Digital Entrepreneurship in Africa

How a Continent Is Escaping Silicon Valley's Long Shadow

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3 Bounded Opportunities

The findings of the previous chapter showed that international scaling is the absolute exception among African digital enterprises. In fact, most enterprises do not reach customers beyond city limits. Founders often have to realize that they either cannot access potential customers at all, or that the existing demand does not translate into a substantial and sustained source of revenue. Even the few enterprises in our sample that did scale abroad were mostly able to address only small and piecemeal markets.

The fact of the matter is that few African-born technology enterprises have scaled widely. Today, the typical internet user in Africa uses WhatsApp, Facebook, and Google on a cheap smartphone produced in East Asia but does not use any locally produced software or hardware, with the possible exception of a mobile money service (Chen, Feamster, and Calandro 2017; Stork, Esselaar, and Chair 2017). Although the diffusion of the smartphone has been hailed as an enormous market opportunity for African developers, mobile apps produced in Africa have been able to reach neither domestic nor international market leadership (Caribou Digital 2016).

In this chapter, we analyze why African digital enterprises have so far stayed local. Like the last section of the previous chapter, this chapter maintains a focus on the African digital enterprise as the unit of analysis, but we move from descriptive results to “why” and “how” questions. The chapter first will outline the typical process of how enterprises become entrenched in local contexts. The two remaining sections highlight the role of global competitors in constraining African digital enterprises and how the few examples of internally operating African digital enterprises were able to market their products abroad. This chapter as well as chapters 4–7 use extensive direct quotes from participants to represent their voice more immediately.

Our analysis suggests that the exponential growth that has inspired scholars and commentators of digital entrepreneurship (Evans and Gawer 2016; Huang et al. 2017; Parker, Van Alstyne, and Choudary 2016; Ries 2011) seems to be possible only for enterprises located in a region where a number of conditions are in place that are not given in African cities. Like their Silicon Valley counterparts, African enterprises learn from local customers and tinker with their products until they reach product-market fit. Yet African enterprises do not usually find large addressable markets close by, and both infrastructures and demand for digital products are fragmented and sparse. So long as their resources allowed, the digital enterprises we studied iteratively tested and learned about such conditions and constraints and creatively adapted to them. The theoretical contribution of the chapter is that it enriches general theory on entrepreneurial opportunity recognition and contexts (Alvarez, Barney, and Anderson 2012; Autio et al. 2014) with a sociomaterial practice view of digital entrepreneurship (Avle and Lindtner 2016; Davidson and Vaast 2010; Katila, Laine, and Parkkari 2019), refining this perspective using the empirical context of African digital markets and infrastructures outlined in the previous chapter.

Close to Home: How Most African Enterprises Become Specialists for Localization

Ultimately, African digital entrepreneurship is always both local and global. African digital enterprises are never entirely virtual. They are physically embodied in African cities, for instance, through offices, employees, computer hardware, and the like. African digital entrepreneurs and their staff engage in sociomaterial practices, such as investor search, managing the design and development of digital products, or operations and customer acquisition (Avle and Lindtner 2016; Brusoni, Prencipe, and Pavitt 2001; Hersman 2012; Hill and Mudambi 2010; Katila, Laine, and Parkkari 2019).

These may sound like trivial statements, yet they are easily dismissed or glanced over in depictions of digital market opportunities. As chapter 1 indicates, digital markets are often construed as scale-free and unbounded, and thus independent of space and the enterprise's location. We will show in this section why this is a problematic and unrealistic understanding of how markets for digital products are geographically structured, leading to misconceptions and false expectations about possible strategies and scaling potential for African digital enterprises.

Validating Assumptions Requires Rich Market Signals

Most digital enterprises in our sample pursued market opportunities through an iterative, context-dependent process (Alvarez, Barney, and Anderson 2012; Autio et al. 2014). Founders set up a venture because they felt they had discovered a market need, which they believed could now be addressed through digital technology that had recently become available in their local contexts. All founders we interviewed perceived an opportunity brought about by the diffusion of the internet in Africa, assembled a digital product, and then probed into the opportunity by executing a business model. Most discovered specifically a local need that could be addressed by digital technologies. Early on, execution consisted of trial-and-error testing of what worked. Entrepreneurs who had the resources and ability to do so made adjustments whenever they perceived that a signal from customers suggested they should change course.

