ENERGY
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Market Guide: Mobile Money

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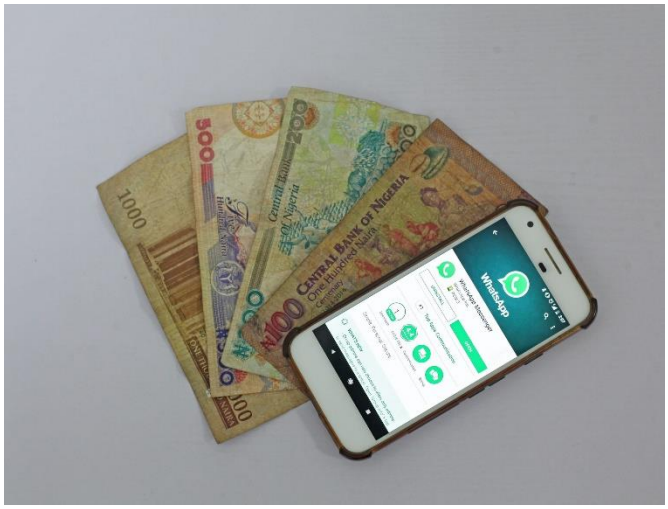
Market Guide: Mobile Money



According to a report by Market Research Future (MRF), the value of mobile money transacted annually is estimated to reach $23.8 billion by 2032[1], a steep rise from a value of $2.2 billion in 2022. It is clear that the rapid growth of this sector has a specific relevance for developing economies: digital finance is creating new regenerative pathways to sustainable development, benefiting billions of people by prompting inclusive growth.

Despite the disruptions of Covid-19, mobile technologies and services generated $4.5 trillion in 2021, equating to 5% of the global GDP. According to the 2021 FinAccess Household Survey, financial inclusion in Kenya has grown from 26.7% in 2006 to 83.7% in 2021[2]. The survey also found a significant drop in the use of informal financial services, from 32.1% in 2006 to 2.1% in 2021. This is attributed to digital innovations, which have increased the use of mobile banking applications, and improved sector reguation and safety. The same study found that mobile money, community-level informal loans and savings groups, and insurance products were largely used in the mainly arid counties of northern Kenya, where bank usage was minimal, thereby increasing financial inclusion. Mobile money has been effective in improving the economic lives of poor women and female-headed households. According to the 2021 FinAccessHousehold Survey[2] for Kenya, while mobile money fails to address structural drivers of gendered financial inequalities, it enables more women to access financial channels and associated financial products, improving inclusion. MPESA's digital finance ecosystem offers poor and vulnerable households more tools to access additional income sources and improve their livelihood resilience against shocks caused, for example, by pandemics or natural disasters. According to the Global System for Mobile Communications (GSMA) 2022 report[3] on mobile money, international remittances grew by 28% per year from 2020 to 2022, as the diaspora community sent more funds to family and friends via mobile money. There is also growing evidence of financial inclusion creating more stable financial systems and economies, mobilising domestic resources through national savings and helping to boost government revenues.

This market guide has been developed for new and existing renewable energy companies looking to operate in Africa and Southeast Asia. It aims to provide a broad overview of the basic concepts, challenges and opportunities concerning mobile money.

[1] To learn more about the value of mobile money projections, read *Mobile Money Market Research Report* (Shubham Munde, 2023).
[2] For more details on how mobile money has evolved to increase financial inclusion in Kenya, see pg. 11 of the *2021 FinAccess Household Survey* (Kenya National Bureau of Statistics. 2021).
[3] State of the Industry Report on Mobile Money 2023 (GSMA, 2023).

Sector background

The GSMA defines mobile money as a service in which mobile phones are used to access financial services. The GSMA represents the interests of mobile network operators worldwide, uniting more than 1,000 operators and businesses across the broader mobile ecosystem, and aiming to advance innovation and reduce inequalities globally.

Mobile money is a novel phenomenon. The first mobile money system was launched in the Philippines in 2001, and M-PESA was launched in Kenya in 2007. Yet it has transformed the landscape of financial inclusion, spreading rapidly in developing and emerging market countries (see **Error! Reference source not found.**) and "leapfrogging" the provision of formal banking services.

Those living in poverty are especially vulnerable to adverse events (e.g. illness, unemployment, death of family members or natural disasters). Increasing the unbanked urban and rural poor's financial inclusion - a stated goal of the G20 - can help mitigate these risks. Traditionally, financial inclusion policies focus on extending access to formal banking services, but progress has been thwarted by costs and market failures.

