVICES in Africa

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This document, on the use of ICTs for Financial Services in Africa, is the summary of the full sector study which was carried out by a team from Vital Wave Consulting led by Scott Stefanski and supported by Muhammad Muhammad, Andrea Bohnstedt and Brendan Smith. The full report is available at www.eTransformAfrica.org. This document forms chapter five of the publication edited by Enock Yonazi, Tim Kelly, Naomi Halewood and Colin Blackman (2012) “eTransform Africa: The Transformational Use of ICTs in Africa.”

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Information and communication technologies (ICTs) have the potential to transform business and government in Africa, driving entrepreneurship, innovation and economic growth. A new flagship report – eTransform Africa – produced by the World Bank and the African Development Bank, with the support of the African Union, identifies best practice in the use of ICTs in key sectors of the African economy. Under the theme "Transformation-Ready", the growing contribution of ICTs to Agriculture, Climate Change Adaptation, Education, Financial Services, Government Services and Health is explored. In addition, the report highlights the role of ICTs in enhancing African regional trade and integration as well as the need to build a competitive ICT industry to promote innovation, job creation and the export potential of African companies.

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INTRODUCTION

The second most populous continent in the world and with abundant natural resources, Africa continues to grow as the world's economy currently stands on shaky ground. However, steady GDP gains are sometimes obscured by the continent's economic, political and social problems. As Africa grows and becomes more tightly integrated with the global economy, its citizens and businesses increasingly need access to financial services tools that will allow them to compete. ICT is one avenue for increasing that access as ICT and financial services complement each other. ICTs allow for greater financial inclusion, and the financial services sector is a primary driver of communications and network technology.

However, the financial services sector has distinct developmental challenges. Issues of trust, consumer protection, and network systemic risks that can slow the pace of progress require clear and strong regulations. The need for policy and regulatory development is made more difficult by the speed of technological change. Nevertheless, strategic intervention through policy or public investment can play a critical role in addressing the challenges faced by the financial services sector. And the rapid pace of technological change can motivate leaders to accelerate policy deliberations, providing this does not lead to regulatory over-reach.

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LANDSCAPE ANALYSIS

It is striking to see the role that ICT and innovative business models have played in the explosive growth of financial inclusion. In Africa, the most visible case is Kenya, where active bank accounts have grown more than fourfold between 2007 and 2012. This process has been aided by M-PESA which had created some 17 million mobile money accounts by early 2012. Transactions through mobile banking service M-PESA exceed US$375 million each month and account for up to 20 per cent of the nation's GDP.

But Kenya only provides the introduction to a longer story. It took bold thinking and several years for M-PESA to build internal support to get it started. With M-PESA and others now as proof points to reduce risk, new players are entering the market in Kenya and elsewhere, and the time-to-market is reduced. While the pace of adoption may be different from nation to nation, the opportunity is no longer debated; it is just a matter of making it happen.

Summarizing the state of the financial services sector for an entire continent is a daunting task, compounded by rapid advancements that are underway, many made possible by ICT. Literature on this subject is abundant and useful thanks to concerted efforts at national and international levels to bring attention to both the challenges and opportunities in Africa's financial services sector. Here we focus on the prime objectives of improving financial inclusion and nurturing the growth of micro and small businesses. Attention is also given to those operational and supporting systems necessary for improved service provision for these markets.

According to *Making Finance Work for Africa*:

In Africa, on average, less than 20 percent of households have access to formal financial services, with low population densities, poor transport and limited communications infrastructure contributing to a lack of supply in extensive regions of the continent.

There are several methods to monitor national progress on improving financial inclusion. Among these, one can assess to what extent financial services are available to a population by quantifying points of access, generally defined as the density of financial institution branches within a country. Alternatively, analysis examines the percentage of the adult population that has deposit or credit accounts. The data indicate that compared to countries in other regions, African nations and their citizens have less access to formal financial services and tools.