Such market testing, however, was difficult or impossible to do at a distance. Almost all digital companies in our sample started by focusing on customers in their vicinity (e.g., home city or country). Only a narrow geographical scope allowed them to understand the complexities of what customers needed and to make strategic adjustments in a quick and cost-effective manner:

> We validated our assumptions. When we said “loan,” we said “How is this going to work? Are we going to approach banks and say we can do this platform for you, we need to be lending money?” That might not work. We went out there and validated. . . . We started from downstairs, right downstairs, here. We went to the security officers [of our building], I asked them how much they earn, how they go about borrowing money, when they’re in need, and a lot of them spoke about associations and a lot of them spoke about . . . need[ing] little amounts before pay day. (CEO of a microloan enterprise in Lagos)

Interpreting market signals and designing a suitable product is difficult for any entrepreneur anywhere. But for many African digital enterprises, this process was particularly challenging because relevant market data was not easily sourced or generated (see Athreye 2005; Li et al. 2012). Even basic exercises like estimating addressable market sizes for a given digital product can be impossible in African contexts because simple statistics on the usage of digital technologies are unreliable or unavailable (Gillwald 2017).

African digital enterprises thus often started with digital product designs and business models inspired by role models from the United States and Europe. Templates for product and business model design were available to them from university courses, massive open online courses, books, and online media, but all this codified learning material was based on Silicon Valley and other role models from high-income countries.

As a result, the digital enterprises in our sample realized that foreign templates needed significant modifications to become applicable in African contexts (Rodrigues et al. 2018; Weiss and Weber 2016; Williams and Woodson 2012). They mostly had no other choice but to try something that looked workable at face value, then develop locally relevant knowledge from experience. But to be able to learn from experience, enterprises literally needed to "be there," gathering and interpreting market signals that would be unforeseeable from a distance:

> Thank God Nairobi has traffic, because in the traffic, that's when we get more orders, because someone has nothing to do except flip through your phone [*laughter*]. . . . At 4:00 p.m. until 7:00 p.m., you can tell [from our user data], there is something happening. (E-commerce entrepreneur in Nairobi)

Adopt, Adapt, and Improve

> We seem to have copied the same Silicon Valley theatre in Africa, but the difference in Africa is, each event I attend is typically filled with the same set of people or the same ideas recycled once again. Startups I meet are almost always into payments, e-commerce, education or agriculture with little iteration. This charade cannot continue. Building the future involves "building and growing." (Asemota 2018)

African enterprises learned that several complementary enabling resources, systems, and infrastructures were needed to make foreign digital enterprise strategy templates work (see Williams and Woodson 2012). They realized that the business models suggested in popular business and technology literature take for granted things like addresses and dense logistics infrastructures, workers' experience with using smartphones, or the availability of digital payment channels—all foundational requirements for most e-commerce and gig economy products in high-income countries (Uber, Deliveroo, Amazon Marketplace, etc.). Locally specific formal and informal

Box 3.1

Crossing the Border Begins Online

We visit an enterprise in Yaoundé, which is built on the requirements for Cameroonians' travel to France. The manager indicates that each transaction on their platform costs between $500 and $1,000, revealing not only the cost of legal travel but also customers' willingness to pay. The connections between former colonies and colonizing nations are evident in directions of travel. Many Cameroonians in French-speaking Cameroon look to France as the ideal place to relocate for education and to improve their life prospects. The firm's web-based platform and software application enable customers to submit and receive certifications that legitimate their visa applications. The company has been so successful that it has expanded into Burkina Faso and Mali, despite variations in banking regulatory environments. It does not operate in English-speaking Cameroon because residents of that part of the country tend to travel to Germany, the United Kingdom, and the United States, further illustrating the persistence of postcolonial ties. To serve customers in Western Cameroon, the firm would have to develop networks with banks, political actors, and individual embassies of the Western countries. In the absence of shared language and long-standing connections within Françafrique, making new ties to Anglophone Africa make no business sense.

institutions (e.g., laws, social norms, trust in technology) constrain market boundaries and require further adaptations (see box 3.1). For instance, an online learning provider in the Ivory Coast realized that companies were not prepared to create and upload digital courses, but instead needed someone else to create the content for them. Digital enterprises across all sampled cities highlighted that customers were missing easy-to-use and seamlessly integrated technology bundles rather than just apps or software:

> When we started, we said, "Oh, this market needs this software." . . . But also we realized that there was a huge need for devices. So we were going to people; they say, "You're proposing a software but we need also some computers. We need also some website." We kind of sensed that the market wasn't—for them, an IT should do anything that is related to IT. We, as young entrepreneurs, lost focus in the meantime. . . . We were finding ourselves stopping the software part . . . looking [more] like [an] emergency team. (Entrepreneur in Rwanda)