The new technology helps overcome traditional problems, from weak institutional infrastructure to the cost structure of conventional banking. The commercial viability of financial institutions in developing countries is constrained by factors including small size, volatility, informality, and poor governance. Many of those living in poverty cannot afford the minimum balance requirements and regular charges of typical bank accounts. Mobile phone technology means that while consumers themselves must invest in a mobile phone, the (scalable) infrastructure is already in place for the widespread distribution of airtime through secure network channels[4]. By adopting mobile money, under-served citizens gain a secure means of transfer and payment at a lower cost, and safe and private storage of funds. Mobile money has filled a gap and has changed the economics of small accounts.

The movement of cash into electronic accounts offers a record of financial transactions for unbanked people for the first time. By using algorithms, these records can provide them with individual credit scores. After a designated period of usage and once a score is available, registered mobile money users may be able to access formal banking services via their mobile phones, including interest-bearing savings accounts that protect assets, credit extension to invest in livelihoods, and insurance products that reduce risk.

Apart from reducing information asymmetry, the impact of improving transparency through electronic records is far-reaching. Mobile money could aid tax collection, for example, by improving the visibility of spending and facilitating tax payments. The increased transparency of records also protects customers' rights and fosters trust in businesses, promoting the growth of efficient payment networks. Mobile money should make international transactions more readily traceable, aiding identification and helping to control money laundering. If the high cost of remittances was reduced by mobile money, this would help redirect "informal" remittances through official channels, improving records. In essence, mature mobile money systems and the records that they produce help foster the "formalisation" of the economy, integrating informal sector users into business networks, formal banking, and insurance, thus linking them to governments through social security, tax, and secure wages payments. There are legal data privacy considerations concerning access to and use of mobile money records, however, which have barely begun to be addressed.

There are many channels through which mobile money can affect the economy; some are complex and not yet well understood. There have been attempts to quantify the possible economic gains for different countries (e.g. improved risk sharing, food security, consumption, business profitability, savings, and the use of cash transfers), and the factors driving the adoption of mobile money. Interpreting its economic impact is not straightforward, however, "as empirical literature is often overburdened with problems of data, methodologies, and identification"[5]. Furthermore, the adoption of mobile money varies by context, and it is influenced by levels of education, wealth and technological preferences, among other factors. It can therefore be difficult to generalise

[4] For more details on how mobile phones simplify financial services and attract unbanked people, see page 4 of *Financial Inclusion through Mobile Money: An Examination of the Decision to use Mobile Money Accounts in WAEMU Countries* (Sionfou Seydou Coulibaly, 2020).

[5] *Mobile Money and the Economy: A Review of the Evidence*, (Janine Aron, Oxford University Press, 2018).

and extrapolate the results of various studies for entire populations. Nonetheless, demonstrating the welfare and risk-sharing gains across countries could bolster the case for government and donor investment and support.

Sector trends

By the end of 2022, the number of registered mobile money accounts surpassed 1.6 billion globally, from 1.4 billion in 2021[6]. The transaction value increased by 22% in the same year, from $1 trillion to $1.26 trillion. Sub-Saharan Africa remains the epicentre of mobile money, with 763 million registered accounts, and increasing by 17% from 2021 to 2022, which is 4% higher than the global year-on-year growth. This was driven by strong growth in West Africa (53 million new accounts) and Central Africa (5 million new accounts), as well as steady growth in East Africa (94 million new accounts) and Southern Africa (5 million new accounts). The results for 2021 to 2022 follow strong growth from 2020 to 2021: 39 million new accounts in West Africa, 44 million in Central Africa, 3 million in East Africa, and 2 million in Southern Africa. The growth can be attributed to easing regulatory provisions, bringing in new players, notably in Nigeria and Ethiopia, which saw the entry of Safaricom (M-PESA). GSMA forecasts that account adoption across sub-Saharan Africa will remain strong and that the region is on course to reach 1 billion accounts before 2030.

Mobile money adoption in Asia has also significantly contributed to global growth. East Asia and Asia-Pacific added 62.3 million accounts in 2022, driven primarily by growth in Southeast Asia, where new entrants and innovations continue to push boundaries. Overall, growth in Asia was especially buoyed by growth in Bangladesh, Pakistan, Indonesia and other countries with high unbanked populations. Equally, the region has seen a surge in active mobile money service providers, with 86 on record. South Asia added 38.7 million accounts in 2022, higher than East Asia and Asia-Pacific. This was due to limited adoption in Australia, where the use of payment cards and terminals are preferred, and China, where tech giants like Alibaba and WeChat Pay dominate.

