Shifting Norms of Professionalization in a Nairobi Technology Start-Up Community

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Tech entrepreneurship would seem to be the "anti-assembly line." Instead of being grounded in principles of standardization and repetition, in-built in imaginaries of entrepreneurship are notions of novelty and flexibility. In contrast to the office worker, who appears to simply be a 9-5 cog in the business machine, the tech entrepreneur is viewed as a diamond in the rough… a creative genius who, if only given the right opportunities and support, has the potential to remake the world as we know it. Hard-working, (usually male and do I need to mention Black?)—the *African* tech entrepreneur is seen as an even more rare species and the ideal development subject because not only is he keen to develop a sustainable business (read, make money), but he also wants to help "his people" to "have a better life." Thus, an investment in an African techie avoids the now widely accepted critiques of top-down Western development because, in supporting the growth of these African techpreneurs, not only is the individual furthered, but it is imagined that his success will also benefit all of society… well, at least that is what is imagined…

But my observations of investments into the Nairobi technology scene over the last seven years have raised questions about these fundamental ideas about tech entrepreneurship on the continent. Instead of bringing about a complete reimagining of the African development paradigm, is the development of tech entrepreneurship talent in Nairobi in fact a refashioning of the logic of an "assembly line" where instead of standardized products, we now have a particular global standard of both technological and entrepreneurial talent? Could we go so far as to even say that Kenyan youth are now the new "product" being groomed and "skilled up" for global markets?

In my brief presentation today, I hope to reveal how programs fostering tech entrepreneurship in Nairobi rely on assumptions of a particular, global legibility and Western standards that align with an ever-present desire for greater scale and replication in both product and method. And of course, this raises key questions I think the tech industry in Africa should take into account regarding the standards used to determine who is "high potential" and who is setting these standards.

For those who might be less familiar with this topic, I'll open by briefly touching on

three types of "capacity building" training programs that have emerged in the Kenyan tech space—Demo Day pitching competitions, coding bootcamps, and private companies working on "talent". I will then discuss historical and contemporary perceptions of the Kenyan "skills gap" by drawing upon critiques of development and STS literatures that I think are helpful for framing and thinking about these training programs. I close with further questions and areas of inquiry that I think can be generative for global tech industries and those who study them.

I'll start by situating myself just a bit. I worked for 5 years helping to start and grow the research arm of one of Nairobi's first tech hubs, the iHub. I am now in my third year of the PhD program in Anthropology at the University of California – Irvine. My broader dissertation project focuses on questions of expertise, research infrastructures and knowledge production through the study of tech for development research in heavily saturated research sites such as Kibera. This presentation is grounded on insights I've gained both from living and working in Nairobi as well as a co-authored paper published earlier this year in a collective volume entitled "Digital Kenya" (Ndemo and Weiss 2017).

Developing a Tech Talent "Pipeline" (Quickly)

Since mobile money first sparked international interest in African innovation around ten years ago, hundreds of tech hubs have sprung up across the continent and global multinationals like GE, Philips and IBM have also rushed in to build their own innovation centers. The venture capital industry has also grown, especially over the last few years. In particular, the World Bank has played a key role over the years in the spread of these tech incubation hubs. A World Bank affiliate group, infoDev launched mLabs in Kenya, Senegal, and South Africa in 2011 which aimed to incubate ideas into mature and sustainable companies. Most recently, the World Bank has stated that more needs to be done to improve the marketability of these companies to global and local investors. This was the rationale for the World Bank's latest training and pitching event, XL-Africa whose selection of 20 "star performing digital start-ups" was announced just 2 weeks ago. The program provides those selected with advice, information, branding and potential access to capital, the standard package now associated with pitching competitions.

The processes for developing and selecting what is considered mobile innovation in Africa comes in fairly "standard" forms, such as hackathons; Demo Day pitch competitions; and incubation programs. These processes for fostering innovation have been largely institutionalized

within hubs through partnerships with organizations like the World Bank and private corporations like Microsoft and Google. For example, the first large-scale hackathon at the iHub in 2011 was sponsored and managed by the World Bank as part of a Water Hackathon initiative across 10 different cities in the Global South.[1] The fact that these have become seen to be the standard methods by which innovation production happens is notable for a sector that prides itself on "out of the box" thinking.

