



#TIA: EAST

Tech In Africa



From Uber to M-KOPA, Index Ventures to Savannah Fund, what is it about East Africa's burgeoning tech sector that has companies and investors big and small excited about the region?

About this report

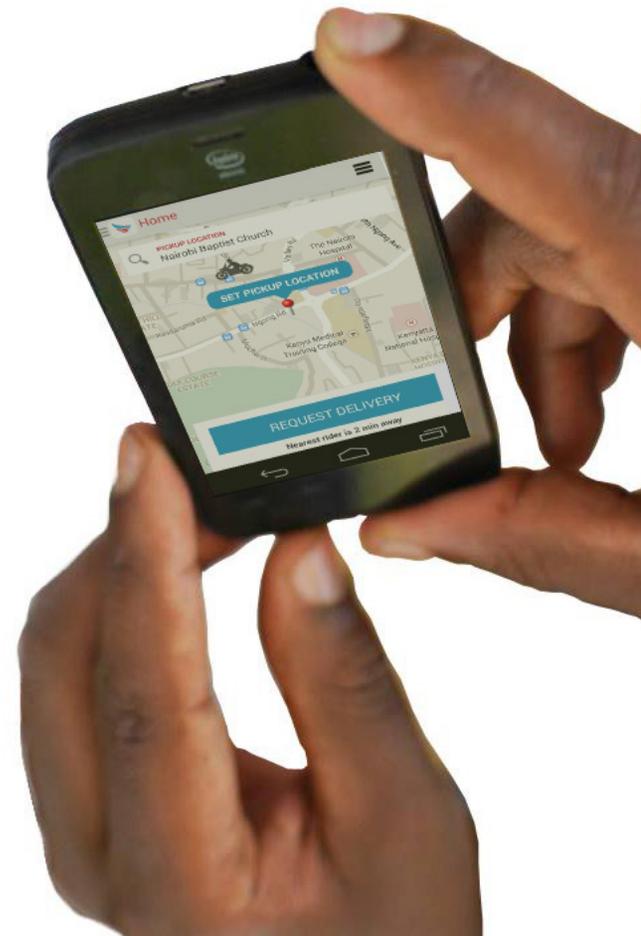
This report was compiled from speaking to leading sector experts and innovators active on the ground in East Africa. It is a qualitative analysis designed to highlight their insights and perspectives on the trends and challenges that will drive East Africa's tech sector over the coming years.

Who we spoke to

I-DEV's Africa Team spent time with over 30 of the leading actors and innovators from across East Africa's tech scene— including VCs, global tech companies, entrepreneurs, angels, strategists, incubators and pundits— to paint a real and raw picture of the rapidly emerging technology space in the region.

What we learned

What we found was an ecosystem at the tipping point, brimming with activity and opportunity, and giving rise to what could be Africa's most dynamic innovation hub. While it may be slightly behind Nigeria in maturity, the East African tech scene, led by Kenya, is catching up fast. It is about learning on-the-go, developing locally-driven strategies to address challenges, and rapidly piecing together the core building blocks needed to scale.



Special Thanks To:

I-DEV's team interviewed over 30 of the leading thinkers, innovators and investors across East Africa's tech sector, including:

Elizabeth Rossiello
BitPesa

Kamau Gachigi
Gearbox

Nikhil Patel
mi-Fone

Mbugua Njihia
Safaricom Innovation Board

Valentine Njoroge
Centum Foundation

Investment Team
Index Ventures

Louis Otieno
Microsoft

Mbwana Alliy
Savannah Fund

Tom Jackson
Disrupt Africa

Sabrina Dorma
Jumia

Audrey Chang
Moringa School

Marcello Schermer
Seedstars World

Zoe Cohen
Echo Mobile

Frannie Leautier
Mkoba

Aaron Fu
Nest Nairobi

Peter Njonjo
Twiga Foods

Ranjith Cherickel
icolo.io

Katie Sarro
MEST / Meltwater

Ory Okolloh
Omidyar Network

Alastair Curtis
Uber

We'd also like to thank the additional parties we've spoken to about tech in Africa at 88MPH, Acción Venture Labs, Eleos Foundation, Eneza Education, Massachusetts Institute of Technology's Digital Matatus Project team, Gro Intelligence, InVenture, Lynk, M-KOPA, Mookh, Novastar Ventures, OkHi, PesaPal, Sendy, SimbaPay, Sproxil, Tugende, VC4Africa and Zege Technologies, as well as David Kuria from Skyline Design in Nairobi for designing our cover.

About I-DEV International:

I-DEV International is a management strategy and investment advisory firm that specializes in helping to grow and scale businesses in emerging markets. Over the past decade, I-DEV has worked with 250+ SMEs and helped raised over \$50M in financing for growth-stage companies across Sub-Saharan Africa, Latin America and Asia.

With global headquarters in San Francisco and regional offices in Nairobi and Lima, I-DEV links Silicon Valley and the global tech industry with burgeoning tech hubs across the emerging markets. I-DEV connects the two through an exchange on knowledge, trends and opportunities, while also engaging both local and foreign investors. Beyond technology and e-commerce/m-commerce, I-DEV has advised the clean energy/clean tech, agriculture, apparel, and consumer retail sectors on global connectivity, strategy and investment.





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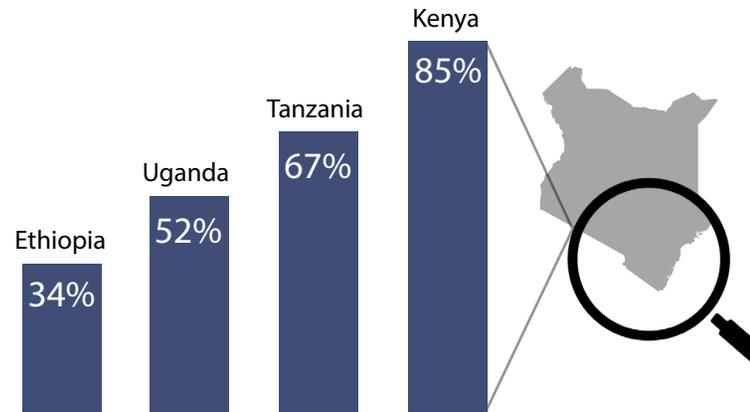
“ Whenever I bring investors to Africa, the first thing they say when they get off the plane is ‘Holy shit, there’s nothing here’ and then they either get back on the plane and go home, or they crack a smile and roll up their sleeves.”