Opportunities and challenges

Advances in ICT present unique opportunities for financial services sector development in Africa. These advances touch all facets of the financial services sector ecosystem, from innovations and cost reductions for user access to devices and transmission technology (including the revolution in mobile communications and the growth of broadband internet access), data storage and sharing, security, and analytical processing. All of these will be critical enablers to a thriving financial services sector in Africa. These developments can accelerate the drive towards development goals and allow African nations, historically in the lower ranks of financial sector indices, a way to leapfrog challenges that have afflicted other nations.

Challenges to greater use of ICT in financial services can be broadly grouped into three major categories: consumer challenges, governing and regulatory challenges, and market maturity challenges. These categories, and the major issues that comprise them, are illustrated in Figure 1:

Consumer challenges: Many of the efforts to address consumer challenges in financial services have focused on expanding access to the most fundamental services – transactional capabilities and simple market information services that can utilize the growing penetration of mobile phones. As these core capabilities are rolled out, innovators are trying to:

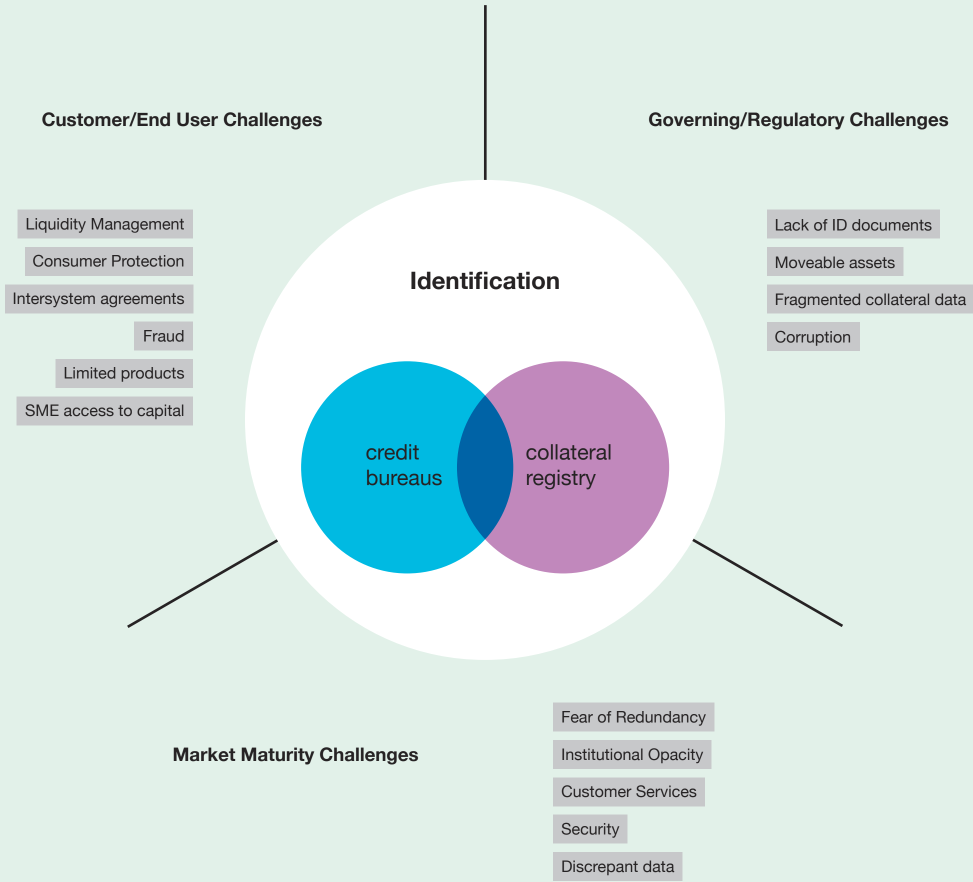
1. build upon consumer acceptance of these new models, and

2. leverage the transactional capabilities to introduce a more diverse portfolio of financial services.

Governing and regulatory challenges: Governance and regulatory demands for developing Africa's financial services sector are in many respects the starting point for advances in the sector. Without transparent roles and responsibilities, commercial interests may decide the unknown risks are too high to make the sizable investments needed for building out networks. In the innovative models of mobile financial services, lack of clarity regarding the roles for financial institutions and mobile operators can cause market fracture or lead to redundant investments that are transferred as costs to the consumer.

