Tech Startups in Dar es Salaam, Tanzania

1 Overview

Tech startups are a crucial way of fostering new standards of productivity, skills and economic growth.

– They are essential in narrowing the Development Gap, as 70% of the productivity gulf stems from a lag in technological take-up [1].

– As startups, unlike corporations, are not constrained by rigid systems or a focus on margins, they can explore novel ways of tackling local problems.

– The exponential benefits that tech innovations can bring allows for entrepreneurs in underdeveloped countries to contribute to the global context of progress, rather than continuing to be its recipients. [2]

Yet, most countries in SSA are seeing a worryingly small output of successful tech startups.

– The global narrative says otherwise; numerous articles celebrate the successes of tech startups in Sub-Saharan Africa(SSA), referring to the continent as a whole: "Africa's tech revolution" [3], "African startup scene" [4].

– Yet Africa is not a continent of monolithic countries and, when broken down, the reality is much more skewed. South Africa, Nigeria and Kenya attract 79.4% of funding in African startups [5] and account for 34% [6] of the tech hubs on a continent of 54 countries.

- Meanwhile, over in Tanzania, out of the 65 startups that we researched (37% of the entire startup ecosystem), only 2 had raised seed funding [7].

If this unreported skew of innovation persists, other SSA countries like Tanzania will be left behind as mere receivers of innovation.

- Countries' inability to develop their local tech industry will stunt the creation of tech-based jobs and limit the population's development of much needed tech skills.
- In a world at the dawn of a "Fourth Industrial Revolution" [8], this suggests a worrying consolidation of the gap between rich and poor, givers and receivers, dependency and agency.

Our focus will be on Dar es Salaam, the business capital of Tanzania. With a population size, economic growth and relative political stability comparable to Kenya and South Africa [9] [10] [11], Tanzania presents an opportunity to explore some of the deeper reasons - outside of the often cited infrastructural problems, education systems and a lack of resources [12] - behind this problem, yielding insights into how the situation may be unfolding in other SSA contexts.

2 Approach

Our research method was multi-tiered, in an effort to develop a broad understanding of the problem and existing solutions:

- In-depth interviews with 26 startups at various stages of development
- Research of another 38 startups who had won local competitions.
- Site visits to local incubators such as BUNI & DTBI.
- Discussion with an East African investment fund.
- Data published by the Tanzanian National Statistics Bureau [13]

– Extensive HDIF & World Bank Reports.
– Online articles by publications and independent journalists.
– Key academic journals and books on the broader narrative.

3 Problem Landscape

3.1 Access to Capital

Scarce and costly bank credit:

– Interest rates on loans stand at 20% on average and cheap government securities disincentivise banks from comparatively riskier business loans (40% of securities are owned by the three largest banks) [14].
– This is further entrenched by the high rate of NPLs, which has led to the introduction of a 265% asset requirement for collateral in some banks [14].
– As a consequence, nationally, only 13% of SMEs borrow from banks [14] and just 1 out of the 26 startups we met with had resorted to this source of funding [7].

No family loans or savings:

– Families, primarily located in rural areas, are sources of dependence rather than support, as most live at subsistence level, otherwise largely dependent on money transfers from elsewhere [15].
– This makes it particularly hard to build up any savings, illustrated by the fact that banks are primarily used for deposits that are extracted, on average, after just 136 days [14].

No angel investors:

- A conversation with a local investor highlighted that founders' lack of governance, skills and accountability mindset combined with a backdrop of unfriendly government regulation discourage angel investors from exploring the Tanzanian startup market.
- Foreign investors are particularly discouraged by the bureaucratic processes required to invest in local businesses,such as requiring a business visa for equity financing or permission from the BoT for debt financing. The only support from the government for foreign investors focuses on large-scale industrial investment [16].

3.2 Attitudes to Risk

Pursuing multiple ideas

- Many of the entrepreneurs we met with showed a non-committal approach to their business ideas, often splitting their time and effort on multiple ideas concurrently to counter market unpredictability [17].
- This trend is unsurprising, given we identified two promising startups whose businesses were rendered redundant overnight following a radical and unpredictable shift in government regulation. [7].