– Jorn Lyseggen, Founder & CEO of Meltwater Group

1 M-Commerce is Enabling the Ecosystem

M-commerce is driving East Africa to get online, formalize systems and collaborate across boundaries.

Mobile Phone Penetration Rates in East African Countries¹



90%
Of adults in Kenya use M-PESA³

\$25B
Or the equivalent of 42% of Kenya's GDP is transacted through M-PESA each year³

M-PESA, M-PESA, M-PESA... Seems like you can't have a conversation about tech in East Africa (or the continent) without M-PESA being mentioned. Here's why M-PESA is not just hype and why the true impact of m-commerce in the region is just reaching a critical tipping point.

Mobile payments, or m-commerce, is a critical enabling technology platform. The growth of mobile penetration and m-commerce—especially in East Africa—has similarities to trends observed in the US and Europe with the rise and expansion of the internet and e-commerce, only it is happening much faster. For example, by 2014, less than 7 years after it was invented, 90% of adults in Kenya use M-PESA regularly with 42% of the value of Kenya's GDP transacted via the app.² Additionally, falling cell phone prices and

expanding data coverage led to remarkably high and rapid smartphone use with 58% of Kenyans switching over by 2014.³ Further, smartphone penetration is expected to grow exponentially across the country and throughout the region over the next 5 years.

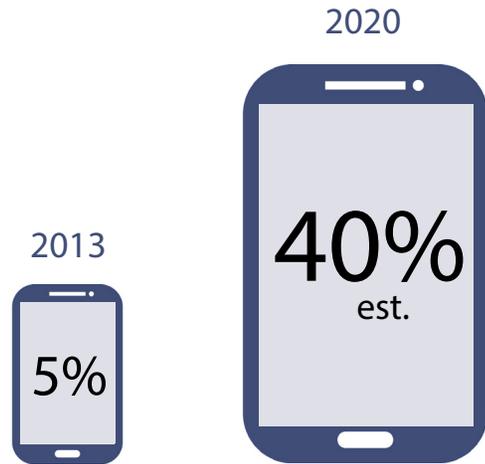
Uber is a high profile example; its growth and increasing adoption since launching in Nairobi a year ago is evidence of a rapidly evolving m-commerce landscape. While its success was initially fueled by a large expat following, month-over-month growth today is driven by Kenyans. Because most Kenyans don't have or don't use credit cards, M-PESA integration into the Uber app— a first for the transportation giant worldwide— was critical and one of the key factors driving market penetration. Uber's success in

Kenya is a sign— a giant billboard announcing that the Kenyan tech sector is "open for business," but big or small, you have to adapt to survive.

However, the real impact and value of m-commerce goes far beyond apps, online shopping and social media. It is less focused on driving consumer sales through B2C solutions; instead, m-commerce is playing a more fundamental role in changing the business ecosystem in ways you wouldn't expect, disrupting traditional industry across the region in a big way. Because of its success with M-PESA, Safaricom, a telco that doesn't have a single bank branch, has become the largest de facto banking institution in the country, leaving all major banks scrambling to catch up.

1. Data from Communications Authority for each country
2. GSMA "The Mobile Economy Sub-Saharan Africa, 2014"
3. Safaricom 2015 Annual Report

Smartphone penetration in Sub-Saharan Africa is growing exponentially¹



“Just as with the US dot.com boom, we cannot begin to predict the impact that mobile penetration and m-commerce will have on all aspects of life and business in Africa, from transportation to entertainment.”

– Jason Spindler, Managing Director of I-DEV International

Equity Bank has launched its own telco and mobile commerce platform, Equitel, to compete. The Kenyan government has approached Uber about using its data on traffic flows to improve road design and infrastructure– a sign of broad acceptance of m-commerce and key players’ future role in building big data resources to strengthen local systems. Financial services, agriculture and agri-business, energy and power, healthcare and education are just a few of the sectors already primed for massive disruptive change and innovation, with the biggest opportunities likely lying at the B2B rather than the B2C level.

When the internet hit the main stream we saw the development of both consumer facing companies like Netflix, Facebook and

Amazon, as well as business tools like Salesforce and Dropbox. As consumers rich and poor, businesses big and small, the formal and the informal all become more and more m-savvy, the m-commerce ecosystem will evolve and B2C-focused businesses like Mookh, Africa’s first Facebook integrated payment processor, will emerge along with an influx of B2B-focused solutions like Twiga, an app-based distribution platform for vendors, and Echo Mobile, which uses SMS for field data collection, coupon sharing, product registration and more. These solutions, along with pay-as-you-go energy systems (such as M-KOPA) and appliances, remote commodities and pricing data, weather forecasts, tablet and mobile-based learning and SMS maternity tips are only the beginning.

1 in 5

Mobile accounts in Sub-Saharan Africa were connected to mobile money at the end of 2014¹