Market maturity challenges: Financial inclusion may be limited by a poor competitive environment or a lack of supporting infrastructure. Low levels of interest or understanding by financial institutions in serving low-income populations, the unsuitability of conventional practices (such as brick-and-mortar locations), the relatively weak voice of financial inclusion advocates, and the weakness of credit bureaus and collateral registries all contribute to the relative paucity of financial services products for unbanked populations.

Figure 1 **Challenges to greater ICT use in financial services**



Fortunately, there are initiatives underway that seek to address these fundamental challenges. Seven major initiative areas are identified in Table 1. Some of these initiatives and their applicability to African countries are further analysed in the case studies on Senegal and Kenya.

Table 1 next page →

Table 1

Major initiatives to address challenges in financial services

Challenge area	Key initiatives
Consumer challenges	• **Transactional friction and retail payments:** Methods for making regular payments or deposits in ways that can reduce complexities such as physical proximity to financial institution branches or the identification requirements, such as mobile payment systems • **New product development:** New products such as savings, lending, and eBanking that appeal to underserved consumers • **SME access to capital:** Easing access to capital for small businesses through tools like electronic cash registers
Governing and regulatory challenges	• **Identification:** Initiatives to allow registration and identification through mobile or other electronic means • **Collateral registry:** Integrated collateral registry databases that allow for verification of property and other assets
Market maturity challenges	• **SaaS for MFIs:** Cloud-based IT services that reduce the need for physical financial services infrastructure • **Credit bureaus:** Use of mobile or other transaction data to establish creditworthiness

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CASE STUDIES

Senegal

Senegal's economy is strengthened by a relatively good infrastructure, openness, the nation's ability to attract investment and ambitious development projects. For a mobile society with a large migrant population, the importance of telecommunication and financial services cannot be overstated. Senegal's ICT sector, in particular, enjoys a steady growth in the area of mobile telephony with over 68 per cent coverage in 2010. The figure for financial services, although improving, is much lower (16%). However, the barriers to increased financial inclusion in Senegal are quickly disappearing as technology innovations and mobile payment services spread across Africa (see Table 2).

Table 2 **Senegal's challenges and opportunities for ICT and financial services**

Drivers of growth	Readiness (regulations, infrastructure, demand)	Challenges	Opportunities
ICTs	High	• Multiple regulators • Bureaucracy • Slow mobile money services	• Diversification of products/ services offered on existing platforms (mobile) • Linking to financial and non-financial services
Financial services	Low-Medium	• Up-market focus • Inefficient MFIs • Lack of credit to SMEs and the informal sector • Technology limitations	• Low-cost, down-market banking • Leveraging excessive technological capacity • Diversification of products and delivery platforms
Market players	Medium	• Limited knowledge of market • Competition not aggressive enough • Bureaucracy	• Demand-driven product offering • More competition

Some of the factors that have delayed the expansion of financial services in Senegal are limited products, low-risk behaviour, and the lack of interest by banks to serve SMEs and the informal economy. Although there are more than 200 microfinance institutions (MFIs), they suffer from inadequate capital, a narrow menu of products, a lack of professionalism, and limited technological resources.

Telcos in Senegal could make financial services accessible without the geographic and time limitations that characterize branch banking. A more aggressive drive to deliver new services, such as the recently launched Orange Money, could transform the landscape if matched by trusted, demand-driven products and flexible customer identification requirements.

Most of the necessary pieces are present in Senegal for significant expansion of financial inclusion. A solid infrastructure, steady economic growth, favourable regulations, and a robust private sector together with high-level government backing of ICT access would help Senegal leverage mobile technology for financial services. In a country where remittances play a significant role, matching the penetration of mobile phones with financial services capable of capturing small transactions is technically possible, but operationally challenging.