Consumer Risk Aversion

- In addition to the behavioural change required by consumers to use a new product, Tanzanian consumers are particularly risk averse [18] due to the nation's socialist history.
- Aversion to risk and money loss is, for obvious reasons, particularly strong amongst those living in poverty [19], which accounts for most of the Tanzanian population. (source)

Unprotected intellectual property

- Another common risk that affects the pursuit of innovation is the perceived instability over intellectual property [20]
- A recurring theme in our interviews with startups was the perception that good tech ideas are regularly stolen by figures in position of relative power - professors, business leaders and international corporations.
- This dissuades young people from actively bringing in mentors or looking to partner with older, more experienced individuals for fear that they will lose control over their idea.
- Collaboration with business & academia is particularly low at 15% and 38% respectively.[21]

3.3 Business Practices

Financial Management

- There is a distinct lack of accurate accounting and self-reporting amongst the tech startups that we surveyed, making it hard to self-analyse or share any of the data that potential investors may seek.
- One reason for this may be that 62% of tech founders have STEM backgrounds, [1], meaning many are not as familiar with accounting and financial practice
- STEM founders are unlikely to interact with business students at university, the time when most co-founders met their teams, as the campuses are in different locations. This means they have to approach business people they do not know or trust at a later stage, which, as explored under 3.2.3, they are unlikely to do.

Cash Flow Mentality

- Tanzanians, in general, adopt a cash-flow mentality, focusing on earning revenue to cover immediate cash expenses and liabilities rather than investing for growth. This mentality is likely linked to the short-term thinking that - somewhat understandably - permeates in a country where subsistence living is commonplace. [15] [13].

– The cash-flow mentality emphasises continual revenue generation at the expense of building long-term systems that drive growth [22].

Social Focuses.

– Startups focus on problems that are typically thought of as government responsibilities in sectors like education and health.

– By definition, customers facing the types of problems that social startups tackle don't have significant disposable income. As such, financial sustainability is contingent on scale, which requires a type of long-term investment that does not exist in Tanzania (See 3.1), and access to a network dominated by the government and other large corporations.

4 Existing Solutions to the Problem

4.1 Competitions & Grants

Main Problems Tackled: Access to Finance

Dar is home to a number of one-off entrepreneurship competitions for tech startups. Winners at these competitions are offered a small grant and, at times, the opportunity to compete at an international level.

However, they don't actively monitor the applicants after the competition, so they have no way of ensuring that the grant is used for the intended purposes.

– The lack of accountability on a sudden burst of capital reinforces bad habits and creates what one interviewee referred to as 'fundpreneurs'

- people who apply just to build up personal savings.

– Many of these competitions had a focus on a particular social problem further entrenching the problems outlined in 3.3.3.

– The variety in the social problems that these competitions focused on caused 'Fundpreneurs' to jump from one competition to another adding to problem 3.2.1

4.2 Hybrid Models

Main Problems Tackled: Access to Finance

Over 50% of the entrepreneurs we spoke to had developed their own solution to the lack of seed capital by working under a 'hybrid model'. They worked part-time on their idea, and part-time on commissioned software development projects for other companies to ensure a revenue source.

However, it was not uncommon for people to simply abandon their ideas in favour of running as a software development agency full time.

– These projects ended up eating into the startups' time to focus on their own product.

4.3 Incubators & Accelerators

Main Problems Tackled: Access to Finance and Business Practices

In partnership with grant-givers like HDIF [23] and the Finnish government [24], there are a number of incubation and acceleration programs in Dar es Salaam like BUNI [25] and DTBI [26]. These organisations offer free workspace to their members, training sessions and small seed funding in the form of grants. Their main impact lies in bringing together different stakeholders at a number of large events, thereby offering the startups exposure and networking opportunities, as well as giving aspiring startups some credibility.

However, much of the training offered at the main incubators is theoretical.

- Many of those in advisory positions at incubators like BUNI stem from academic backgrounds
- There is no older wave of successful tech startups in Dar, so nobody able to offer experience-based mentorship to the next cohort, creating a seemingly infinite regress.

4.4 Consulting from abroad

Main Problems Tackled: Business Practices

International companies such as Balloon Ventures and Bridges for enterprise link up startups in countries like Tanzania with young business consultants from abroad.

However, when we spoke with one of these companies they noted that it is often difficult to maintain contact with the entrepreneur on the ground due to unreliability and connection problems.

4.5 E-learning

Main Problems Tackled: Business Practices

A number of entrepreneurs have turned to open online courses on sites such as Udemy [27] to make up for gaps in their business skill-set.

However, many of the online e-learning content has not been created with the SSA context in mind, so some entrepreneurs complained that some of what they had learned was not relevant to their settings and customer bases.