Ease of access to mobile money is still key to account adoption, and mobile money agents are used to provide a convenient and trusted way to convert cash to digital value and vice versa. They are also the face of mobile money services around the world, performing crucial tasks like onboarding, supporting and educating millions of customers. In 2022, $294 billion (the total value of cash-in transactions) was digitised by mobile money agents globally. This is more than the total value of formal international remittance flows to sub-Saharan Africa, Latin America and the Caribbean combined in the same year, evidence that agents are the main gateway to digital financial inclusion in markets where cash is still king.

The number of agent outlets has almost tripled over the past five years, reaching 17.4 million in 2022. The proportion of agents active on a 30-day basis also increased in 2022, to 61.3%, compared to 55.3% in 2021. Mobile money agents in rural and hard-to-reach areas have been instrumental in expanding financial inclusion, as they provide wider geographical coverage than other channels. A mobile money agent has seven times the reach of ATMs and 20 times the reach of bank branches in sub-Saharan Africa where branches of banks are yet to be established in close proximity to customers. The density of the agent network is approximated to reach an average of 228 active mobile money agents per 100,000 adults, tripling since 2014. Meanwhile, the density of commercial bank branches in the same markets did not change substantially between 2018 and 2021, averaging 12 per 100,000 adults[7].

More customers are using their mobile money accounts more often, and as part of their daily activities. In East Africa, the number of active mobile money accounts has exceeded 390 million (as shown in **Error! Reference source not found.** on page 7). Here, there are now over 77 deployments with over a million active accounts

[6] See page 5 of the report, The state of the industry report on mobile money 2023.

[7] Financial Access Survey 2021 Trends and Developments, https://www.imf.org/-/media/Files/Data/Home/2021-fas-trends-and-developments.ashx

(registered accounts that utilise mobile money services within a 90-day window), compared to 27 in 2014. 21 of these services have over the five million active accounts.

In most low-income countries, the path to financial inclusion is primarily through mobile money. The total value of transactions conducted by mobile money globally in 2022 is estimated at $1.26 trillion. This means that the industry is now processing $3.5 billion a day. This growth and scale demonstrate higher levels of customer trust and higher relevance as mobile money digitise an increasing amount of capital.

Since 2010, customer distribution across sub-Saharan Africa has become more diverse, with sub-regions such as West and Central Africa growing their market shares. This is shown in Figure 1 below.