Once entrepreneurs were clear about the market need, they realized a functional digital product and tested the market's response. A few enterprises we interviewed were able to define a digital product that fit a market need rather swiftly and easily. This seemed to be the case wherever there was pent-up but unmet local consumer demand for cheap, easy-to-use digital services fulfilling a basic need. Entrepreneurs who were keen observers of their environments could develop tools that automated or facilitated a preexisting practice. Examples included a job board, a digitally enabled payday microloan provider, an app to hail motorcycle couriers, and an e-commerce site aggregating and digitizing secondhand clothes supplies (using Facebook and WhatsApp for customer interactions and offering a central warehouse for self-pick-up and cash on delivery):

> You can feel people and you can understand, when I design products, those people will use [them], not because they have money or not. They will use [them] because they will get connected to this product. . . . Our challenge every day is to be this kind of agency who understands people, more than tools. So, I understand my city, I understand where I live. (Entrepreneur in Maputo)

In most cases, however, unexpected preferences and challenges transpired from initial customer responses, requiring entrepreneurs to iteratively adjust their understanding of what exactly the market need was and how they could address it. The CEO of a local news portal describes a resource-intensive process of stepwise testing:

> I feel like I'm wearing my little white coat every day and tweaking things. So we assume certain things . . . then how can we test those hypotheses in the least costly way possible. . . . The readers are not in love with what we're producing. We're doing okay . . . but we definitely have not stumbled upon the format and topic and delivery that just takes off. We can read it in the data, immediately. . . . We were bleeding a lot of cash, printing—imagine the logistics! Our sales guy was here and he cost a lot of money as well, so we stopped it. It cost us quite a lot of money to do that but by then we had a bit of a breakthrough with our content, we used to do quite traditional content, like normal local news, and then we decided to do much lighter stuff . . . and that's when our traffic really took off . . . so that now we were able to actually provide online advertisement to big brands at the national level.

Within their local contexts, entrepreneurs thus became experts for digital market niches. These were often defined by preexisting socioeconomic conditions and boundaries, like those of sectors and industries (see Drouillard 2017). An information portal founder discovered a rather opposite market reality in the financial sector compared to the previously cited entrepreneur:

> So [the original portal] was really going to be more of news, community, essentially like discussion forums and a lot of news components. [My investors] felt it scaled a lot. . . . At some point I stopped following what they were proposing and I started doing a lot more longer form factual content—and our traffic skyrocketed. . . . [Our users] trust us for our research, for our writing, for our content.

Improving products usually also was impossible at a distance, based on digitally mediated customer interactions alone, even when the ultimate product was meant to be a piece of software or an app:

> Why not make a digital platform available and that's it? Funny enough, it doesn't work that way and I think it's because it's transport, I really don't know. First, someone has to know the routes [here in Lagos], but if I'm not knowledgeable about Abuja, I can't tell the customer that "Oh, we don't have this route, but I think you can pass this route." . . . That's why we need at least two people set up there [in Abuja] and make the platform . . . The technology is not hard, it's just the knowledge of the area that is important, that's where we need people. (Ride-sharing entrepreneur in Nigeria)

Over time, entrepreneurs thus developed more complete but also more locally specific definitions of the market need and how they could go about meeting it. Put simply, digital businesses did not come out of nowhere, and digital technologies could not be plugged into local markets. Instead, digital enterprises developed experience and insight over time, refining their strategies and product designs, localizing initially foreign technologies and business models.

Market Segmentation According to Founders' Social Networks

For digital technologies to be useful and commercially viable at the sites of adoption, they need to be appropriate (Wyche and Murphy 2012; Wyche and Steinfield 2016) and *appropriable*, which refers to a process of synchronization with local environments (Odumosu 2009, 2017).[1] Environments that select for particular entrepreneurs effectively also are selecting for particular customers. Proximity to users facilitates developing understandings of how best to cater to them and design products that they can appropriate. Distance, be it spatial or cultural, only makes it harder for this knowledge gap to be filled.

Accordingly, entrepreneurs often converted their social networks into customers, especially for business-to-business models. This was usually via a combination of social contacts wanting to support them and those contacts' financial wherewithal. For instance, an entrepreneur who developed a product within urban elite circles was more successful at attracting those groups to become customers of his grocery e-commerce delivery business than nonelites (box 3.2).

Driving Adoption and Focusing on the Revenue at Hand

Such iterative entrepreneurial learning requires time and resources. African digital enterprises employed the financial capital, infrastructures, and

Box 3.2
Word of Mouth

Many entrepreneurs mentioned word of mouth as an essential channel for getting clients. The importance of word of mouth indicates that the insertion of digital tools within markets does not replace the importance of social capital.