Senegal's public sector has not yet offered strong incentives for telcos and banks to form partnerships that profitably serve lower-income markets using mobile platforms. Relatively simple incentives include reducing the layers of bureaucracy. Although MFIs would be natural choices for financial inclusion because of their footprint in underserved areas, they are not attractive to risk-averse lenders. In order to meet its financial inclusion hopes, Senegal would have to transform the financial landscape by aligning policy and regulatory frameworks. The country should remove barriers to scale by reducing duplicate efforts by MFIs, donors, and the private sector players that offer different mobile financial services.

Significant opportunities exist in Senegal for mobile network operators (MNOs) to expand financial services. Recently launched mobile money transfer services, notably by Orange, are steps in the right direction. Speed to scale, however, remains an issue that challenges mobile payment services, mainly caused by a gap between demand and the types of products offered. With a well-coordinated strategy and policies that favour the poor, Senegal has the potential to become an exemplary performer in financial inclusion. Overall, Senegal is at the tipping point to become one of the top performers in financial services in Africa. Success in Senegal is likely to create a model that can be transferred to the rest of Francophone Africa.

Kenya

Despite the political and ethnic turmoil that it has experienced in the past few years, Kenya's economy is still the largest and most diversified in the East African Community (EAC) and the wider East Africa/Horn of Africa region. Compared to its neighbours, aid only plays a limited role, and Kenya's private sector is known for its resilience. The country serves as a communications hub for the region, and Kenyan firms increasingly aim for a regional footprint. Kenya's labour force is better educated than that of its neighbours, and Kenyan professionals are often hired throughout the region.

Kenya's ICT sector has benefited from these conditions and a relatively advanced telecommunications sector, strengthened by three undersea fibre optic cables. The ICT sector was also identified as one of the key sectors to promote by the government in its Vision 2030 development plan. On the other hand, Kenya still had a large unbanked population, dependent on remittances, which made it ripe for mobile money solutions, unlike, say, South Africa where bank accounts and credit card ownership were already well entrenched.

The focus of extensive media coverage, Safaricom's mobile money service M-PESA ('pesa' is Kiswahili for money) has been hugely successful for several reasons. First, the company already had a widespread agent network, which meant that the service was easily accessible throughout the country. In addition, Safaricom's management have devoted a lot of effort and commitment to the basic issues of the business, in particular on agent training, branding, marketing and security of the system.

Since its launch, a range of payment services have been added: subscribers can now pay at retail outlets, purchase airline tickets, make school fee payments and pay utility bills with their mobile money account. In addition, the service has become increasingly integrated with the banking sector: subscribers can pick up cash from PesaPoint ATMs, and Equity Bank was the first commercial bank to offer a link between M-PESA mobile money accounts and traditional bank accounts.

Agency banking allows commercial banks to use retail outlets and other agents to conduct a limited range of banking services through them. Agents may therefore need to be given some limited access to core banking functions. Given the infrastructural challenges, the banks currently rolling out this service use GSM technology as well.

The example of Kenya offers lessons to policy makers on both the conditions and policies that have allowed an innovative ICT-based financial service to scale, with positive effects on the rest of the financial services system. Kenya's market-oriented business environment and its innovative telecommunications sector have enabled competition to respond to the new entry, and ICT remains a government priority. These conditions and policies support the development of other services that use mobile money (e.g. micro-insurance), giving an additional boost to mobile money providers. Policy makers have also been relatively flexible in their approach to experimentation. The Central Bank of Kenya (CBK) was willing to support a mobile money pilot and find a balance between regulations, oversight, and flexibility for the mobile operator to experiment. Finally, due to M-PESA, the banking sector has recognized that there is money to be made by offering services to lower-income consumers. There is both competition and cooperation between mobile money and the banking industry, but banks have recognized that it is useful for clients to connect their mobile money account to their bank account, and the potential to increase their revenues has helped to reduce their opposition to mobile money as an immediate competitor, while increasing the offerings available to consumers.