5 Gaps & Levers of Change

Gap 1: No systems to keep entrepreneurs financially accountable

- No Angel Investors or loan-givers around to keep entrepreneurs accountable.
- Grant Providers have basic (if any) systems of accountability.
- Lack of accountability gives entrepreneurs no incentive to record/manage finances, which is detrimental to securing funding options in the long-run.

Lever 1: Competence-based Loans

- Grants from incubators and NGOs issued as loans instead of grants.
- These are closely monitored using existing accountability technology such as Wave [28], to ensure that the loan money is spent on relevant items for the business.
- Larger loans re-issued depending on repayment and use of accountability technology.
- These could be managed in partnership with local micro-financing organisations.

Effects

- Access to long-term financing options.
- Less likely to get distracted with other sources of revenue.
- Angel Investors will have evidence of accountability to invest on, which increases ability to access finance in the future.

Potential Challenges

- Regulation from BoT preventing foreign loans could be an issue. [29]

Gap 2: Lack of training and online material focused on the particularities of the SSA market

- Not enough focus on the perils of the cash-flow mentality and how to break it down.
- Not enough material exploring how to tackle markets with very high risk aversion.

Lever 2: Online courses made for the SSA context

- More programs like Acumen's "Marketing to the Bottom of the Pyramid". [30]
- Sites likes Coursera [31] and Udemy [27] could develop a section on startup practices in developing economies, in partnership with expert academics on the topic.

Effects

- Knowledge will be much more relatable for entrepreneurs
- Successful entrepreneurs may feel more desire to contribute to the shared knowledge

Potential Challenges

– Lack of incentives for organisations to produce the material given users' ability to pay for such material

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Gap 3: Not enough business expertise on startups' founding teams

- Science & technology students not interacting with people who have business experience.
- No protection of IP discourages more collaboration between individuals.
- Training offered by incubators is too theoretical.

Lever 3a: Incubators facilitate partnerships between startups and business corporations.

– Corporations could run startups' operations in-house for a period of time, with the potential to integrate the innovation into their own systems and networks in the future.

– Incubators leverage their status to implement Non-disclosure agreements between the two parties, to protect property rights and build trust.

– Corporations offer practical training to the startup founders, based on real business experience.

– Incubators could run Board matching events, as ELBA [32] does in the UK, to get business leaders on startup boards.

Lever 3b: Partnerships between incubators and "Consulting From Abroad" organisations

– Incubators with stable WiFi connections could enable organisations like Bridges for Enterprise to communicate with their beneficiaries more easily, thereby offering the incubators' members with more practical mentorship than is available in their immediate surroundings.

Lever 3c Shared modules between business students and science/tech students

- Different colleges of the local universities could offer modules to be taken by both STEM and business students, to encourage different circles to meet at a key time for building relationships of trust.

Effects

– Partnering with corporations will make it easier to reach scale, which could help socially minded business models to attain sustainability through economies of scale.

– Multi-disciplinary teams are more likely to incorporate concrete business practices to propel startups to success.

Potential Challenges

- Companies demanding a large stake and/or not obeying NDAs
- Overseas mentors not understanding local context
- Business students potentially more job-focused

References

[1] World Bank. (2017). *Tech Start-up Ecosystem in Dar es Salaam : Findings and Recommendations*. Washington, DC: World Bank. https://openknowledge.worldbank.org/handle/10986/28113

[2] Moyo D. (2010). *Dead Aid : why aid is not working and how there is a better way for Africa*. 2nd ed. Vancouver: Douglas and McIntyre.

[3] Reid M. (2018). *This millenial is leading Africa's tech revolution*. New York City, NY: Forbes. https://www.forbes.com/sites/maryannreid/2018/02/11/this-millennial-is-leading-africas-tech-revolution/#21d8f0165c28.

[4] Jackson T. (2015). *The African techstartup scene has been transformed in just four years*. Quartz. https://qz.com/516848/the-african-tech-startup-scene-has-been-transformed-in-just-four-years/

[5] Kazeem, Y. (2017). *There's still a huge gap in funding destinations for African startups*. Quartz. https://www.theatlas.com/charts/BJ2JcrNql

[6] Du Boucher, V. (2016). *A few things we learned about tech hubs in Africa and Asia*. London: GSMA. https://www.gsma.com/mobilefordevelopment/programme/ecosystem-accelerator/things-learned-tech-hubs-africa-asia/

[7] To source primary data

[8] Schwab, K. (2016). *The Fourth Industrial Revolution: what it means and how to respond*. Cologny: World Economic Forum. https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond/

[9] Worldometers.info. (2018). *Countries in the world by population*. Dover, Delware: Worldometers. http://www.worldometers.info/world-population/population-by-country/

[10] Myers, J. (2016). *Which are Africa's fastest growing economies* Cologny: World Economic Forum.

https://www.weforum.org/agenda/2016/04/which-are-africa-s-fastest-growing-economies

[11] Funds for Peace. (2017). *Fragile States Index*. Washington, DC: Funds for Peace. http://fundforpeace.org/fsi/data/

[12] World Bank. (2016). *Tanzania needs to more on infrastructure and human capital to improve its competitiveness and create more productive jobs*. World Bank, Washington, DC.