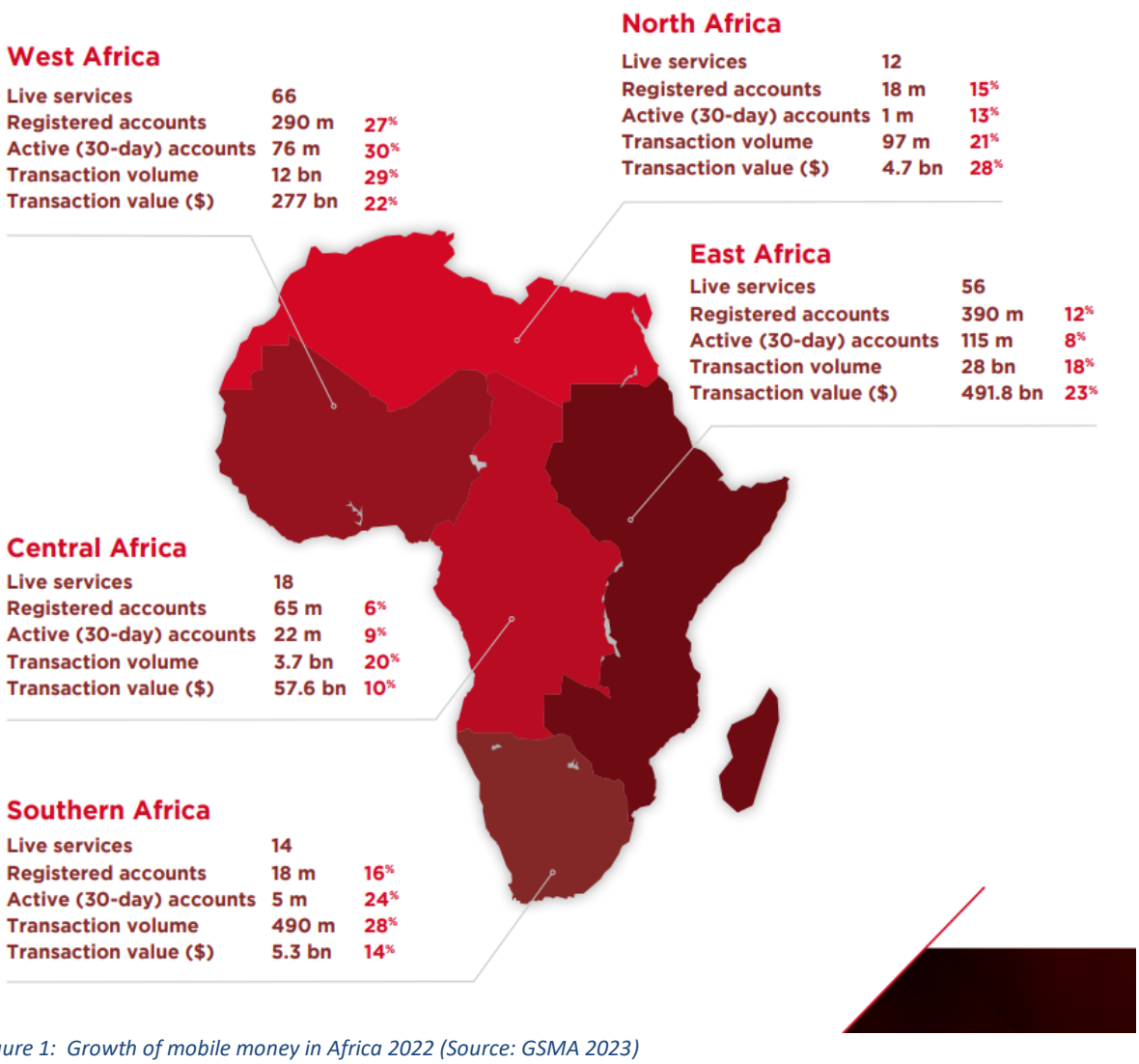


Figure 1: Growth of mobile money in Africa 2022 (Source: GSMA 2023)

The key trends identified in Africa's mobile money sector include:

- **A growing number of providers are becoming commercially sustainable.** Not all mobile money deployments are profitable, but a growing number of mobile money services have become commercially sustainable. In 2022, 60% of providers reported positive earnings before interest, taxes, depreciation and

amortization (EBITDA)[8] Direct revenues from mobile money are supporting investment in innovative products and services, network expansion, and healthy and sustainable agent commissions.

- **The industry continues to invest in distribution networks and sustainable agent income.** The mobile money industry has created opportunities for entrepreneurs in emerging markets to become agents. In rural and hard-to-reach areas, mobile money agents have had a transformative impact on financial inclusion. Meanwhile, agents are seeing their monthly incomes rise substantially, with commissions that are not detracting from investment in other areas of the mobile money business.
- **Financial service providers are shifting to a 'payments as a platform' model.** Providers are relying less on revenue from customer fees and seeing a rise in revenue from business fees. This is a clear indication that providers are focusing more on expanding the digital ecosystem and adjacent services like mobile money-enabled credit, insurance, and savings.
- **The digitisation of payments has reached new heights.** Over the past five years, there has been a gradual shift from cash to digital payments, and more recently, digital transactions accounted for most mobile money flows. This is a signal that providers have taken major steps to ensure digital transactions become a part of their customers' everyday lives.
- **More value is circulating in the mobile money system than previously.** The total value in circulation reached $286 billion for person to person (P2P), $294[9] billion for international remittances, $21 billion for cash-in cash-out transactions, $88 billion for bill payments, $80 billion for bulk payments, and $78 billion for merchant payments in 2022.
- **The industry has zeroed in on what keeps value circulating.** It does so, for example, by creating more compelling value propositions for MSMEs with business management tools like customer analytics and inventory management, and offering credit lines to agents and merchants.
- **The industry is increasingly interoperable and integrated.** Interoperability with banks and account-to-account (A2A) interoperability is meeting the needs of entirely new customer segments, including traditionally underserved and cash-reliant customers. Mobile money-enabled international remittances have flourished as the industry has become more integrated with international financial system players. Integration via APIs, with organisations ranging from government agencies and utility companies to online businesses and local entrepreneurs, is also on the rise.
- **The regulatory landscape is evolving.** Regulation that enables low-cost services for the financially excluded has been crucial to the success of mobile money, and there is a clear correlation between high mobile money adoption rates and enabling regulatory environments. Certain policy interventions, however, such as sector-specific taxation and data localisation requirements, are putting pressure on the industry, and may have long-term negative impacts on financial inclusion gains, innovations, and achieving the SDGs.
- **New licenses were granted in 2022.** In Nigeria, MTN and Airtel were granted PSB licenses, allowing them to operate mobile money services. The Central Bank of Nigeria also issued Airtel Africa's subsidiary, Airtel Mobile Commerce Nigeria Limited, a "super-agent" license which allows it to create a network, serving the customers of banks and other Mobile Money Providers (MMPs), which can bridge the gap to include unbanked people. In Ethiopia, the central bank amended payment system legislation to allow for new market entrants to provide mobile money services. Here, ongoing reforms are responsible for the surge in subscription, for example at Ethio telecom, a state-backed entity. The Ethiopian Government's launch of Digital Ethiopia 2025, designed to realise digital potential to work towards a more prosperous society, led to the market entry of Safaricom Ethiopia. Safaricom Ethiopia was granted a nationwide full-service and unified Telecommunication Service License and is the first to compete with Ethio telecom. It is expected that the business success of M-PESA in Kenya will be replicated in Ethiopia. In Uganda, the introduction of a new regulatory framework changed the operating model for MTN and Airtel to a largely bank-led one.

