Social Science Can Develop Startups for Development

Scientific experiments to understand behavior are crucial.

By **Kweku A. Opoku-Agyemang**

Abstract

Harnessing technology startups for African development is a policy approach that simply cannot wait. Startups bring data, dynamism and daring to the development table, and have an important role to play in economic development today. Although nonprofit and government initiatives are also significant, social science evidence will enable such organizations to benefit from technology startups for new economic changes to be fast and inclusive.

Many national and global policy efforts in the near-term future will earnestly investigate the role technology startups can play in economic development, with an emphasis on solving various social and other concerns. However, such initiatives will not lessen extreme poverty in and of themselves. Startups might well worsen inequality without being embedded in inclusive policies. In this paper, I examine the distinct social science of technology startups and related with an eye on the factors influencing their creation, adoption, scale up and social impacts.

I emphasize technology startups, which focus on mobile applications and computer technologies. These are distinct from--but related to--the broader practice of non-governmental organizations and corporate social responsibility initiatives that empower communities with innovations and resources. Successful connections between startups and economic development require a base of evidence-based research to support anti-poverty policy goals within the economies that host them. I focus on the sub-Saharan African context, given its unique economic and political contexts and the fact that as the world's poorest region, significant innovation in Africa may have a disproportionate impact on global poverty and inequality.

Notwithstanding the growing attention from Silicon Valley in the form of visits to Africa by Bill Gates or Mark Zuckerberg, or the hundreds of millions of dollars raised in venture capital dollars from the Bay Area to the continent, many technology entrepreneurs in Africa still raise funds from family and friends, partly due to the restriction of bank credit to the elite. Certainly, there is a nascent angel and venture capital investor community in Africa itself. However, the near-absence of competition means that many African funders require big chunks of equity in African startups relative to Silicon Valley funders, who experience significantly more investment competition in the United States. Thus, the move of Silicon Valley funders into Africa is a win-win situation: it means higher ownership per funding for African entrepreneurs, which may help keep founders motivated. The hope is for more local funders to emerge over time, buoyed by the 'Africa Rising' narrative. Still, this setting desperately needs scientific experimentation that is connected to the situation on the ground.

The incentives to developing innovative startup communities in Africa are distinct from the unregulated, small-scale informal sector business development incentives. Most obviously, technology startups tend to rely directly or indirectly on formal institutional support. If new startups become focused on market needs that are limited to the minority elite, the business communities and industries that develop in such markets and any benefits they generate are most likely to be skewed. This would foster inequality. The already-elite-oriented institutions influenced by such activity will become insular still and markets will shrink. However, the market will expand if oriented towards supporting, instead of replacing informal economies. Of course, this depends on whether startups are more inclusive in their orientation and encourage institutions to follow their lead.

History should make us optimistic. Of all places, the history of startups and the role of policy making and formalizing informal markets in the United States is informing our understanding of inclusive startup development and impacts. Strong institutions enable technologies and markets to grow (1), with the origins of US startups and mobile technologies representing strong evidence of this (2, 3). The early success of mobile money in East Africa and the rise of its

technology startup hubs in the midst of budding institutions has prompted a growing number of African governments to implement pro-startup reforms. Development partners such as the World Bank have also helped implement several programs across countries to bring public services online and make them better (4). The East Africa Submarine Cable System, created in 2013, aims to promote regional integration and link the African east coast, South Africa, Mozambique, the Comoros, Tanzania, Kenya, Somalia and Djibouti to Asia and Europe. A Central Africa system aims to replicate this initiative to further raise internet access in Africa. Although the internet penetration rate in Africa is still low relative to the rest of the world at 28.3% in 2017 (5), such data is understood not to include internet cafés and kiosks, which are an important source of access for many entrepreneurial-minded Africans (6). The Ghana government has considered removing import taxes on smartphones to kill two birds with one stone: help the local consumer markets to transition from basic phones while connecting producers to global consumer markets. Value added taxes on handsets were removed in Kenya in 2009, which may have spiked the number of smartphone devices. Recently, the Kenyan government initiated mobile government bonds, which allow entrepreneurs to invest in government projects (7).