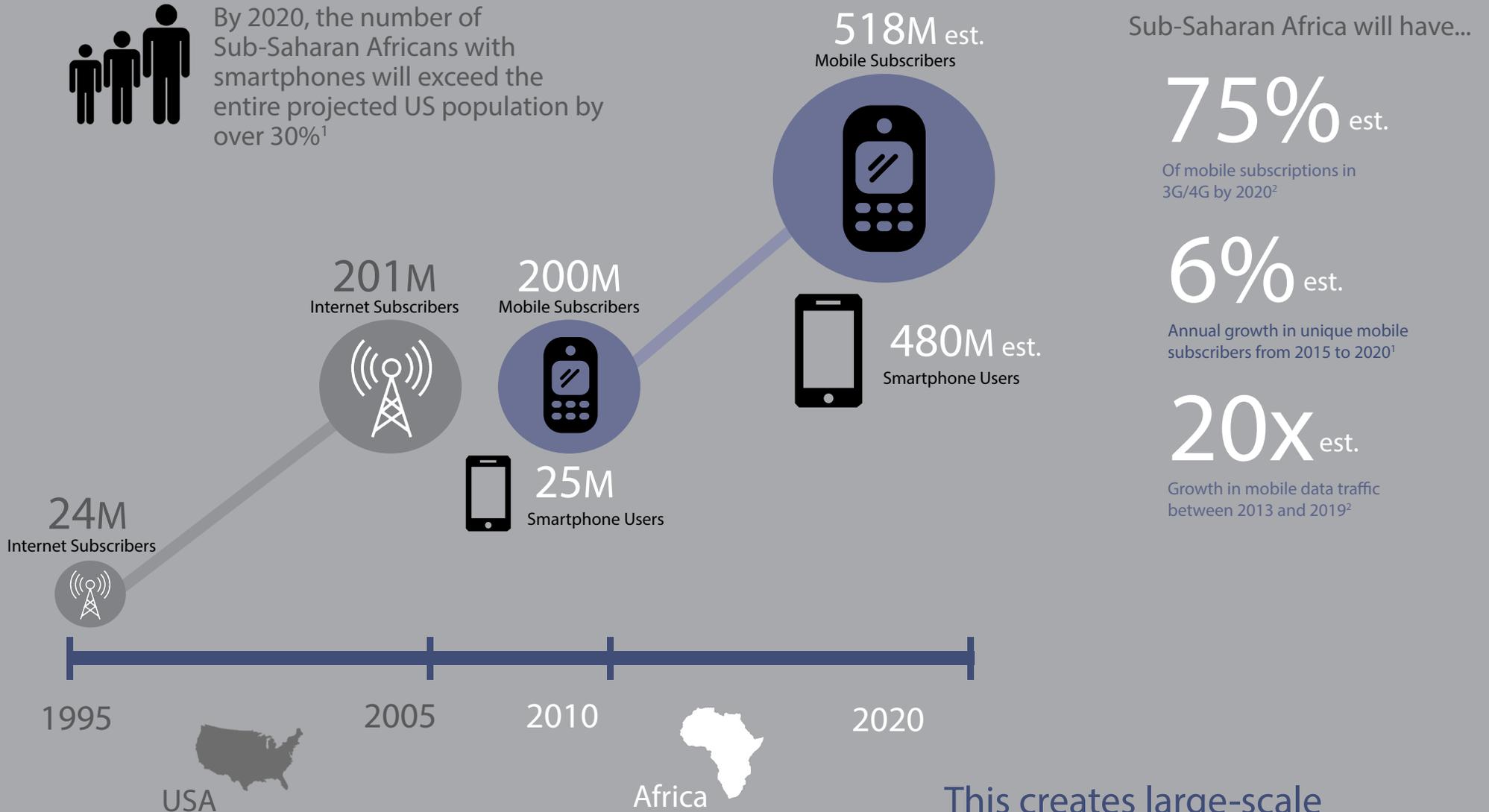


1. GSMA “The Mobile Economy Sub-Saharan Africa, 2014”
2. Mobile Ecosystem Forum “Global Consumer Insights Series on Mobile Money” 2014

Mobile and smartphone penetration in Sub-Saharan Africa is booming, mirroring the fast rise of the Internet during the early days of the US dot.com revolution.



By 2020, the number of Sub-Saharan Africans with smartphones will exceed the entire projected US population by over 30%¹



Sub-Saharan Africa will have...

75% est.

Of mobile subscriptions in 3G/4G by 2020²

6% est.

Annual growth in unique mobile subscribers from 2015 to 2020¹

20x est.

Growth in mobile data traffic between 2013 and 2019²

This creates large-scale opportunities for East Africa.

1. GSMA "The Mobile Economy Sub-Saharan Africa, 2014"
 2. Sub-Saharan Africa June 2014 Ericsson Mobility Report

Example of an African-based company making it easier for Africans to get online...

Company: mi-Fone

Headquarters: Nairobi, Kenya

Focus: Smartphones & Mobile Devices

Achieved since 2008...

15+

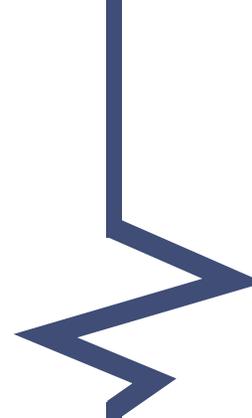
African countries selling mi-Fone

6

Innovative and affordable products providing internet access

2M+

Handsets sold across Africa



mi-Fone is:



First African mobile devices brand to service the African mass market that is 100% African-owned



Empowering and educating African consumers with access to the internet and using mobile and smartphones as an information gateway



Recognizing the potential of a growing consumer class and selling at aspirational price points

2 Tech for SMEs Will Drive Growth

SMEs are a rapidly growing market demanding B2B technology solutions to solve key business challenges.



East Africa's SME (small to medium-sized enterprise) ecosystem is thriving. There are over 750,000 SMEs active in Kenya alone and this number will continue to grow. Unlike Kenya Airways, Unilever, or other major multinational and regional leaders, these businesses don't have the budget or the need for expensive internal systems, advertising platforms, and other technologies. These services are prohibitively costly and excessive for SMEs operating in regional or highly-specific markets. Yet, SMEs are growing quickly, and are willing to pay for tools and systems that are relevant to their size and scale to manage their customers, inventory, supply chain logistics, employees and finances.

Investors and entrepreneurs alike are quick to point out that while prices for SME-focused products are lower, sales cycles are shorter, the tech solutions they require are less robust,

the competition is extremely limited, and the challenges faced by SMEs across the continent are similar, allowing for massive scalability. SMEs moving physical products must track drivers and transfer of goods to avoid theft or other loss, and those who offer payments to suppliers through mobile vs. cash payments often find themselves at a competitive advantage. Meanwhile, grant funders to traditional investors are demanding improved field data and monitoring to ensure that their money is spent as anticipated.