An e-commerce entrepreneur in Kampala provides a good example. His service delivers groceries to customers' doors. He developed the idea after growing a list of customers for whom he had run shopping errands. He began by doing the Saturday morning shopping for his sister. His sister's neighbors, willing to support him and also interested in avoiding the traffic and bustle of shopping in the city, also began handing him shopping lists and paying him to run their errands. As word of mouth grew, he was able to hire staff who collected shopping lists from customers around town, in person, and eventually over the phone. Shopping lists read out over the phone, however, increased the number of errors in the process, which led him to automate the process of ordering through an e-commerce site.

The expectation that this would lead to more customers, however, was not met. He was able to get customers in his immediate social networks to support his enterprise, but beyond those networks, this proved more challenging. In fact, even many of his existing customers failed to transition to the platform, probably shying away from the cost of data and unwilling to form new habits. The entrepreneur also speculated that people did not trust unknown quantities. Perhaps by eliminating the human element he had increased the distance between himself and the customer and thus increased the need for proxies of trust. He also spoke to us of the damaging perception that the service is for elite urbanites and expatriates. The founder's original background is a social environment in which this service would be considered an unseemly luxury. Digitization had transformed what seemed to be a simple grocery errand business into something that was culturally inaccessible to his social group.

support networks (partners, mentors, investors, applicable regulations, offices, etc.) at their disposal to improve digital products and their potential to turn a profit. Given user and technology capacity challenges (see chapter 2), many enterprises complemented software rollouts with painstaking analog work to drive adoption:

> Within the next three months, we want to acquire some more users than ever, and the way we want to achieve that is, first, by making info sessions, at the universities. The other one is online marketing. (Task platform founder in Ethiopia)

Crucially, most of the digital enterprises we studied were unable to raise significant financial investments, and they were thus constrained to business models that would predictably generate revenue in the short term. Customer trust was an oft-mentioned prerequisite for revenue generation: African consumers and businesses were described as skeptical about making payments based on digital interactions alone. To build up a baseline of trust, African digital enterprises engaged in brand building and direct customer engagement—for instance, through face-to-face interactions, phone calls, or establishing a physical office that customers can visit. Especially providers of specialized digital products for large businesses required consistent and direct customer engagement:

> The people we target are enterprise [customers]. . . . [It's a] gradual scaling process . . . the sales cycle has [now] been reduced. Why is that? One is we're more proven. . . . Number two is, we understand even better what they need to hear because . . . we know the KPIs and we know the budgets. . . . It becomes a lot more seamless. (Logistics provider in Lagos)

These enterprises were thus further locked into local markets because only within their geographical proximity were they able to cost-effectively establish the analog outreach that (paying) customers asked for.

Global Competition, at Home and Abroad

Most African digital enterprises thus engage in extensive localization: through cheap trial-and-error exercises, they perfect strategies that adapt digital technologies to local market needs. One may argue that this was in no way different for a company like Facebook or Airbnb: their founders discovered a market opportunity in their immediate local social context, developed a digital product, and scaled it "organically" in domestic markets until eventually hitting hockey-stick growth and benefitting from network effects.

However, precisely because those companies pursued these strategies for many years, successfully conquering winner-take-all markets, exponential scaling at international scale becomes impossible for African digital enterprises. Our sample included two ventures in Accra that strategized that they could offer products equivalent to the solutions of market leaders in high-income countries, but more cheaply given lower labor costs in Ghana. These enterprises soon realized that they could not entirely avoid postsale customer interaction at distance and that it was difficult to outcompete better-resourced enterprises from high-income countries in terms of achieving network effects and other scaling economies:

> You would have a case where a customer is awake in the US; it's midnight [here]. They send a ticket and they expect a speedy resolution to the issue. When you don't do that, they get angry or give a negative review or they uninstall the app, and even if you want to do sales, it was a big problem. . . . If you look in terms of customers, in terms of raising money . . . our platform, is it much more robust? Can we compete with some of the . . . companies that we started out with back in the day? The answer is no. The technology probably didn't scale the way we wanted it to; customers didn't go the way we wanted; revenue also. . . . If we had investments, we could make a difference because, at a point, we're constrained by the talent and engineering. Getting the required kind of engineer to scale the platform as we wanted back in Ghana was a big problem. (Online marketing tool provider in Ghana)

An entrepreneur in Ethiopia describes a similar problem for the software market: that it is impossible to compete with global providers without being able to hire world-class local software engineering talent—and a lot of it. He outlines that he contemplated competing for cutting-edge programming projects at global scale, but thought better of it:

> We have enough projects on hand . . . and also you'll have [the problem of] scalability. When you take one project, a big project, you instantly should hire, train staff. You can't compete with those people. I mean, they can bid projects with two people, when they got that project, instantly they hire. If you are in Silicon Valley, it's easy to hire anyone.

