Investment Insight

DIGITAL TRANSFORMATION IN EMERGING MARKETS: OPPORTUNITIES FOR CREDIT INVESTORS IN AFRICAN DIGITAL INFRASTRUCTURE

Today's emerging markets pose a very different proposition to those of ten years ago. Historically there has been a strong association with commodities, and while this relationship still exists, markets have advanced, broadening the investment opportunity set significantly. As fixed income investors, we are particularly interested in the potential of mobile comms, propelled by the fast-spreading digital revolution, which over the last couple of years has accelerated despite the pandemic causing the global economy to contract by 3% in 2020.

Emerging markets are adopting technology at increasingly lower costs, driving domestic demand and growth previously reliant on export-driven economies. Internet access has improved in reach and quality, transforming the connectivity landscape during the past decade, which has seen the number of internet users doubling in G20 nations and highlighting the largest gains from emerging nations such as Brazil and India.

Today there are more than 4.6 billion internet users across the globe, and over the last decade, one billion of these users are now online for the first time. Internet usage has seen a global transformation, with the majority of internet users now living in emerging markets. Digital technologies have grown rapidly in these regions by innovating, and also adopting ideas previously spearheaded in other continents where funding was readily available.

For example, multinationals like Uber, Google and Amazon, who are now facing competition from successful local service providers with an online presence in countries as diverse as Kenya, Ukraine and Argentina. According to Boston Consulting Group since 2014, more than 10,000 tech companies have been founded in emerging markets, half of which are from outside China.

This timeframe demonstrates an evident shift towards tech and internet in the major market constituents of the MSCI emerging market equity index and other indices as the sector grows in importance.

MSCI EM Index -Top 10 Constituents

2013	2021
SAMSUNG	tsmc
tsmc	Tencent 腾讯
中国移动 China Mobile	Alibaba Group
中国建设银行 China Construction Bank	SAMSUNG
ICBC	Meituan
Gazprom	NASPERS
Tencent 腾讯	VALE
PETROBRAS	Reliance
américa móvil	中国建设银行 China Construction Bank
Itaú	Infosys

Mobile connectivity has been integral to internet penetration growth and digital advancement. While smartphone sales in more developed markets may have slowed due to high penetration rates (i.e., 85% in the US), growth is notable in emerging markets where smartphone penetration rates are still relatively low (e.g., 60% in Mexico and 41% in sub-Saharan Africa).

Despite the relatively low penetration of emerging markets, the absolute user numbers are still impressive, with a total of 1.8 billion mobile internet users, compared to 500 million in the US and Western Europe. With a combined GDP of USD 36 trillion, emerging markets demand close attention. While Western companies emphasise 'mobile first' strategies (referring to decisions to shape their business with mobile users as a

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priority), for emerging market companies, the focus is on 'mobile only', given that a significant number of people are more likely to access a smartphone rather than a desktop computer.

For some of us, life through the pandemic would have been inconceivable without the ability to learn, work and socialise online. However, the stark reality is that not everyone has been able to make the switch to digital – with only 53% of the global population having internet access. The fact that smartphone penetration in emerging markets is lagging the global average has been recognised by both local-country telecommunications providers as well as foreign-controlled joint ventures. Both sectors are actively targeting these population segments for their next wave of growth, investing heavily in physical infrastructure such as fibre-optic cables and telecommunication towers.