SMEs also recognize that survival in an increasingly competitive global environment will require that they leverage technology to improve their bottom line and facilitate scale. M-PESA and early tech influencers- including Facebook and Twitter- have revolutionized how the region engages and operates, making local businesses comfortable with using mobile and similar

technology to facilitate communication with customers, improve competitive positioning, generate market information, reduce logistical costs and facilitate access to global markets. More complex innovations that reflect this shifting mentality are hitting the market. The US internet revolution started with its focus on B2C; however, East Africa's biggest growth in the short term will come from B2B solutions. Just as companies like Square, Salesforce and Zenefits are creating tangible bottom line value for companies big and small across developed markets, a slew of technology-driven solutions are emerging and gaining traction targeting SMEs in East Africa, including Lipisha, a mobile payment aggregator for businesses, and OkHi, a start-up that is addressing the lack of formal addresses in Sub-Saharan Africa by generating GPS-data points in order to facilitate better logistics, delivery times, and more precise ambulance drivers.

Example of B2B innovation in East Africa designed to address unique local challenges...

Company: Twiga Foods Ltd.
Headquarters: Nairobi, Kenya
Focus: M-commerce & Logistics

Targeting the informal market because...

96%
Of Africa's retail is done through informal markets

\$960B
Is spent annually in Africa's informal kiosks & shops

80%
Of spending is in urban markets



Twiga Foods is:



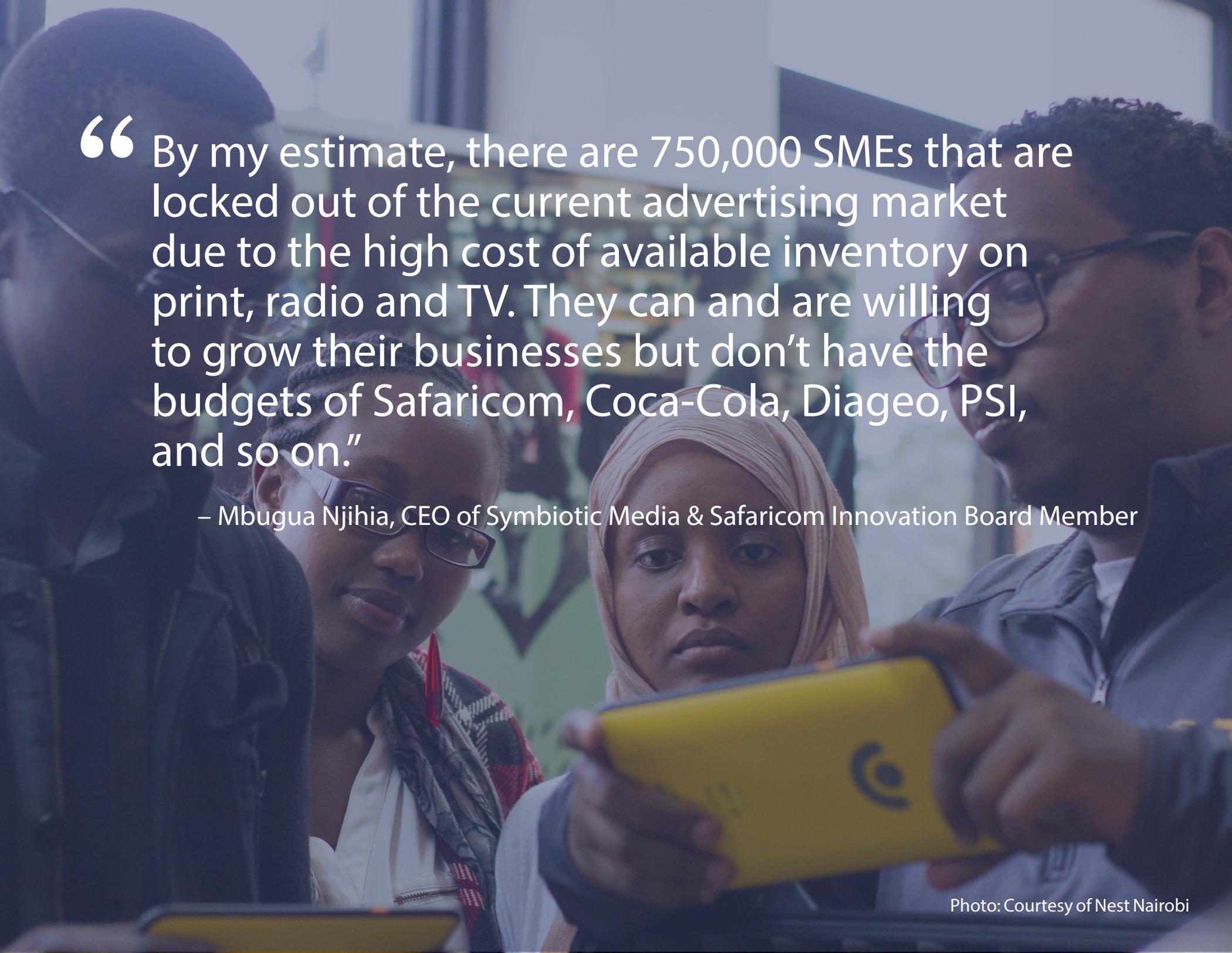
An app enabled end-to-end hub and spoke supply and logistics business for B2B distribution of high volume produce and goods to small store and informal kiosks



A customized smartphone app to simplify inventory purchases for small businesses including mobile ordering and payments



Gathering real-time, dynamic data and market intelligence on the flow of goods and commerce across Kenya's informal markets

A group of four people are gathered around a yellow smartphone. A man on the right is pointing at the screen. A woman in the center is looking intently at the phone. A woman on the left is also looking at the phone. A man on the far left is partially visible, looking towards the phone. The background is slightly blurred, showing what appears to be an indoor setting with some posters or notices on a wall.

“ By my estimate, there are 750,000 SMEs that are locked out of the current advertising market due to the high cost of available inventory on print, radio and TV. They can and are willing to grow their businesses but don't have the budgets of Safaricom, Coca-Cola, Diageo, PSI, and so on.”

– Mbugua Njihia, CEO of Symbiotic Media & Safaricom Innovation Board Member

3 A Growing Consumer Class Demands More Than Online Shopping

East Africans are seeking digital products to improve their personal and professional experiences—from staying informed to saving time and money.

Every week there is a new article or report covering the growing consumer class across Africa. Everyone has seen the statistics. Africa's young, tech-adopting consumer class is growing, no doubt, but how does that translate to real, profitable business opportunities for the East African tech sector?