GSMA has been instrumental in the growth and development of mobile money. It has a dedicated programme, Mobile Money for Development, to help members and industry stakeholders to increase the utility and sustainability of mobile money services, and thereby increase financial inclusion. This is one of the focus areas of the GSMA Mobile for Development Foundation, which was created in 2007 to demonstrate the positive social impact of mobile technology and develop and engage in projects that utilise mobile communications to relieve hitherto marginalised demographics. It brings together mobile operators, donors and the international

[8] Earnings before interest, taxes, depreciation, and amortization.

[9] For more details on sectoral performance of mobile money, see page 27 of the *State of the Industry Report on Mobile Money 2023* (GSMA, 2023).

development community. The foundation's other principal focus area is sustainability leadership: it works with GSMA member CEOs and their companies to develop the necessary insights and tools to act as 'change agents' within their own companies, both at a sector level and more widely on the world stage.

Sector challenges and opportunities

The mobile money sector faces various challenges, as described in Table 1 below.

Table 1: Challenges in the mobile money sector

Challenge	Mitigation
Licensing and regulation. Some countries are less open to disruptive technological innovations like mobile money, and their regulations and licensing processes are often lengthy and bureaucratic. To grow the market, open APIs offer growth opportunities. However, the integration of third-party players to mobile money partners' APIs is often slow-paced, preventing the entry of other market players that would widen the scope of the business. Increasing the number of agents creates additional challenges for monitoring and compliance.	Mobile Network Operators (MNOs) can make a case for the potential benefits that mobile money has for general socio-economic development, to encourage the granting of operation licenses and the easing of regulations in new markets. Unifying the mobile money API would enable seamless transactions, reduce costs associated with cross-network transactions and open up markets for e-commerce.
Agent Distribution and Capitalisation. Agents are still more highly concentrated in urban areas, while the need for mobile banking to foster financial inclusion is highest in rural areas. A World Bank study in Northern Uganda[10] found that rolling out agents in poor regions does not necessarily translate to increased use of agency services, as people may not own mobile phones. When they own them, the likelihood of receiving remittances to withdraw from agents is still low, signalling the need for MNOs to incentivise businesses to capitalise on the agency business, in areas that also lack pre-existing mobile money agents.	MNOs should partner with existing rural businesses, and incentivise them to take up mobile agency as an additional venture, to increase access to mobile money agents. Improve network availability in hard-to-reach rural areas so as to encourage existing businesses to franchise mobile agency as a supplementary revenue stream.
Interoperability is fraught with increasing transaction costs between different network users.	Developing a different network-independent wallet and reducing the charges for sending money across networks would formalise the remittance process, particularly for low-income people who would prefer to utilise informal channels instead.
Reliance on Global System for Mobile communication GSM sector, coupled with limited infrastructure in certain rural outposts and crowded urban area system downtimes and seeing mobile money as an added value to communication rather than standalone product.	MNOs need to improve their network coverage, so that potential mobile money users can utilise services as a means for financial sending, receiving, and saving money. Improve system capabilities to ameliorate potential system down-times.
Political interference has occurred in many countries, in which mobile networks are switched off or the internet is shut down during election periods to deny, disenfranchise and limit citizens' participation in their democracies. Other countries limit the use of mobile networks and internet during political upheavals. For example, India, Iran and Myanmar had 84, 18,	MNOs could work with independent lobby groups such as civil society organisations, to lobby for non-political interference in the sector. Self-regulation should also be advanced as a solution. Governments and political decision-makers should appraise the benefits that mobile banking has on the development of the country and population, over the short-term political gains of shutting down networks.