[13] National Bureau of Statistics (2014). *Tanzania - Employment and earnings survey 2014, Seventh Round*. Dar es Salaam: National Bureau of Statistics.

[14] World Bank. (2017). *Tanzania economic update : money within reach - extending financial inclusion in Tanzania (English). Tanzania economic update; no. 9*. Washington, D.C. : World Bank Group.

[15] Covarrubias, K., Nsiima, L. Zezza, A. (2012). *Livestock and Livelihoods in Rural Tanzania*. World Bank, FAO, AU-IBAR, ILRI and the Tanzania Ministry of Livestock and Fisheries. https://siteresources.worldbank.org/INTSURAGRI/Resources/7420178-1294259038276/Livestock_Livelihoods_Tanzania.pdf [pg.13]

[16] Tanzania Investment Centre (2018). *Services to Investors*. Dar es Salaam: Ministry of Industry, Trade and Investment. http://tanzania.eregulations.org/menu/196?l=en

[17] Malanga, A. (2017). *Private sector urges govt to improve business climate*. Dar es Salaam: The Citizen. http://www.thecitizen.co.tz/News/Private-sector-urges-govt-to-improve-business-climate-/1840340-4160242-d6ppng/index.html

[18] Gandelman, N. and Hernandez-Murillo, R. (2014). *Risk Aversion at the country level*. Federal Reserve Bank of St Louis. St Louis, MO. https://files.stlouisfed.org/files/htdocs/wp/2014/2014-005.pdf

[19] Scott, J. (2006). *The moral economy of the peasant*. 1st ed. New Haven: Yale University Press.

[20] Acemoglu, Daron, and James A Robinson. (2012). *Why Nations Fail: The Origins of Power, Prosperity and Poverty*. 1st ed. New York: Crown.

[21] Olomi, D., Patel. K, Royea, A. Sambua, S., Sarson, S. Shearman, C. (2017). *The innovation ecosystem of Tanzania*. Dar es Salaam: Human Development Innovation Fund. http://innovate.co.tz/wp-content/uploads/2016/10/The-Innovation-Ecosystem-of-Tanzania.compressed.pdf

[22] Graham, P. (2012). *Startup = Growth*. [Blog Post]. http://www.paulgraham.com/growth.html

[23] Mgonja, M. (2016). *HDIF innovation week 2016*. Dar es Salaam: BUNI. http://buni.or.tz/hdif-innovation-week-2016/

[24] TANZICT. (2015). *TANZICT: Strengthening the Innovation System in Tanzania 2011 - 2015*. Dar es Salaam: Ministry of Communication, Science and Technology (MCST), Tanzania.

[25] BUNI Hub (2018). Dar es Salaam: BUNI. http://buni.or.tz/

[26] DarTeknohama Business Incubator (2018). Dar es Salaam: DTBI http://teknohama.or.tz/

[27] Udemy. (2018). *At Udemy, we're improving lives through learning*. San Francisco, CA: Udemy. https://about.udemy.com/?locale=en-us

[28] Wave. (2018). *Small business invoicing, accounting and more*. Toronto, ON: Wave. https://www.waveapps.com/

[29] Bank of Tanzania (2010). *Press Release: Registration of Foreign Loans with Bank of Tanzania*. Dar es Salaam: Bank of Tanzania. https://www.bot.go.tz/Adverts/PressRelease/2010-Sept.14-PressRelease.pdf

[30] Acumen. (2018). *Marketing to the bottom of the pyramid*. [Online Course] Nairobi: Acumen. https://www.plusacumen.org/courses/marketing-bop

[31] Coursera. (2018). *Online courses from top universities*. Mountain View, California: Coursera. https://www.coursera.org/

[32] Downes, A. (2017). *ELBA's board match evening.* London: East London Business Alliance.
https://elba-1.org.uk/community/elbas-boardmatch-evening/