The recurring trend in all our conversations was that B2B-focused tech businesses will generate the most sector growth (see Section 2), but within the B2C market the companies that are gaining the most traction in the region are less about online shopping and more about saving consumers time—for example, by facilitating local logistics and transportation, or the transfer of money. M-PESA, Uber, Tugende (a Uganda mototaxi service), SimbaPay (a remittance transfer app), Sendy (an Uber-style courier

service), Eneza Education (a mobile-based learning) and Lynk (a mobile marketplace to outsource service jobs) are key examples. For public transportation in Nairobi alone, there are several apps—Ma3route, Flashcast Sonar, and Digital Matatus—that map and provide route information on the informal matatu or public mini bus system to guide commuters. The East African market is not driven by consumption, but rather by solving critical pain points and market gaps. This explains in part why some of the highest growth tech companies in West Africa—the likes of Jumia and Mall For Africa—have not reached the same level of traction in the Eastern part of the continent.

Increased affordability of hardware, such as smartphones, will also continue to drive growth for consumer facing tech in the region. Kenya

was projected to have the ninth fastest growing market for tech devices and hardware worldwide in 2015.¹ The emergence of companies like BRCK (a durable, low-cost mobile hotspot) and mi-Fone (Africa's first mobile devices brand) is helping get tech into more people's hands and bringing more people into the digital universe. These companies are also catering products and pricing to local market dynamics. For example, mi-Fone sells smartphones that begin at \$35 each, and are designed to match local consumer preferences. With these price points, we are starting to see some companies give away branded smartphones, pre-loaded with their apps as a customer acquisition strategy—mostly in the banking and the B2B space. With this transfer, we'll also see increased advertising and polling through data plans and apps vs. SMS, the current and costlier standard.

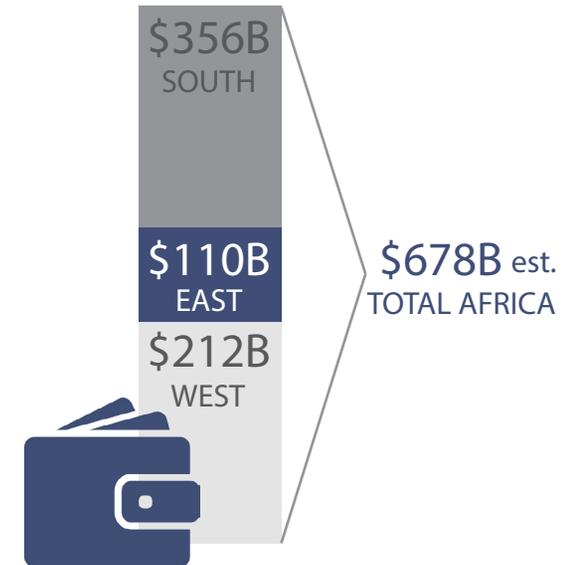
Consumer Spending in Sub-Saharan Africa in 2020¹

75%

Of total consumer spending across Sub-Saharan Africa will come from 9 countries¹

7% est.

Annual growth in East Africa will be higher than the 5% regional average, with Kenya, Ethiopia and Uganda leading at the forefront¹



1. Africawise, Key Economic & Industry Facts & Figures 2015

Example of fintech-innovation designed to enhance the remittance experience in East Africa...

Company: SimbaPay

Headquarters: London, England

Focus: Remittance Fintech

Disrupting the remittance market...



\$64B

Dollars of remittance sent to Africa annually

2

Number of minutes it takes to transfer remittance

6

Different remittance countries serviced



SimbaPay is:



Enabling the African diaspora in the UK and EU to send money back home fast, cheaply and securely to destinations in East Africa and Nigeria



A disruptive technology platform, reducing fees to ~3% vs. the average 12% charged by current incumbents



Providing additional value-added services for family members back home, such as international bill payments, bank account openings and insurance for relatives

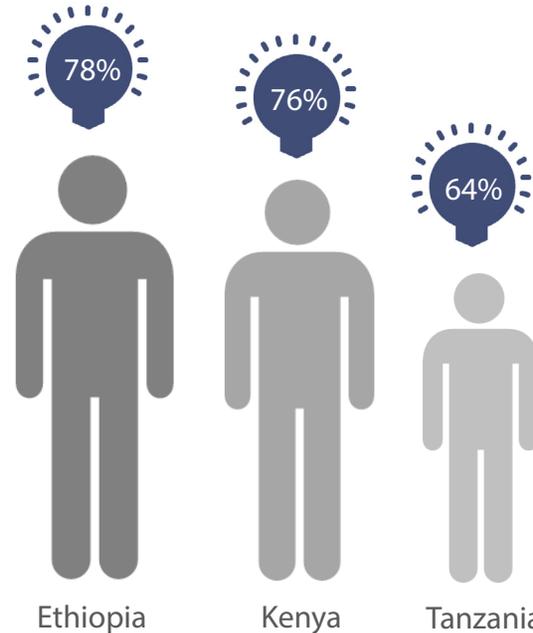
A photograph of two men in an outdoor setting. The man on the left is wearing a red patterned shirt and is holding a bright green smartphone. The man on the right is wearing a brown jacket over a yellow shirt and is looking at the phone with a smile. The background is a blurred green forest.

“ Affordable smartphones are here, gaining traction and getting people online more than ever. A \$700 iPhone is what we call ‘aspiration beyond reach’ for most African consumers. A \$50-\$100 mi-Fone smartphone is what we call ‘aspiration within reach.’ ”

– Nikhil N. Patel, East & Central Africa Regional Manger at mi-Fone

4 Transition From Brain Drain to Brain Gain

The diaspora is returning home, setting new standards based on technology and business skills acquired abroad.



East African entrepreneurship is flourishing; the majority of East African youth see entrepreneurship as a desirable and legitimate career choice¹

With a rapidly growing cosmopolitan lifestyle available in East Africa’s urban centers and an uptick in demand for experienced management and tech-savvy young professionals, local talent is not only staying, it is coming home. The Indian tech sector was built by re-pats, Indians or members of the diaspora that were part of the dot.com boom in Silicon Valley during the late 90s. They moved back to India because their experience set them apart, the money they had made went a lot further, and the Indian market was completely untapped and ripe with opportunity.