[10] For more on mobile money agents' roll-out challenges in certain regions, *see* *The Impact of Mobile Money on Poor Rural Households: Experimental Evidence from Uganda* (The World Bank Group, 2019).

and 7 internet blackouts in 2022 respectively, in response to anti-regime protests[11]. Uganda imposed restrictions during the last elections and Ethiopia enforced a long shutdown to the Tigray region, limiting the use of mobile money despite the dire refugee situation and human displacement. Mobile networks are also prone to cyberattacks launched by foreign countries to cripple sovereignty. According to the rights group Access Now, for example, Russia cut off internet in Ukraine a record 22 times.	
Fraud/insecurity and lack of insurance for agents. Cyber security challenges, impersonation and fraud within the mobile value chain by network providers, agents, employees and even customers are resulting in unwarranted withdrawals, economic losses and the potential loss of new and existing customers, due to system insecurity. At times, mobile money agents operate in highly insecure environments, making them and their businesses vulnerable to theft, robberies, and scamming. Business insurance companies also charge high premiums, unless the mobile money agency is complemented with other businesses that are generating significant revenue.	Develop policy and enforce regulations within the sector. Conduct sufficient background checks on sector employees. Fortify the customer identification process, link phone numbers to unique identifiers, and promote consumer awareness on the need to update log-in information, and how to detect and report potential fraud. Security systems should be adapted to handle emerging types of fraud and risks like biometric identity theft and social engineering. Improve product transparency and the handling of complaints. Mobile money agents should be trained on security awareness and should operate during the day, particularly in crime-prone areas. Insurance companies should provide commensurate products for insuring mobile money and/or agency banking businesses.
Data privacy. Potential breaches in data security jeopardise customers' identities, and are used to commit fraudulent activities.	Develop robust data privacy regulations for use of data. Political leaders to enact data protection acts, which stipulate how infractions can be addressed if they occur.

There are also opportunities in the mobile money sector. These are described in Table 2 below.

Table 1: Opportunities in the mobile money sector in Africa.

Opportunities
Improving the e-commerce experience: E-commerce will account for 23% of global retail sales by 2024, and the value of sales is expected to hit $7.3 trillion by 2025. With only 3.5% of total retail sales done online and netting revenues of $20 billion, there is significant potential to increase revenue from online transactions. Strong growth in mobile-based e-commerce (m-commerce) in emerging markets is driving demand for greater marketing services. In sub-Saharan Africa, from 2017 to 2022, m-commerce transaction revenue grew by 13%, while digital advertising revenues increased by 40% While online advertising as we know it faces challenges in Africa, opportunities for personalised marketing and promotions continue to evolve and grow. Mobile money providers can offer consumer insights to e-commerce merchants that accept mobile money payments by developing customer profiles, and even leveraging telecom data where accessible. These services can provide significant value to e-commerce merchants and decrease churn. The largest regional e-commerce platforms include Jumia, Kilimall, Takealot, Souq, Songa, and Bob shop
Tackling payment fraud: As e-commerce and digital payments take off, small merchants that use mobile money for online or physical transactions would benefit from protection against fraudulent transactions. A Central Bank of Kenya (CBK) 2021 report on the stability of the banking sector found that fraudulent activities affected 6.1% of mobile banking accounts, 25.9% of mobile money accounts, and 6.8% of bank accounts, a high figure which could undermine gains achieved in the sector. Fraud was recorded as having been perpetrated internally by staff of banks and telcos, and involved SIM swaps and cybercrime generally. Mobile money providers can enhance their offering to e-commerce and physical retailers with payment fraud prevention services, which leverage mobile money data to develop or enhance risk assessment engines. The use of transaction data to prevent fraud in other industries has been established. For example, the Communication Authority of Kenya (CAK) has finalised a national exercise of mobile verification, whereby customers registered on mobile networks have to submit their registration identification and take a digital photo to be stored in the CAK's database. This allows for easy identification and the follow-up of fraudulent trails, limiting possibilities for impersonation which has recently been on the rise.
Expanding access to consumer credit: According to the Global Financial Inclusion Database (Findex), globally in 2021, 53% of the adult population reports borrowing from a formal financial institution or using a credit card in the last year. Across developing countries, however, that figure is only 23%, with an almost equal share reporting borrowing from family and friends. In comparison, in high-income countries, 56% of adults borrowed formally, and less than 15% borrowed informally from friends and relatives. This reliance on informal

[11] *Record number of countries enforced internet shutdowns – report* (The Guardian, 2022).

borrowing is one sign that there is a gap in formal sources of credit in low-income countries. The uptake of mobile money and the subsequent creation of transaction data has spurred access to credit to individuals who, previously lacking a credit history, were excluded from borrowing from formal sources.