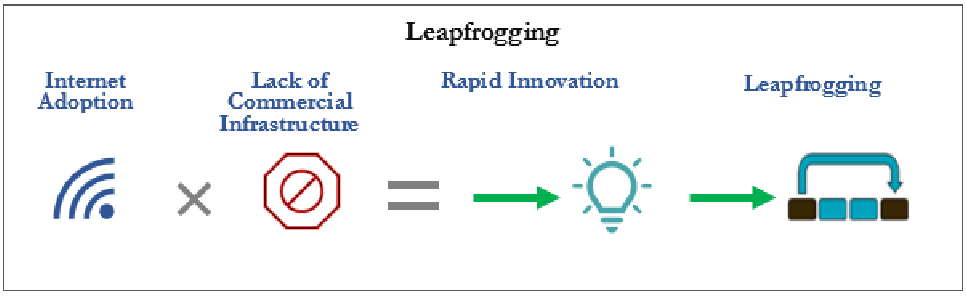
The International Telecommunication Union (part of the UN), the World Bank and other multilateral agencies are also encouraging investment in digital capabilities across emerging nations in a bid to address the so-called 'digital divide'. For example, the World Bank's Digital Moonshot initiative – a USD 25 billion fund – aims to digitally connect every individual, business and government in Africa by 2030, as the continent today contains some of the least connected countries in the world.

What is clear from such initiatives is that some of these less connected nations are often adopting digital technologies far more quickly than the developed world. By one key metric which looks at revenue from digital services as a share of GDP, 16 of the top 30 nations are from the emerging world. One explanation for this is the lack of pre-existing infrastructure in regions where people find it difficult to access traditional banks, healthcare and educational institutions, meaning they will quickly adopt digital opportunities which facilitate access to these essential services.

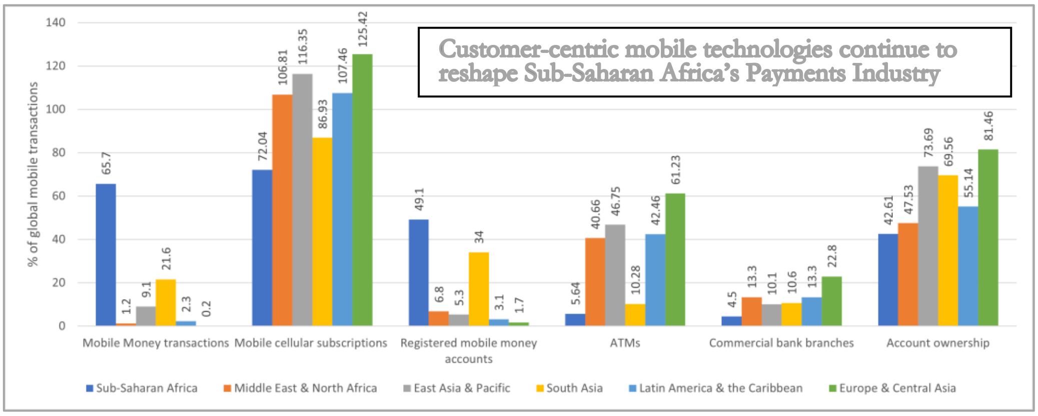
In addition, as more transactions and services move online and the digital economy encompasses more areas, businesses have new channels to reach existing customers and new opportunities to expand market share without necessarily having to invest in huge networks of physical infrastructure. For customers, it means greater access to products and services and more competitive pricing at a time when we are seeing young demographics, middle-class income growth and an accompanying surge in disposable income.

Increasingly widespread connectivity is key to what has become known as technological 'leapfrogging'. This taps into the notion of the Fourth Industrial Revolution, which merges the digital and physical worlds and sees emerging economies experiment with new technologies.

A fascinating example of leapfrogging is the evolution of mobile money in Africa over the last decade, driven largely by mobile technology, increasing penetration rates of smartphones and the lack of access to traditional financial infrastructure. Large portions of the population in Africa, and particularly sub-Saharan Africa, still live in remote rural areas with limited access to bank branches or ATMs. As a consequence, 66% of the population in the region is still



unbanked. When we combine this with the fact that Africa has the highest population growth rate across all continents and that 65% of the population is under the age of 35, this presents an enormous opportunity to construct a digital banking infrastructure in the region. Mobile network operators (MNOs) have emerged as the backbone of this infrastructure.