The competitive impact of Safaricom's market dominance may not make for an ideal market structure but, in the case of mobile money, it gave clients the reassurance that they would find a Safaricom outlet everywhere in the country where they could retrieve their cash. In some ways, Safaricom's current dominance has actually been strengthened by its early success with mobile money, which increases customer loyalty as it has important lock-in effects for users. In addition, consumers are so familiar with the ubiquitous brand that they feel safe entrusting it with their funds; an important factor given the political turmoil in Kenya following the 2007/08 election. Safaricom also treated mobile money as a profitable service, not a CSR project, and therefore invested the necessary resources to develop it. This is something that policy makers in other countries should consider when studying ways to allow room for innovation. The company also invested heavily in branding, marketing, a simple user interface, and system safety and security, while also constantly expanding its offerings (e.g. merchant and bill payments, receipt of remittances, and introduction of a prepaid Visa card). Finally, the company has engaged in regular, proactive conversation with regulators like the CBK. That has allowed Safaricom, and others, to expand their service offerings to customers while reassuring regulators that appropriate safeguards are in place. Thus, the Kenyan example offers guidance to both public and private-sector actors, and illustrates the importance of a multi-sector approach.

Table 3 **Kenya's challenges and opportunities for ICT and financial services**

Drivers of growth	Readiness (regulations, infrastructure, demand)	Challenges	Opportunities
ICTs	High	• Address interoperability challenges to allow operator-independent platforms to compete	• Build on mobile money success by allowing greater functionality for other savings, payment and insurance products
Financial services	Medium	• Overcome relatively high transaction costs by addressing market competition issues • Address international payments issues (such as remittances)	• Create competitive environment for additional mobile or ICT-based savings and payments services to thrive • Improve and clarify regulatory structure to encourage cross-sector participation by telcos and banks/MFIs • Diversification of products and delivery platforms
Market players	Medium	• Mitigate dominant market position of one carrier	• Encourage greater competition

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RECOMMENDATIONS

For both national policy makers (including regulators) and international donors, recommendations address consumer, public sector and market issues, taking into account the different stage of maturity in African countries. No two countries in Africa start from the same point when it comes to financial services. Those beginning to pursue the opportunity are at a formative stage while others are in a better position to scale endeavours already underway. All are working towards a desired state. The financial services sector is a complex ecosystem. No single part of the sector can easily be addressed in isolation, and there is no "one size fits all" solution for all countries. From that point of view, each nation will view the recommendations offered here through their own lens when determining their priorities. Some areas justify greater attention owing to the degree of maturity of the existing financial services sector and the existing policy/regulatory environment.

Recommendations for policy makers

RECOMMENDATION 1

Commit to financial inclusion through mobile banking

Commitment to poverty reduction and development on a national level form the basis of a commitment to financial inclusion. Policies and regulations should encourage market entry (e.g. permit mobile operators to accept deposits on behalf of licensed financial institutions where depositors could earn interest) and prevent monopolies (e.g. disallow exclusive agreements for cash in/out points). Experimentation should be encouraged by easing procedures for testing new approaches. Interoperability should be encouraged by developing data and process standards specific to new areas of financial services, such as mobile financial services. Scaling states should coordinate awareness-raising with third-party organizations with target markets (e.g. agribusiness, healthcare). The more advanced states should consider introducing a real-time mobile transaction clearing/settlement switch in order to remove the bottleneck when shifting to an open network.

RECOMMENDATION 2

Support diversification in mobile financial services

Generic single products or constricted services leave latent and explicit demands unmet or even discourage uptake and participation. Socio-economic conditions specific to a country's environment should be taken into account in the kinds of products offered (e.g. Islamic finance), rather than regulations determining the choices offered to consumers. Cash-in/cash-out, bill payments, deposits, savings, remittances, insurance, provident funds, and loans are examples of products that can be offered, and national policies should provide incentives to institutions and agents to offer these and other diversified services.

RECOMMENDATION 3

Encourage access to capital for SMEs

Promoting growth and fostering SME success requires transformative policies that pay particular attention to the ripple effects that SME capital access has on the overall economy. These effects include increased employment, asset building and more tax revenue. Governments should help to lower the fear of risk among bankers by providing measured loan guarantees, similar to the Small Business Administration in the United States. Such programmes can also be complemented by making training available to SMEs in financial management, innovation and marketing.