Regulatory sandboxes: These have helped new and existing players test their products before launching. To support sector innovation, regulators have embraced innovations by fintech firms in the mobile money sector. In August 2022, Bangko Sentral ng Pilipinas, the central bank of the Philippines, launched a regulatory sandbox framework. The Bank of Ghana also published its framework that month. Sandboxes open the mobile money ecosystem to small fintech players, while allowing regulators to assess the risk and eliminate the possibility of failure before roll-out for use.

Improving tax collection for governments: Many countries resorted to taxing mobile money usage, as a way of shoring taxes after the economic impacts of the Covid-19 pandemic. Tanzania, Ghana and Cameroon are notable examples. Cote d'Ivoire charges an 18% mobile money transaction fee, while Ghana taxes transactions over 100 cedis ($13) at 1.5%. While it may be assumed that these taxes ought to deter adoption and use of mobile money, governments could align their fiscal policies to allow for person-to-government (P2G) payments, thereby widening the informal sector tax nets. In turn, this could aid socio-economic development.

Case studies

Case study 1: India – a battleground for tech giants and payments banks

Digital payments in India are booming, and the country has become a battleground for tech giants like Google Pay, Paytm, PhonePe, and most recently, AmazonPay. With the backing of US and Chinese investors, the market has become exceptionally competitive, and digital payments are expected to reach $1 trillion in value by 2023. This is propelled by higher rates of acceptance of fintech, including those promoted by start-ups, at 87%, compared to the global average of 64%. Fintech players are vying to survive in a market that is bound to consolidate and concentrate as it matures.

Since 2014, the Indian government (through the financial inclusion programme known as Pradhan Mantri Jan Dhan Yojana or PMJDY) has led a major effort to open accounts that use biometric identification. As a result, 78% of the population had an account by 2021, up from 35% in 2011, according to the Findex 2021 report. Despite these gains, 238 million Indians are still unbanked. Also, a considerable proportion of accounts (35% of registered accounts, or 237 million accounts) are inactive[12]; these figures are the highest in the world, and 5% higher than the average in other developing nations. As of December 2020, 90 million of these accounts are dormant with a total value of $336 billion. These figures are based on the latest Findex report, however, published in 2021, and might have changed in the last two years, owing to policy changes as well as the rapid growth of the fintech sector in India. To reach the country's poorest customers, the Reserve Bank of India (RBI) issued guidelines for payment banks in November 2014. The most prominent payment banks in India are currently Paytm, Airtel, Google Pay and Fino. Despite challenges with the payments bank model, Paytm managed to reach profitability and break even in 2019.

India's diversity and sizeable banked and underbanked population (844 million) provide an opportunity for a variety of models and players to thrive. As the market matures, it will be interesting to see how the payment landscape evolves, and what innovative models emerge that will successfully reach those currently underserved.

Case study 2: Fuliza – an overdraft service removing frictions in completing payments

One of the most ground-breaking innovations in the digital credit space is Fuliza, Safaricom's M-PESA transactional overdraft service in Kenya, launched in January 2019 in conjunction with NCBA Bank and underwritten by KCB Bank. For M-PESA users that opt in, from January 2023, Fuliza automatically takes effect if these users fall short of funds when completing P2P transactions, merchant or bill payments, or withdrawal from an M-PESA agent. This transforms the service from solely a bill payment facility to something of a loan. The overdraft is repaid automatically once funds are in the user's mobile money account.

[12] Global Findex Report 2021 (The World Bank, 2021).

Although the service is available to everyone, there are limits that depend on a customer's creditworthiness and how long they have been using M-PESA. Fuliza is already transforming Kenya's financial landscape. In the second half of the financial year 2021/22, the sum of Fuliza overdrafts amounted to KSH 290 billion (about $1.4 billion), up from 220.38 billion during the same period in 2021. This translates to a borrowing of KSH 1.6 billion daily ($13.6 million). Disclosures from Safaricom point to a 22.6% reduction in the value of borrowing in 2022, which translates to KSH 320.90 from KSH 375.80 during the same period in 2021. Analysts attribute this variance to tough economic times that have reduced borrowers' loaning limits. Despite this, Fuliza has recorded a 43.1% overall rise in the value of disbursements, from KSH 351.2 in March 2021 to KSH 502.6 billion in 2022.

Case study 3: The GSMA Instant Payment Notification (IPN) Hub

The GSMA Mobile for Development Foundation set out to address a major barrier to energy access by helping off-grid solar companies to easily integrate with mobile money platforms. To achieve this, the GSMA was supported by the MasterCard Foundation and the UK Department for International Development (DFID) to create the Instant Payment Notification (IPN) Hub.