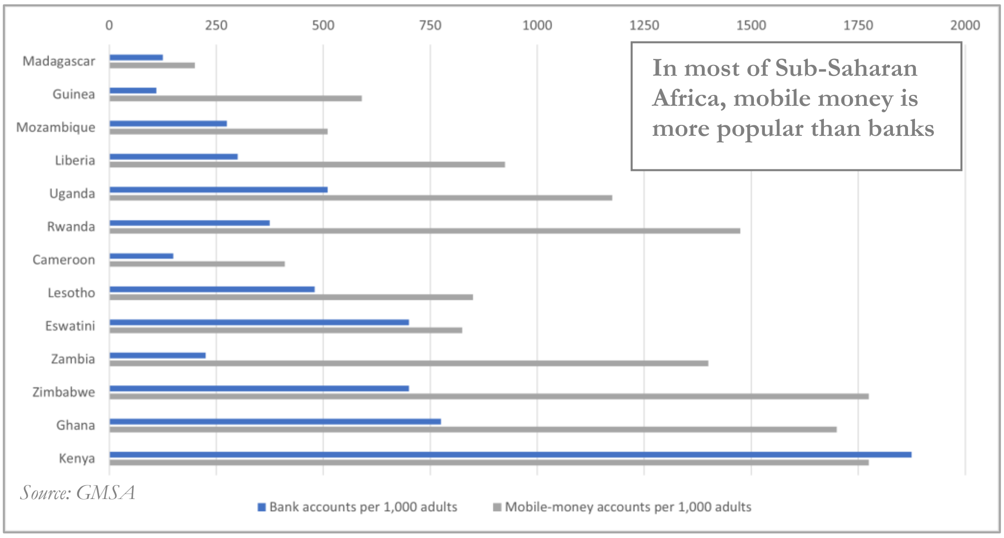
Source: GSMA/World Bank DataBank

Digital Infrastructure: Mobile Money and the integral role of MNOs

Mobile money refers to digital payments which typically do not require a bank account to facilitate the transaction, and so instead an MNO performs this function. Africa has been at the forefront of the mobile money industry for the last decade. With 548 million mobile money accounts at the end of 2020, Africa has more accounts than any other continent and represents 54% of all mobile money customers globally.

MNOs, together with their agent networks, have been essential to the growth of these disruptive payment technologies, and as such, mobile money is one of the fastest-growing sources of income for companies such as MTN and Safaricom, which operate in the region.

Due to the gaps in connectivity coverage, electricity access and smartphone ownership in rural areas, having a physical location to digitalise cash is crucial. For this reason, MNOs operate an agent system which is essentially a third-party network of micro-entrepreneurs allowing individuals to convert physical cash to mobile money. These agents have 26 times



Source: GMSA

the reach of ATMs and 58 times the reach of bank branches in Africa, fuelling the African digitalisation drive. Once cash has been digitalised through these agent networks, the most common uses are for airtime top-ups, P2P transfers and the payment of bills.

However, it is the more sophisticated second-generation or adjacent financial services combining e-commerce, credit, savings and insurance products which are gaining traction within the region. These present the most interesting growth areas for providers, serving as an essential engine for financial inclusion in emerging markets and helping to improve the livelihoods of millions.

The scale of this opportunity is clearly understood, with companies and investors alike starting to take notice, demonstrated by increasing amounts of international capital flowing into Africa. In the last year alone we have seen large international corporations such as Visa, Network International Holdings and Stripe all growing their interests in the region by investing in African fintechs, many of which have now reached unicorn status on the back of these investments. Meanwhile, tech giants Facebook and Alphabet are building undersea cables that will connect the US and Europe to Africa, with the aim of improving internet connectivity and speeds across the continent.