Another example was a Nigerian-founded community-based lifestyle app targeting smartphone users on Google Play. The app struggled to attract a critical mass of users to achieve self-sustained user base growth (see Caribou Digital 2016).

Catering to customers abroad produces further difficulties, particularly related to financial flows, standardization, and interoperability (Akpan 2011; Avle and Lindtner 2016; Hill and Mudambi 2010). For instance, international provider rules make it difficult for local companies to process international credit card payments. A men's fashion enterprise in the Ivory Coast thus had to use Shopify to sell to its US-based customers—but credit card processing companies like Square or Shopify often do not accept African vendors. Because one of the company's partners was US-based, it could act as an American e-commerce company with an Ivorian supply chain. Ivorian customers, on the other hand, have had difficulty using their credit cards on the platform.

Ultimately, those enterprises that addressed markets in high-income countries either occupied niches or used ad hoc relationships, or they ended up facing intensified competition. African digital enterprises had to create new localized digital products (i.e., they created new local markets) or differentiate from international competition or both. In any case, enterprises *exploited their location in an African city as an asset*. African digital enterprises typically remain local even after product-market fit because whenever they address a digital product category that can scale internationally, there is likely to be better-resourced, more experienced, and technologically more advanced competition from elsewhere that has already occupied the market or is in the process of doing so.

In fact, African digital enterprises increasingly face international competition at home. Digital multinational corporations scale across geographies, have authority, and mobilize transnational capital. This is an existential challenge for digital enterprises in Africa that happen to operate in the same product market. An entrepreneur in Nairobi who has previously been successful in the enterprise banking software market speaks about the difficulty of launching a mass-market taxi-hailing app and competing with Uber:

> I think, the only problem I think we have with Uber is more and more it's becoming the battle of capital and not battle of innovation. Because these guys have a lot of capital, sometimes we really suffer. (Digital entrepreneur in Nairobi)

Another entrepreneur we interviewed in Abidjan faces new competition from Uber, which has just set up shop there. Aside from the fact that the company is well-financed, the fact that local policymakers view Uber's attraction to the locale as a policy success (box 3.3) means that incentives

Box 3.3
When Postcolonialism and Silicon Valley Competition Conspire

The Ivory Coast has made concerted efforts to ease relocation—that is, if one qualifies as an investor. Entrepreneurs who relocate and enterprises that receive foreign investments benefit from tax credits that allow them to operate without paying taxes for seven to fifteen years, depending on the applicable legislation.

Ivorian digital entrepreneurs can benefit from these laws if they are able to show that they have received foreign investment. The rules, however, are not extended to digital enterprises that had been founded on the investments of Ivorians alone.

The colonial history of the Ivory Coast is a factor: France has been involved in the development of these regulations, and because French companies are the prevalent foreign investors in the Ivory Coast, they are the primary beneficiaries of the benefits.

Toward the end of our Abidjan visit, Uber opens an office in Plateau, the city's business district. The owner of a local taxi-hailing company notes that the government's favoring of foreigners is not only reflected in policies. He has never had the same access to government officials as Uber did when it arrived. Whereas he had to build and nurture relationships over time, Uber's clout gives it a vast competitive advantage.

like tax breaks are put in place to attract foreign companies, but not to support his company's advancement:

> You know, when Uber came to Abidjan they went to meet the director of CEPICI [Ivory Coast Investment Promotion Centre]. I've never met him. The time they went to the ministry; I've never met the ministry. They have access to all our government, but for us to have access to them it is not easy, it is very difficult. Very, very difficult.

Companies like Uber have been able to enter into markets around the world without ever showing a profit. Investors continue to finance its expansion, trusting in projections that these firms will produce the desired results in several years. Things are different for their African competitors:

> I mean maybe in Europe, yes, you look at all the Instagrams of this world and whatnot, the WhatsApps of this world, but in the African market where ideas, successful ideas are the basic ones, the ability for these ideas to make money is very, very critical and there is no how you're going to show that other than actually making the real money and paying the bills" (Entrepreneur in Lagos)

For entrepreneurs not bolstered by cash injections from investors, international expansion is thus reliant on revenues. Blindly acquiring users in the hope of future returns seems like a vain and futile exercise to them:

> Okay, so there is something about Africa also. In Africa, you take the market for what it is. If you try to want to correct or change the culture of people, you better have like $200 million to do that. (Entrepreneur in Lagos)

> So you find yourself spending a lot of energy trying to change the mindset to have people use the platform online which is not [a task] for startuppers. That's for bigger companies like MTN, Orange who have all the billions, they can invest in Yu Mobile Money through that and invest to have people change cultures yeah. (Entrepreneur in Yaoundé)

On the contrary, careful localization of digital products functions as protection from better-funded international competition:

> What's the deeper lessons learned? It took me like three years . . . where I think, [now] it would be hard for [other] companies to move faster, because [our] business model is maybe a unique hybrid or an iteration of existing business models, but something that probably hasn't worked successfully in another place yet. It takes a long time to get those lessons learned. I think . . . everybody's maybe in too much of a rush here. (Founder of ride-sharing enterprise in East Africa)

Given their geographical starting point and everything that goes with it (especially limited resources and challenging nearby markets), our analysis suggests that it is therefore a rational and maybe optimal strategy for most African digital enterprises to become *specialists of localization*. The digital markets of African cities and nations (and of other economic peripheries) are riddled with infrastructural and institutional challenges, generating small but more immediate and protected niches for digital products that represent local adaptations of digital technologies. The diffusion of the internet and digital infrastructure thus creates fertile ground for the emergence of successful and innovative ventures, but the market boundaries for their newly created digital products are inherently more bounded than those of Silicon Valley role models.

Pan-African Expansion: Resources and Relationships

So far, we have shown that very few African digital enterprises target markets abroad (chapter 2) and that successful strategies often involve becoming localization experts (previous section). The question that we have not yet examined is what happens when African digital enterprises actively try to reach customers abroad. Are digital enterprises trying and failing to expand, or are there indeed easy market opportunities that they are simply not aware of?

Many digital enterprises in our sample had the ambition to address foreign markets, but most of them saw this as something to think about in the future. In our sample, 18 out of 135 digital enterprises addressed customers abroad. Six of them targeted other African countries and five high-income countries (see chapter 2).

Pan-African scaling meant adapting an initially homegrown digital product abroad. The six Pan-African scalers in our sample fell into three categories:

1. Companies having received large amounts of risk investment, allowing them to establish operations and networks in several African countries in parallel, addressing a widespread issue or creating a Pan-African structure (e.g., Jumia/Africa Internet Group, Andela, Flutterwave)
2. Older companies that had become leaders in large domestic markets and used previous revenue, reputational advantages, and customer relationships for iterative expansion (e.g., Jobberman in Nigeria, Hubtel in Ghana, Craft Silicon in Kenya)
3. Midsize companies establishing small offices or stationing a representative abroad, following ad hoc demand that arose from relationships (e.g., BudgIT in Nigeria, WeFly Agri in the Ivory Coast)

Notably, this list only includes digital enterprises that have some combination of financial resources, persistence, and trusted networks at their disposal. Our analysis suggests that this is due to two reasons. First, foreign markets bring new, unexpected pitfalls that require digital entrepreneurs to make adaptations to the original digital product. Second, setting up some sort of permanent physical presence abroad is usually necessary to effectively address a new market, and this is a costly endeavor that small and young digital enterprises can rarely afford.

Market Fragmentation Requires Product Innovations

> I'll do it. I'll scale my company to what I want it to scale, but I can't scale it to look at Africa [as a whole]. It's naïve that Africa is one country. (Founder in Addis Ababa)

Given extreme digital market fragmentation across Africa, it may be unsurprising that simply duplicating a digital product from one African country to another is not among the strategies we have found to work. Achieving product-market fit sometimes led to fast growth, but a first threshold was reached where a homogeneous home market (neighborhood, city, farming region, nation, etc.) was exhausted:

> We have an office with Sierra Leone, we don't have [one] for Ghana, yet. We're trying to get Ghana but scaling is something that I'm really, really conservative about because I know the culture. The contexts are always different. [Just] because it works in Nigeria, it won't work with Sierra Leone. (Digital entrepreneur in Nigeria)

Some entrepreneurs attempt franchise models, in which technology stacks stay similar across sites and franchisees conduct localization (see box 3.4). Others argue that focusing on local perfection is necessary even when the technological components of the product remain the same:

> I think [the] technology would stay quite similar if you're going to Uganda or Kenya. . . . But say, for an example, the concept of how long people would wait for [the taxi], or the pricing mechanisms, or the incentive structures [for the drivers], would be quite different. . . . The consumer product you'd be building—we'd need to have a different field and marketing and business model for Kenya. . . . This is a slower approach, [not] rushing into other markets as quickly as possible . . . in line with what the realities of these markets are—which is, every country does have its own unique lessons to learn. There's a lot of risk involved, specifically when you consider how much markets are based off of human net worth, corruption, nonopen markets, friction points. I think, rather than trying to do a numbers game but like, trying to get ten million customers, [it's better] focusing on what's the highest profit per customer and trying to increase profitability at every point, rather than increasing growth with low profitability point. . . . I actually think that the concept of these startups that work across Africa without having modifications is not really realistic. (Mobility entrepreneur in Kigali)

There is usually no way for entrepreneurs to know ahead of time whether digital products work abroad. Interviewees spoke of the difficulty of expanding even as far as the neighboring country. They were aware that expanding may mean needing to go through another painstaking localization process—and this time at distance. Many concluded that acting slowly and carefully, learning cheap lessons step by step, was the best way to go:

> I was in Tanzania a while back, and they really have bad fabrics in their clothes and it's such a sunny place, and then they don't have a secondhand clothes

Box 3.4
Taxi!