This is a gateway that enables small service providers – primarily pay-as-you-go (PAYG) solar providers, but also other entities, such as water and transport service providers – to serve their customers more efficiently by receiving and validating real-time notifications of payments. The IPN Hub currently connects 14 companies to six mobile money providers in five countries in sub-Saharan Africa. The Hub has demonstrated strong value in helping the industry to grow faster. It has also proved that this kind of solution is still needed for further growth in the PAYG industry, where real-time notifications of payments are essential.

The GSMA is now in the process of transitioning the IPN Hub to Beyonic, in order to scale and sustain this service in the long term.

Case study 4: Nigeria – A sleeping giant awakens

Nigeria has long been identified as one of Africa's sleeping mobile money giants. Home to the continent's largest adult population (127.6 million) and unbanked population (50%), Nigeria has potential for the roll-out and adoption of mobile money services, to transform the currently cash-based economy.

From 2020 to 2021, mobile money account ownership has grown from 16% to 22%, and the associated agent registration by 41% (12-17 million). This has been supported by changes to the regulatory framework. The Central Bank of Nigeria granted services bank (PSB) licenses to the MTN and Airtel networks. Adoption of mobile money is also buoyed by the increasing penetration of smartphones[13], which according to a study by Alliance for Affordable Internet (A4AI) is estimated at 44% in 2021. Smartphone penetration is projected to grow exponentially to 66% by 2025, according to the Orange Business Intelligence Team (ORBIT), making Nigeria rank as the seventh country in the world in terms of level of smartphone penetration.

Nigerian-based Interswitch is now one of Africa's most valuable fintech firms, with a valuation of $1 billion, after Visa joined a host of investors to take a minority stake in the company. There is also a strategic partnership between the online payment company Flutterwave and China's Alipay in Nigeria, which effectively connects African entrepreneurs to over one billion Chinese customers.

As these and other new fintech firms scale, the question remains whether they will be able acquire customer segments outside Nigeria's urban and tech-savvy hubs like Lagos. Over-indexing on the country's smartphone users will continue to exclude the unbanked, many of whom are more likely to have access to feature phones.

With the recent introduction of Payment Service Banks (PSB), there is a growing appetite from local mobile network operators and their subsidiaries to launch mobile money services. Recently, the Central Bank of Nigeria

[13] To find out how smartphone use increases adoption and use of mobile money, see *Mobile money as a driver of digital financial inclusion* (Aijaz A. Shaikh et al, Technological Forecasting and Social Change, 2023).

granted Approvals in Principle (AIP) to two local mobile operators, 9Mobile (9PSB) and Glo (Money Master PSB).

A subsidiary of MTN Nigeria has also begun offering mobile money transfers through its agent network, weeks after receiving a super-agent licence. The current foothold and subscriber base of these MNOs put them in a strong position to rapidly scale mobile money services, including in underserved parts of the country and among feature phone users.

Meanwhile, players such as OPay and PalmPay have entered the market with strategies focused on both tech-savvy and underserved consumers. OPay, founded by the Chinese-owned consumer internet company Opera and backed by nine Chinese investors, has raised $170 million. After launching a super app strategy very similar to GoJek in Indonesia, OPay is now expanding its services to offer payments via a USSD channel and targets feature phone users. In addition, PalmPay has raised $40 million in capital from the China-based device maker Tecno, as well as NetEase and MediaTek. This partnership gives PalmPay access to Tecno's online and offline distribution networks, through pre-installing the app on all Tecno phones and converting Tecno retail stores to agents.

Nigeria's payment landscape has seen big-ticket investments and new entrants. Ultimately, the question is which platform – fintech firms or mobile money – will take the lead in acquiring and sustainably serving Nigeria's vast unbanked population.

Industry associations

GSMA represents the interests of mobile operators worldwide, uniting more than 750 operators with almost 400 companies in the broader mobile ecosystem, including handset and device makers, software companies, equipment providers and internet companies, as well as organisations in adjacent industry sectors. GSMA also produces industry-leading events, such as the Mobile World Congress (MWC) Barcelona, MWC Shanghai, MWC Los Angeles, and the Mobile 360 conference series.

GSMA also runs the GSMA Mobile Money Certification, the only global certification scheme that is designed specifically for mobile money. The certification aims to increase trust and empower consumers to make more informed choices about their financial services. This advances both mobile money adoption and financial inclusion. It gives assurances to potential financial partners that robust controls are in place, facilitating interoperability and encouraging integration into the financial ecosystem. The certification also aims to build trust with regulators, and encourages the implementation of appropriate and proportional regulatory standards.

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Please contact your Client Relationship Manager if you want help with introductions to specific individuals within these institutions.