We’re seeing a similar picture emerge in East Africa today. The brain drain that has

been common for decades is reversing itself throughout the region. The first generation of East African elite who were educated and worked abroad for companies like Goldman Sachs, Google, and Microsoft, are returning home to take on more influential roles in the family businesses, yearning to make their mark and drive the next big thing.

This fresh infusion of local C-suite talent (from CEO to CFO and CTO) is being bolstered by a vibrant tech-focused expat community (one of the largest in the world) and an ecosystem of start-ups, incubators, and co-working spaces that are developing a strong base of young engineering talent with both theoretical

and practical experience. While the bench is still thin with finding and retaining talent an ongoing and critical challenge, everyone we spoke believed that Kenya– in particular– is at the critical juncture where its talent pool is shifting from being a leading weakness to a game changing strength.

1. Omidyar Network “Accelerating Entrepreneurship in Africa”

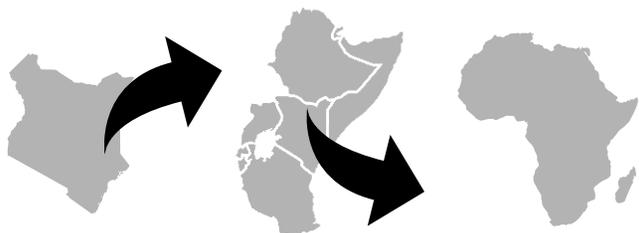
A group of young people, primarily men of African descent, are seated at long white tables in a modern office or co-working space. They are focused on their laptops, with some looking at the screens and others talking. The environment is bright and professional, with blue accents on the walls. The overall atmosphere is one of productivity and collaboration.

“The youth of today are going abroad for their studies and they’re proud to come home to take advantage of the opportunities here. Young people don’t want to just continue running their parents’ businesses; instead, they’re using what they learned working in NY or SF or London to start their own...The talent here is hungry and passionate.”

– Aaron Fu, Africa Managing Partner at Nest Nairobi

5 Tech Designed for Regional Scale

East African tech businesses are being designed with focus on the EAC and beyond built into their DNA.



If there's any company that can successfully tackle the issue of scale across Africa, it will be a tech company— most investors agree. Today, most technology solutions don't require huge brick-and-mortar investments, supply chain development or hard assets. They are nimble and often create recurring, predictable revenue. But there is a key difference between the tech businesses being built in East Africa today and those developing in Nigeria. With a population of nearly 200 million (Lagos alone is over 20 million), Nigerian businesses can launch and grow to scale by simply focusing on penetrating the domestic market. In contrast, East African countries are smaller, with capital cities that pale in comparison by population figures. Kenya has approximately 45 million people with only 4

million in Nairobi; Uganda has 36 million people. This reality is shaping the DNA of tech businesses being built in East Africa, forcing them to punch above their weight class and prepare for easy cross-border transfer. Tech companies must be ambitious and be built to scale from the outset if they want to thrive.

This need for cross-border scale is also a key driver of the focus on B2B solutions vs. B2C. What promotes scale in the region is the ubiquity of pain points across countries. Technology investors and entrepreneurs— particularly those born and raised in Sub-Saharan Africa— are adamant that the challenges of doing business in the region are country-agnostic. Whether it is payment processing, logistics or market

“ You have to own your domestic market first, but then you need to focus on expansion... You need to crawl before you can walk and walk before you can run, but you need to be able to run to survive.”

– Danny Rimer, General Partner at Index Ventures

intelligence, many of the challenges faced by SMEs in Tanzania are similar to those faced by businesses in Uganda, Ghana and Mozambique. This difference in focus on B2B rather than B2C will be a real strength that helps East African tech businesses scale regionally and across the continent, even to markets where consumer spending isn't as strong. Much like the variance in consumer behavior and preferences between Lagos and Nairobi, the B2B products demanded across Sub-Saharan Africa will need to address both formal and informal market dynamics with each country posing different challenges for effective entry, but significant overlap in the needs of a specific product.

“ Nobody in East Africa is launching a tech business today to just focus on Kenya, or Uganda, or Tanzania. From day one they are being built to first own their local market, but then scale throughout East Africa, into West Africa, and beyond.”

– Alastair Curtis, International Launcher at Uber

Photo: Courtesy of Uber

Big Data initiatives have launched across the map in Sub-Saharan Africa

6 Africa's Take on Big Data

Much of Africa is only beginning to understand 'big data' and effective collection, but those who solve this mystery will garner the highest valuations once investors take note.

Even before the rise of the internet, developed countries collected and catalogued huge amounts of data, not only on a macro-level but also down to the individual. Identity, credit history, police records, addresses were all tracked and could be looked up. Until today, data in the developing world has not been collected or has remained static, tracked mostly by surveys and high-level studies conducted by governments or development agencies with varying accuracy. Most Africans have lived largely off the "data grid" until recently, and Africa's emerging tech companies see this as a huge opportunity to which they are responding with the development of real-time, "dynamic" data sets on the daily lives and habits of the previously untracked millions.

Data that offers critical value in Africa is different from the big data relevant in the US and Europe. Value will not be derived from figures on drivers

of advertisement sales. Instead, behavioral trends, spending patterns, energy usage, use of alternative credit scoring, health insurance, crop yields or irrigation needs (e.g. SunCulture) will feed into better market intelligence and predictive analytics. Alternative sources of big data– aggregated across a range of platforms– will replace surveys from government and agencies because it will be more accurate, real-time, and more comprehensive. As the data and analytics strengthen, large and small businesses will evolve through the use of improved data collection systems and application of findings to how business is done. For large multinationals, big data will inform on key consumer segments for Africa entry and expansion; for local and regional businesses, better data will drive increased competition and business sophistication.