Opportunities for Credit Investors

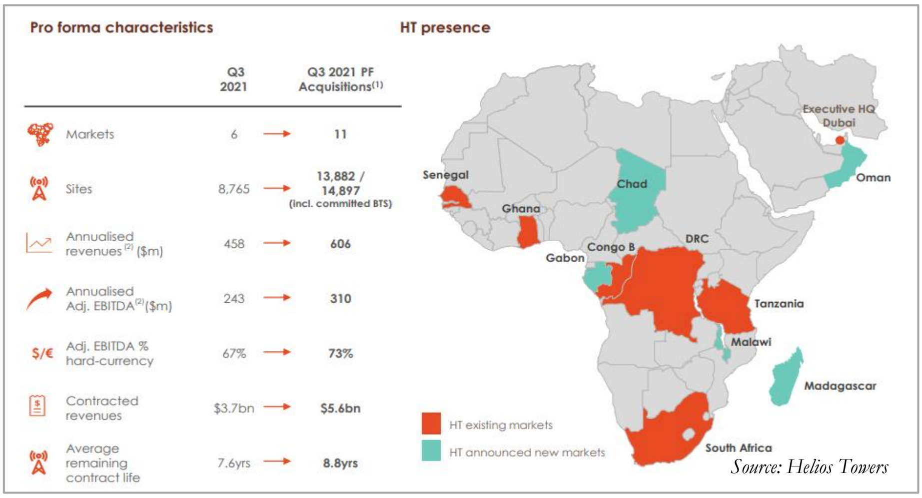
There are of course different ways for investors to take advantage of the digitalisation in Africa. Many of these opportunities are still nascent, with venture capital funds and private equity investors reaping the early benefits. However, as credit investors, we see attractive opportunities to take part in the trend.

The first is a direct approach, by investing in the high-yield bonds of MNOs in Africa which benefit from the steady user growth and cash flows generated from their base businesses. These also benefit from rapidly increasing data usage and high-growth ancillary services such as fintech and mobile money.

Take MTN, which is Africa's largest MNO. Besides its large subscriber base of over 270 million people, its fintech and mobile money business has an active user base of 52 million people and processes USD 176 billion in transactions annually. This is a user base which has doubled over the last three years, and the expectation is that by 2025 it will have doubled again with an increased transaction value of roughly 300%

The second option is for credit investors to invest in the bonds of communication infrastructure providers such as independent mobile tower companies which provide the necessary backbone to MNOs. Tower companies present huge growth opportunities, given the significant coverage gap and the roll-out of 4G and 5G in Africa, technology which requires many more mobile towers, placed closer together.

These businesses also benefit from long-term, inflation-linked contracts providing strong visibility on cash flows, which we like as credit investors. Helios Towers is a great example of one of these tower companies that is taking advantage of this growth opportunity. As you can see from the following diagram, in the last year alone the company has expanded from serving six African countries to 11, increased its tower count by 70% and grown its contracted revenues by 51%.



Source: Helios Towers

Finally, fibre-optic technology is another form of communication infrastructure experiencing growth in Africa, which is why we like the bonds of Liquid Intelligent Technologies, a leading digital infrastructure provider in Africa which has built the largest independent fibre network of over 100,000 km across the continent. Again, large US tech companies are noticing the potential, and in July this year Facebook announced a partnership with Liquid Intelligent Technologies to build an extensive long-haul and metro-fibre network across the DRC, improving internet access for more than 30 million people while helping create a digital corridor from the West to East Africa.

While the opportunities for credit investors to invest in stories like this are still fairly uncommon, the situation is accelerating, with a strong appetite for credit investors to deploy capital into technology and digital-related opportunities in Africa (and broader emerging markets). As developing countries are starting to demonstrate more economic and political stability and embracing technology, as digital infrastructure companies within these regions mature, we think the opportunity set will grow rapidly. To put things in context, the emerging market hard currency corporate debt universe has grown from USD 100 billion in 2000 to over USD 1.5 trillion in 2020, representing over 1,000 issuers in a variety of sectors. We expect this upward trajectory to continue.

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