The incentives provided by startup-oriented policies mean that entrepreneurs should be particularly eager to create technology startups instead of informal businesses. Participating in startup competitions can lead to getting very significant funding. Research generally suggests that business grants increase the probability of a business project being completed. Surveys tracking business competition participants over half a decade showed that winning lead to greater market entry, survival, profits, and employment (8). However, it remains to be seen whether or not African startup competitions (which often lead to African startups temporarily visiting Silicon Valley for finance, capacity and mentoring support) will have similar impacts over time.

More complicated is how to improve energy access. The US Agency for International Development and the UK Development for International Development and other policy makers have initiated policies to provide the majority of Africans who live off the electric grid with solar power, although it has been important to take note of existing energy sources as well (9). Although energy will obviously be important for technology startups, decentralized renewable energy may not always scale up with most African households (10). A better research understanding of how startups relate to and affect such phenomena will be important for understanding how to implement policies and achieve scale. Although engineering is key, the social sciences will be critical.

The rise of experimental evidence to inform the economics of human resources will be just as important for African startup markets. Four factors will help in the design of startup labor markets. The first relates to connecting potential startup founders to technology startups or companies in (or outside) Africa to build experience and resilience for their future startups. An example of this outcome is Andela, a Nigerian startup that connects the educated top 2% of African workers to startups around the world, with support from the Chan-Zuckerberg Initiative. Entrepreneurs who leave such startups to strike out on their own will be a new and experienced generation of founders that have leapfrogged much of the trial and error which many entrepreneurs deal with. Research must unpack their experiences for policy.

Second, to the extent that such startups are likely to be globally-oriented and inequality promoting, more social science experiments will help policy makers to harness startup economic impacts and ensure that they are inclusive. Lessons from the creation of National Service programs in many African countries may help foster an ethos of volunteering. Such programs enable university graduates to volunteer with nonprofits, businesses, educational institutions, and government agencies, and technology startups could be added to this list. A growing number of African governments base their policies on social science research, as seen in the creation of a Monitoring and Evaluation Ministry in Ghana to oversee all of its other Ministries. The link between such Ministries and technology startups will likely be tightened for mutual benefit.

Third, partnerships will grow in importance. The technology giant Google provides support to technology hubs in Kenya, Ghana, Uganda, and Nigeria. These sorts of initiatives may also have significant economic effects, and research can shed light on such issues.

These developments are best understood within the broader context of dramatic improvements in educational access in Africa. A related factor influencing the success of startups over time may be a decline in ethnic discrimination, which may lead to more diverse African startups.

For all this to work, policy makers will have to focus on fostering a risk-taking culture that does not stigmatize failure. At the moment, this entrepreneurial mentality appears to be limited to the informal sector, with many people in formal sector being more conventional. A risk-taking culture in investments is similarly needed. There is reason to expect that entrepreneurial role models will emerge and inspire thicker entrepreneurial communities over time. Given that immigrants generally tend to be risk-takers (3), initiatives such as the African Union policy to enable Africans to travel within the continent without visas can dramatically improve entrepreneurial risk-taking in countries that receive significant numbers of diverse immigrants over time.

The most common objection to focusing on startups for economic development is that they may replace existing approaches. Concerns abound across Africa and beyond that the rise of technology startups working on social problems mean rejecting nonprofits and other community organizations. Some worry that startups will replace non-governmental organizations. I disagree. Development requires consistent data. The data-generating qualities of technology startups will significantly decrease the cost of performing policy experiments for nonprofits and governments alike. Startup incubators in Africa connect their profit goals with social outcomes, and this link is already boosting data collection and analysis initiatives. Focusing on startups is not meant to criticize local and global non-governmental organizations, but to free them from being mistaken for entities that generate revenue and provide jobs. There is certainly room for learning across sectors, given the need to tackle inequality in the exciting present moment (11).

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Affiliations

Kweku A. Opoku-Agyemang is at Cornell Tech, New York, NY 10011, USA, also affiliated with the International Growth Centre, London School of Economics, UK and is an Honorary Fellow at the Center for Effective Global Action, Berkeley, CA 94720, USA.

Competing Interest

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Corresponding author

Kweku Opoku-Agyemang, kweku@berkeley.edu