For example, solar energy companies like

M-KOPA, Off Grid Electric and PowerGen service customers with no financial history or credit scores– a risk they aim to mitigate by collecting dynamic data on their unbanked customer base. Just as Matt Flannery, founder of Kiva, moved on to credit ratings for the unbanked with his company Branch, solar companies are using big data to predict default rates, payback periods and predictive patterns. Armed with this data and insights, solar companies will not be limited to people with credit histories. The M-KOPAs of the East African landscape will continue to penetrate the vastly unpenetrated rural electrification market. And they have the capital to do so; solar attracted the greatest investment in 2015– one-third of all funds– or roughly \$60M. This capital was raised mainly by Kenyan and Tanzanian start-ups, pointing to East Africa's dominance in solar tech innovation.



40%

Businesses in Kenya and Nigeria in the planning stages of a big data project¹



12%

Businesses in Kenya and Nigeria with live big data projects¹



\$60M

Dollars invested by IBM to train African students in big data, cloud and analytics¹

¹ IBM "Setting the Pace in Africa: How IT Leaders Deliver on the Potential of Emerging Technologies" 2014

East Africa's unique spin on big data...It's way more than ad-sales.



California-based InVenture is leveraging its Kenyan customers' cell phone usage, including who is called, grammar used in texts, and date/time of usage to develop credit profiles and evaluate credit risk for personal loans.



PesaPal is a leading East African based payment processor and gateway. As part of its core business, PesaPal is collecting real-time data on both B2B and B2C payment transactions that provide highly valuable insights for everything from targeted marketing campaigns to SME loans and personal credit scoring.



Health-focused Sproxil is tagging medicine with unique IDs to collect data on when and where each pill is sold through a phone-based app. The resulting data is helping to reduce counterfeiting, but can also offer invaluable data to pharmaceutical companies, governments and development organizations on where outbreaks of disease are occurring and where medicine should be shipped based on real-time demand and dynamic market intelligence.



Gro Intelligence is a data analytics firm that is aggregating and processing data related to agriculture. By providing reliable data on crop yields and harvests from the farmer level, Gro Intelligence provides global investors and commodity traders with the necessary intel to make agricultural investments smarter and faster.

7 A Rise in Tech Investments

The East Africa investment landscape is starting to fill out with growing interest from local investors to international VCs.

There is an on-going debate about the capital landscape for SMEs in East Africa with little consensus. Depending on the vantage point, some say there is too much capital chasing too few deals, while others say there is still a significant capital gap, and yet others say the capital is there and the deals are there but they are just passing each other like ships in the night due to misaligned investment criteria and focus. In reality, all are correct in their own right. Our conversations indicate that there are still many gaps in the investment landscape.

While there is a lot of capital flowing into the continent, especially East Africa, much of it is still being driven by development finance institutions and impact investors; however, this is beginning

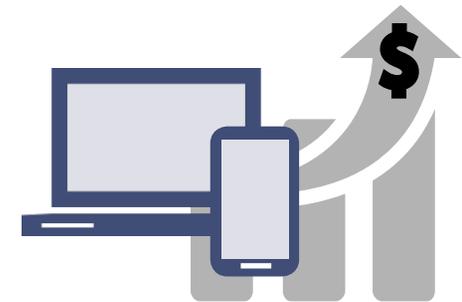
to change! By all accounts, the investment landscape is still as patchy as Nairobi's electric grid but evolving rapidly. Some sectors, e.g. agriculture and energy, are flooded with funding, while others such as tech and retail have a more limited investor base. This 'patchiness' applies across stages of business as well. Combine the two and you end up with a capital landscape map that has little consistency, where early stage agriculture is flush with investors, while later-stage retail companies with reputable brands can struggle to find working capital for inventory purchases. The capital landscape in East Africa's tech sector is no different, but it appears to be at an exciting inflection point and showing signs of coming into its own.

1. Disrupt Africa "African Tech Startups Funding Report 2015"

“ We're interested in the VC space because we see the need and the gap in the market. You need to have a combination of strong local investors and experienced foreign investors.”

– Valentine Njoroge, Director at Centum Foundation

African tech startups received more than \$186M in funding in 2015¹



Kenyan startups brought home over \$47M¹

Angel & Early Stage Investor

-  Investment Size: \$10,000-100,000
-  Activity Level: High
-  Example: Savannah Fund, Nest, Mike Macharia, Eleos, Joseph Mucheru MBS

The Angel & Early Stage Investor Pool is Robust and Growing with Re-Pats Entering the Arena.

There are a number of early stage funds, like Savannah Fund, Eleos, 88MPH, and Nest, as well as several high net worth angel investors from the US and EU, who are investing in tech start-ups in the region; typically, with investments in the range of \$10,000 to \$100,000 per deal. There is also a growing number of local angel investors, which is very exciting and speaks to the maturing local ecosystem. A number of leading emerging tech companies including Twiga, icolo.io, Wezatele and Lipisha have secured early stage seed capital from local angel investors. Many of these emerging local angels are re-pats, East Africans who have lived and worked abroad for a number of years and are now coming back to take advantage of the growing opportunities in the region. As the tech sector continues to build momentum and attract attention, we see this trend continuing with local angels playing an increasingly important role in the early stage capital game.

Early Growth & Series A/B Investor

-  Investment Size: \$100,000-500,000
-  Activity Level: Medium
-  Example: Novastar, Acción, Omidyar, Centum, Safaricom, Chase Bank, Barclays

The Early Growth and Series A/B Investor Landscape is Evolving to Include Local Corporate Giants.

Historically, a small handful of impact funds such as the Omidyar Network, Acción, and AlphaMundi were the only investors playing in early growth or Series A/B tech deals in East Africa. However, the landscape is changing rapidly. In perhaps one of the most indicative signs that the sector is beginning to mature, we are starting to see a number of unexpected actors make serious moves into the sector– or at least strong suggestions in that direction. Large corporations and leading PE investors like Safaricom and Centum– one of Kenya's largest PE investors– are moving to invest in early growth tech-enabled companies that have synergies with their core operations or across portfolio companies. Leading banks like Kenya's Chase Bank (not related JPM Chase) and Barclays are building accelerator programs and even investing directly in tech start-ups that can create value for their businesses, and help them compete against Safaricom and M-PESA.

Traditional Tech VCs

-  Investment Size: \$250,000+
-  Activity Level: Low
-  Example: Index Ventures, DBL Partners, 1776, Khosla Ventures

Traditional Tech VCs are Moving Into The Market– A Trend Expected to Increase in a Big Way in Coming Years.