RECOMMENDATION 4

Promote appropriate and flexible identification policies

Absence of, or limited proximity to, financial institutions is not the only barrier that keeps poor customers from accessing financial services. Identification flexibility for small transactions is a crucial policy component that should be seriously considered. Incentives aimed at making services widely available should come before mandates to obtain identity documents such as a national ID, driving licence, proof of residence, or passport. National identification initiatives should be undertaken that use low-cost services to register and identify users, with feasibility studies of biometric options. Citizen participation in identification enrolment should be encouraged through a mix of incentives and requirements, e.g. by pairing with useful services (G2P payments and advertising), or by requiring linking to activation of SIMs. Risk-based methods of identification should be used for establishing new financial accounts so that risks may be mitigated by limiting balance and transfer amounts and providing increasing capabilities with greater evidence of identity.

RECOMMENDATION 5

Provide guidance for streamlining back-end systems

Detailed guidelines rather than mandatory rules would be most helpful to streamline the back-end systems that should be installed and managed across institutions. A banking technology coordinating group within central banks, ministries of finance/development, or independently operating offices could assess and audit technologies that enable financial inclusion. Such a body could monitor and outline the latest and most strategically relevant back-end systems, including mobile banking components, and interface with technologies used by different institutions.

RECOMMENDATION 6

Develop data standards and practices for credit data

Policies should aim to address the problems presented by fragmented, standalone or non-existent credit bureaus that complicate lending for institutions as well as beneficiaries. A database system should be established to provide transparency for both lenders and borrowers. Data standards and practices should be developed for generating and aggregating credit data. Alternative forms of data for discerning credit-worthiness should be examined. An obligation should be considered for national utilities to make payment data available to credit bureau services.

Recommendations for donors

RECOMMENDATION 7

Reduce private sector risks by underwriting "first movers"

Donors have an important role to play in underwriting the risks of first movers thereby encouraging private sector involvement and innovation. For instance, private sector involvement could be induced through goal-oriented awards for early and successful efforts to address inclusion goals through the availability of mobile banking (Gates Foundation incentive fund for Haiti is an example). Incubator efforts for product designs and concepts tailored to consumer needs should be supported.

RECOMMENDATION 8

Reduce shared costs by underwriting common supporting systems

The selection of back-end systems logically falls to the private sector, since it affects competitive positioning and costs considerations. However, donors might consider underwriting a "minimum-feature" service available via the cloud so that even the smallest MFIs and banks would be able to manage accounts. Donors would also make a positive impact by supporting the systems necessary for interconnection (real-time switches for mobile payment interoperability) and systems that pre-condition infrastructure for service delivery (identification registries). Such investments work with rather than against the private sector, enabling more market participation.

RECOMMENDATION 9

Leverage limited resources to drive private and consumer action

Donors have an essential role in reducing the risks of lending to small, unknown businesses. Loan guarantee programmes are an important part of small business support efforts and donor funds could be leveraged for this purpose. In areas where traditional credit bureaus are failing to serve SMEs (or do not exist), donors could also support alternative methods for assessing and sharing risks. Such scenarios might include leveraging crowd-based voting mechanics combined with donor-to-peer (Kiva.org) and peer-to-peer (Prosper.com) lending models to determine donor allocation of funds. Donors should support efforts to raise consumer awareness, and back solution incubators and heavy experimentation to translate needs into products.

Further reading

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www.eTransformAfrica.org

Publications for eTransform Africa include the Summary Report, Main Report which includes an overview chapter and summary chapters of the full reports, and the full reports themselves covering the following sectors and cross-cutting themes:

Sectors themes:

- Agriculture
- Climate Change Adaptation
- Education
- Financial Services
- Modernizing Government
- Health

Cross-cutting themes:

- Regional Trade and Integration
- ICT Competitiveness

For a more detailed presentation on the role of ICT in financial services in Africa, see the full eTransform Africa sector report: http://www.etransformafrica.org.

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