Another new World Bank initiative, Decoding Bootcamps, is looking at how coding bootcamps will improve youth employability in emerging markets. According to their website: "Coding bootcamps are intensive full-time programs designed to train participants in certain technical skills to subsequently **make them employable in quality, entry-level roles** in fields such as computer programming or data science. … Coding bootcamps offer one of the fastest options to **close the gap between employers' requirements and potential employees' skills**, as well as to improve young people's earning potential."[2] These standardized "innovation development" methods for skilling up African youth in fact seem to be more about filling a labor gap for large tech companies…

Increasing privatization of tech education

In addition to the championing of tech entrepreneurship by Bretton Woods institutions, Transnational Corporations (TNCs) are also increasingly jumping into the fray, often as part of their corporate social responsibility (CSR) programs. This is in line with what anthropologist Dinah Rajak has noted as "empowerment through enterprise" where corporate capitalism catalyzes grass-roots capitalism with promises to uplift and empower the marginalized (Rajak 2011, 185). The elevated status of corporations as vehicles of social improvement is based on their supposed ability to transcend local politics of national government and leverage the efficiency of business to offer goods and services to all people including those impoverished and excluded in the margins (Rajak 2011).

Founded in 2014, Andela is an example of an explicitly "for profit" model of training African techies. Their homepage states, "Andela invests in Africa's most talented developers and

[1] https://ihub.co.ke/blogs/5040/the-nairobi-water-hackathon-journey
[2] http://www.decodingbootcamps.org/blog/2016/5/16/how-coding-bootcamps-are-helping-to-tackle-youth-unemployment

integrates them into the world's best tech companies." After a rigorous selection process, those who pass sign four-year contracts during which time they work on consulting projects (largely for US tech companies) for 40 hours a week with Andela taking a cut of the income. Andela developers are young (average age is under 25) and 70 percent have computer science or engineering degrees. But a New York Times article highlighted the high need for Andela's training is because "university curriculums in Africa tend to emphasize theory rather than modern programming tools and the techniques of fast-paced software development in teams," (Lohr 2017).

This echoes statements that have been made by some key figures in the Kenyan tech scene. For example, Erik Hersman, co-founder of several companies viewed as business successes including Ushahidi, iHub, and BRCK and a leading voice in African tech, has raised his disenchantment with Kenyan universities: "I do not think universities will be the answer; at least, I have not seen them work for technology education. Graduates fresh out of university are, in general, not prepared to work in a technology company. They are not coming out of these institutions with the necessary skills" (Ndemo and Weiss 2017, 52).

Interviews conducted with tech venture investors (mostly foreign) in Nairobi again also echoed this sentiment. In an interview that my co-author conducted in 2015 in Nairobi, one investor mentioned: "you ask yourself, how does [this person] have a Master's in finance…or in management…but [they] can't present [their] idea! And you know, that's all you have. When we make our investment decisions, we don't have…the time to look at the company for a long time…you see them and you have to make your decision…quickly. So if they…cannot communicate their idea…if they cannot…sell it to us, then we can't give them the money," (original interviews by de la Chaux 2015).

Historical perspectives on the African skills gap

Though we conceive of this rhetoric as directly related to the advent of mobile tech on the continent within the last 10 years, in fact we hear this African "skills gap" rhetoric going back at least 40 years. In the World Bank's 1974 Education Sector Policy Paper for example, it was argued that educational content in developing countries was "dysfunctional" because it was "more theoretical and abstract and less practical," (World Bank 1974). This rhetoric paved the way for the Bank to restrict government borrowing for secondary education investments solely towards physical infrastructure such as metal and woodshops for boys, and materials for domestic science for girls

as these subjects were thought to be more 'practical' (Heyneman 2003).

There's much more that can and should be further investigated with regards to historical and contemporary analyses of the World Bank's approaches to lending for education. But a key point to raise here is that while today's tech entrepreneurship trainings may seem to be new practices to meet new demands of the African tech labor market, such training may in fact be a re-sedimenting of earlier forms of control by Bretton Woods and other Western institutions in the face of anti-development critiques.

Whose Standards? Whose Curriculum?

The control of tech education and "high quality" standards is a central aspect of the globalization of the Nairobi tech industry and a key aspect of its increasing "professionalization" that I argue should be looked at more carefully. How are particular standards that govern technical and business codes and procedures in the US being replicated and taught through programs such as XL-Africa or Andela? For example, according to their website, Andela applicants undergo dozens of online drills to assess everything from technical ability to personality type. About 3 percent of the applicants are invited to a two-week boot camp, and a final cut takes the acceptance rate below 1 percent, which the company boasts "makes Andela by far the most competitive technical program on the continent (Harvard, for context, has an acceptance rate of 6%)," (Andela 2017).