Beyond impact investors, who are still the largest group of tech investors at the VC level (Series A/B) in East Africa, we are starting to see early signs of more traditional VCs entering the market. Traditional tech players like Index Ventures (Skype, Sound Cloud, Dropbox) and DBL Partners (Tesla, Pandora, SpaceX), and 1776 (M-POWER Financing, SeamlessDocs) are making their first investments in East Africa, with more in the pipeline. The combination of the maturing tech ecosystem, Uber's strong performance in Nairobi, and the buzz around M-PESA and m-commerce is all coming together to attract the first Silicon Valley VCs. The recent entrance of these international investors, along with a handful of mid-sized local funds including Mkoba, Catalyst, and TBL Mirror Fund, is helping to fill out the capital map across the tech sector. There are still considerable gaps and room for growth, but it's certainly a strong signal of things to come.



“African start-ups don't get the Silicon Valley treatment. There's no burning cash for five years before you're profitable.”

– Elizabeth Rossiello, CEO at BitPesa

8 Challenges on the Horizon

While East Africa is rich with opportunity, challenges remain to hinder the ecosystem.



Talent: Attracting and retaining top tech talent

The returning diaspora and expats are pumping very qualified tech talent into East Africa, but mostly at the C-Suite level, leaving talented techies in short supply. While training programs like Moringa School, Andela, Digital Divide Data and Samasource are training eager youth, and Gearbox will soon offer a local first-in-class R&D center for innovation and related skills training, there is still demand for greater quality and pool of talented engineers, programmers and developers. Top techies are regularly poached, either by African tech start-ups or even global tech giants. If East African companies want to develop world-class tech, there is still some room to grow on the talent front, but it is happening 'pole pole'– as they say in Swahili– and could benefit from more rapid progress.

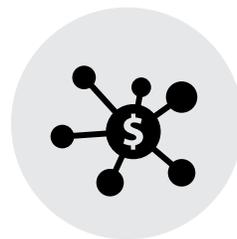
“Start-ups will have a big responsibility to prove they have what it takes to overcome challenges and join the global entrepreneurship movement.”

– Mbwana Alliy, Managing Partner of Savannah Fund



Connectivity: M-commerce is only as good as the mobile connection

Success and scale of tech companies will require strong infrastructure to back it. Until Uganda, Tanzania, and Ethiopia– in particular– increase mobile penetration, m-commerce companies relying on signal can only scale so far and efficiently. Kenya leads with 85% mobile penetration and over 58% smartphone penetration, but Ethiopia– East Africa's largest market– has achieved less than half of this reach. While these limitations have created alternative solutions like BRCK to extend internet signal, rapid growth will continue to be highly dependent on connectivity. And, slower connections of 3G or less will cap online purchasing and advanced app usage.



Capital: Building a stronger investment ecosystem

As highlighted in this report, the investment landscape in East Africa is still in a nascent stage with critical gaps throughout the capital spectrum. As a result, tech businesses are not getting the amount of money they need in the seed or even growth raises to hire and retain the top talent required, develop strong foundational business models, and iterate, pivot or make more risky but potentially rewarding strategic decisions. This capped funding is ultimately what is slowing growth. While there is some progress, there is much room for improvement.



Exits: Or, lack of exits

Exits are a traditional signal of maturity and belief in a market's potential, but Sub-Saharan Africa has yet to see a major tech exit. African tech will still struggle to come into its own and attract interest from most major global VC investors and tech companies until the first headline-grabbing unicorn (or even gazelle) sized exit. But by all accounts, there are several companies that are on the right track, both in East and West Africa (although opinions varied on which companies are leading the charge). Africa's first exit between \$100M and \$300M is on the horizon and will happen in the next 2 to 3 years, signalling that "Tech In Africa" is open for business.



Mobile Money Penetration: Show me the money!

Kenya's mobile money story is really unique globally. M-PESA has changed the landscape in Kenya, but most other countries have not yet embraced mobile payments in the same way. This is partly based on government regulation and fierce infighting between banks and telecoms, and partly due to issues of trust. For many across the continent, it's a big leap requiring a lot of trust to go from cash in hand to a text message. This transition is happening at accelerated rates, but for many, concerns that their money will disappear due to fraud, 'accidental computer glitches', or bankruptcies are more than justified.



Competitive & Regulatory Landscape: Dominant market leaders pose a blessing and a challenge

The overwhelming presence and considerable market share of leading players like Safaricom (owners of M-PESA) or MTN across phone and mobile payments creates an intense competitive landscape, one that many leaner start-ups may struggle to surpass. However, the presence of such strong leaders has created the robust mobile phone, m-commerce, and mobile payments climate we have today with penetration rates in East Africa, especially Kenya, among the highest in the world. But, their considerable market dominance also means they have a strong influence on the telecom and m-commerce landscape, and in some cases have the ability to lock out new entrants or even shape policy and government regulation.



Data Costs: You have to pay to play

At \$00.53 for a 250 MB plan on MTN, Uganda has the lowest data costs in East Africa. While apps offer a range of benefits to consumers, checking Facebook on your smartphone runs 1-2 MB per minute on average or a basic app download uses 10 MB at best. High cell phone data rates continue to be a major barrier to growth, especially within the mass market at the base of the pyramid. Experts anticipate that as cell data volumes continue to grow and competition from new wifi connectivity solutions heats up, telecoms will gradually bring data prices down, driving more use and making phone based connectivity more accessible.

An aerial photograph of a city street, likely in Nairobi, Kenya. The street is wide and filled with many cars, creating a sense of traffic. On either side of the street are tall, modern buildings with glass facades. The sky is a clear, light blue. The overall scene is a vibrant urban landscape.

“Just like the Nairobi skyline, the East African tech sector is under construction. The foundation has been laid, and although there are still challenges that need to be addressed, all the key components necessary for a robust and vibrant ecosystem are in place. With mobile and smartphone penetration continuing to grow, driving increased online access and spending, the next couple of years will be game changing for technology in Africa.”

– Jason Spindler, Managing Director of I-DEV International



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