The founder of one of the many taxi-hailing applications that we came across in our fieldwork talked about the team's initial expectation that the company would have the same trajectory as Uber: "Open an office, hire a team, launch the product, but it's super capital-intensive." They found that African capital markets are not structured to support firms the way Silicon Valley capital markets do. The team also discovered that markets were much smaller, which made them far riskier to enter. "Everything pointed to derisking our expansion and again, looking at the capital markets saying all right, if they're not going to support it, how can we actually turn expansion from a cost center into a revenue center and be able to do it so much faster." They pivoted to establish a continent-wide network of interoperable taxi applications but were willing to outsource the operations and marketing to local franchisees who understood their local markets better. They felt that a difference between Africa and other places "is that the taxi market from city to city to city is quite different; comparing the taxi market from Chicago to New York to San Francisco to LA, they're pretty similar." The founder predicted that a big monolith like Uber would be unable to localize well. The learnings that he and his team had developed from Nairobi required them to embed trust as a feature of their product. He indicated that "there's no other place that the trust concept I think could have been born. Again, if we think about why Uber is built the way it is and why Lyft is built the way it is and why Easy Taxi is built, they're a product of their environments."

> [market]. I feel that is a market we'd want to test out. We just need to know how things work, which is why I'm going to Rwanda, but then [my partner] will go to Tanzania to take a look, and then we can now decide from that if we want to move forward or not. . . . We would want to find . . . to get us going, a local person . . . living in your own country is easier. [*laughter*] (Last-mile platform entrepreneur in East Africa)

> There's a huge opportunity in Ethiopia and that's exciting [but] one of the partners [of our fund] had made an investment in Ethiopia, personal funds, and they saw it grow like this [*points up*], but it was shut down by the government. It was a bit of a learning that, if we're going to be able to figure Ethiopia out, we have to do it properly. And yes, it can be expensive right now. (Investor in Nairobi)

Entrepreneurs in Francophone Africa also aspired to Pan-African expansion, but not usually into Anglophone or Lusophone nations. For instance, an online learning provider in Côte d'Ivoire reported that translating course material into English would be too costly. Other accounts showed that, for digital just as for traditional enterprises, postcolonial and language geographies determine patterns of trade more than physical distance. For example, a French-speaking entrepreneur we interviewed in Yaoundé had customers in Cameroon, Mali, and Burkina Faso, with plans for imminent expansion to Gabon, Ivory Coast, Morocco, Algeria, and Tunisia—all countries where French is a major language. We also found cases of enterprises with Moroccan customers in Dakar and Abidjan.

Setting Up Local Operations at a Distance Is Necessary but Costly

Once a digital enterprise decided to address a foreign African market, it was generally confronted with the necessity of setting up a local representation abroad:

> Largely, it's a function of cost on us. Where do customers want to see our presence? In Nigeria, we have nine clients that are financial institutions—and financial institutions are very big on physical presence. (Entrepreneur in Lagos)

As in this case, the purpose of a presence abroad was almost always to establish customer and partner networks, which were required for revenue generation and to learn about market needs. A Nigerian founder of a platform that became a domestic market leader before expanding abroad points to the need for building up financial resources:

> Africa is very fragmented and it comes with its own bottlenecks. In the early stages, you don't want to keep all the complexities of the African market. I remember when we wanted to set up in Ghana: it was hell. Just Ghana—it was hell . . . regulations, registrations, regulations. It was—I won't say mess, but it was very tough. . . . If it's purely online, virtual, good! Awesome! just create a page and create some payment platform, and you're good. . . . But in something where you have to do some real operations . . . win your market, make a lot of cash; then you can go to other markets and use that cash to go fight, but if you're still bleeding in your local market, I'd advise, "Stay in your market!" [*laughter*]

A few enterprises in our sample also managed to expand without setting up foreign offices, namely by doing referral-based work for clients abroad. The founder of a Pan-African enterprise describes this process:

> [The expansion beyond Kenya] happened in the same way [as the domestic expansion]. We got one customer [who] was well-connected . . . so he liked what I used to do, and he was a good promoter for us. . . . So from there I got exposure to five [African] countries.