A closer look at the methods, content, and processes governing the skilling-up of the tech sector is necessary to understand which standards are used to measure high-quality innovation. For example, the bread and butter of most trainings include some form of Alexander Osterwald's "business model canvas" which you can see a template of on this slide. Completing this template document is a requirement for many acceleration programs as well as a core aspect of their curriculum including mlab and Stanford's Institute for Innovation in Developing Economies (SEED) Program. But what values, principles, and ideas are being promoted and replicated if we assess all Kenyan tech and entrepreneurship within Osterwald's framing of business and innovation? What ideas and whose ideas are being privileged as "innovative" when we adopt such Western frames and models as the standards by which to judge Kenyan tech entrepreneurship?

Scaling the "high potential"

Critical development scholar Uma Kothari (2005) has highlighted that the rise of the technical development expert illustrates a devaluing of in-depth geographic knowledge, overly abstracted analyses of local contexts and the globalization of homogenizing development processes and techniques. Following the question of which standards are used to train African techies is the question of who is considered an expert in these methods and processes. It appears increasingly that interests outside of the African continent including the World Bank, development aid, and increasingly multinationals, Western universities and venture capitalists, have appointed themselves to fill the perceived "talent gap" left by Kenyan universities.

More research is needed to look at the increasing role of international universities and Silicon Valley tech companies forming a core of authoritative experts on tech in Africa. For example, the website of the Stanford Institute for Innovation in Developing Economies (SEED) program which runs in Kenya, Ghana, Botswana and India asks: "How can you bring Silicon Valley innovation and entrepreneurship to your company? What management skills are required to grow and scale? How can the success of your business help to lead your region to prosperity?" Their answer: enroll in their one-year 5,000 USD program taught by "world-renowned Stanford faculty" and "take advantage of a world-class curriculum from Stanford GSB and the innovative thinking that has shaped some of the most successful companies in Silicon Valley," (Stanford Business School 2017). Thus we see that in spite of widespread praise for the proliferation and growth of tech hubs as new centers of knowledge "from the periphery," the uncritical drive to quickly train the next generation of African techies via techphilanthropy appears to be ironically confirming the power and authority of the "outsider" and exclusive professional knowledge and skill and furthering assumptions surrounding tech entrepreneurs as an unequivocal good.

For example, looking quickly at the managing team bios of the World Bank's latest pitching and acceleration project, XL-Africa, further illustrates this point. The team leader from IMC Worldwide has "managed programs in 50+ countries helping startups to succeed" while the Curriculum Lead from Koltai and Co. "has created a massive open online course (MOOC) called Beyond Silicon Valley: Growing Entrepreneurship in Transitioning Economies, which has attracted over 120,000 students from 190 countries and has been translated into 16 different languages." This "scaling up" rhetoric exemplifies Kothari's point that local contexts have been overly abstracted in the need to scale up global tech innovation and in the homogenizing of the processes and techniques considered most important for developing technology enterprises. What

is gained and lost when the business model canvas becomes the blueprint standard for "innovative" technology development around the world?

Kothari (2005) looking specifically at the increasing technical nature of participatory development, finds the emergence of a new form of professionalism that is universalizing through its global transmission of ideas about process, yet fails to acknowledge its cultural specificity or location. I believe her point continues to hold true when looking at the homogenizing discourses of technology and development based on seemingly ubiquitous ideas of what high-quality "talent" and "potential" are. These terms masquerade as universal but are in fact, particularly Western.

Additional areas of investigation:

I've only just touched briefly on aspects of what I see to be an increasing "professionalization" of the Nairobi tech scene. There is a whole range of additional work to be done unpacking different aspects and normative concepts being used within the techphilanthropy sector. Borrowing from Ferguson (1994) who argued for understanding what aid programmes do *besides* fail to help poor people, I think the same should be asked of tech entrepreneurship training programs being run for Kenyan youth. Beyond the expected or stated "impacts," what is set in motion and what is justified as a result of these programs?

In this presentation, I hope to have provided a snapshot of a contemporary moment in Nairobi where multinational technology companies, Western Venture Capitalists and the World Bank are demonstrating their philanthropic spirit by training up Africans to join the global arena of tech. I have argued that the methods (bootcamps, pitch days) and content (template models) reveal a homogenized standard that is derived from and based on Silicon Valley both explicitly and implicitly. As a result, a privileging of foreign expertise is further strengthened. There are significant implications for the types of technologies, workers, skill sets, and collective futures built that I think need to be further studied. Thank you for your time!

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