However, interviews with founders of younger enterprises reveal that the scope of such expansions is typically piecemeal, slow, and ad hoc, at least initially:

> Ghana, it was just an opportunity. . . . Someone recommended us. . . . No [we didn't set up an office]. We just service one client. We didn't want to go into many clients. We were specific. Just one client and it's a continuous project. (ERP provider in Rwanda)

In the end, digital enterprises had to weigh the distant market potential against the cost of foreign operations and the likelihood of effectively penetrating the market. Given problems of market fragmentation and low technological capacity, user-base-scaling approaches were particularly difficult to effect across African nations. Addressable market sizes for many digital products have to be calculated conservatively, often leaving only large African cities as target markets:

> So our [Pan-African expansion covers] ten countries; our target is fourteen cities on the continent. We're currently just . . . in two cities because, how you operationalize something like this, it's a city-to-city conversation. . . . You want to be in a position to really help the storefront. You have to have a field sales team, a support team, an on-boarding team that goes to inspect things like business licenses and all of that. . . . We need a minimum of fifteen thousand businesses that will qualify to be part of our serviceable addressable markets, so Accra obviously qualifies. . . . What we need to sign up to break even, it's around six thousand businesses [per city]. (Small business ERP provider in West Africa)

For businesses that have not been able to generate significant revenue in home markets, funding an expansion is usually elusive, even from one city to another:

> For sure, Douala is the economic capital. But the reason we haven't yet moved to Douala is two things. First, the extra cost to have us get started there, and secondly, we're trying to master our product with the local content before really scaling. . . . We prefer to master . . . and we become like the experts. . . . Why? Because in Cameroon, for people to invest is almost impossible. . . . Banks don't invest in ideas—never, never. . . . You have to really work so hard and try to scale up gradually based on the savings you make. (Entrepreneur in Yaoundé)

An entrepreneur in Kigali is resigned to a scenario in which his enterprise would be sustainable and making money locally, making foreign expansion a bonus but not necessarily the most important goal for his growth:

> Actually, you need to have, from day one, have a plan, to make money with your current options, rather than thinking "I'm going to learn how to ride this donkey, so that then I can ride an elephant later." Because, you know, maybe the donkey's the only chance you'll get.

Summary: The Lure of Scalability

The results in this chapter show that only those African digital enterprises that can rely on upfront investments, resources saved from domestic expansion, or trusted relationships with partners and customers are able to pursue opportunity at a distance successfully. Vast scaling economies like those of US digital platforms were unavailable for African digital enterprises. Marginal cost was only decreasing per added customer where markets were homogenous. Yet geographic barriers (correlating with social, cultural, and statutory boundaries) delimited homogeneity at a relatively small scale, mirroring the fragmentation and limited reach of markets for physical goods. Urban and national borders mattered especially: depending on the type of digital product, enterprises almost always reach customers located in their home city or country more easily, while reaching beyond requires major effort.

Exponential network-effect-based growth known from Silicon Valley digital platforms did not materialize here, because distance could only be bridged by maintaining individual customer relationships. In fact, the more distant the market, the more ad hoc and relationship-driven an enterprise's customer base seemed to be. The few African enterprises that tried tapping into existing global software and app markets were unsuccessful because these markets were occupied by superior competition from elsewhere in the world.

The findings in this chapter therefore suggest that the vast and self-sustaining growth paths of role model US digital platforms (see chapter 1) are inherently unavailable to most digital enterprises, in Africa and everywhere else. US role model platforms have been able to blend (1) the fast, cheap, generative scaling of software with (2) a platform business model that incorporates others' value creation into one's own value proposition, with (3) a lock-in strategy in which the firm's products become compulsory end user interfaces or digital building blocks that others depend on, with (4) occupying particular product categories as quasi-monopolists across international markets, and with (5) access to vast financial and human capital where their headquarters are. Through cost advantages, long-term investments, and good timing, cities and regions in East Asia, Southeast Asia, and South Asia have been able to become specialized world-leading production centers for some digital product categories, but the most scalable and ultimately most profitable markets have remained with US-American corporations that started their rise in the early 2000s (Srnicek 2016).

That is why, contrary to early hopes (Adepoju 2015; Tredger 2012), “the next Facebook” or “the next Google” is unlikely to come from Africa. Platform markets as we know them today have already been occupied: there was a particular window of opportunity in industrial evolution (Giachetti and Marchi 2017) that US American incumbents aggressively and astutely pursued. Digital enterprises from Africa and elsewhere in low-income countries will have to develop business models and process innovations (differentiation and localization) to survive in niches that global incumbents find too costly to address. This chapter therefore suggests that we should not expect digital enterprises to generate exponential growth and ultimately transform African economies because they are themselves constrained by local market conditions.