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Business Models for Incubators and Accelerators in Emerging Economies

PARALLEL 4
New business models for incubators in STPs

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1 Executive Summary

Developed countries have seen the establishment of many business incubators and – more recently – of business accelerators that strive to get startups ready for investment within 3 months rather than leasing office space to them for 2-3 years.

There are significant differences in culture, level of education, number of startups, absence of a venture culture and other factors that should be considered in the business models of incubators and accelerators in emerging economies. We investigate how a critical mass could be reached by scaling programs beyond one city to areas of innovation and how accelerators and incubators could engage with startups in a way that addresses the challenges discussed above. We outline options for creating investor communities but also address alternative models for funding startups with emphasis on the situation in emerging economies.

2 Background

Growth of a Middle Class in Emerging Economies

The emerging economies in Asia and Latin America have seen steep growth in recent years. As a result, the share of people living in extreme poverty on less than $1.25 per day has declined from 43% in 1990 to 21% in 2010[1] as shown in Figure 1.

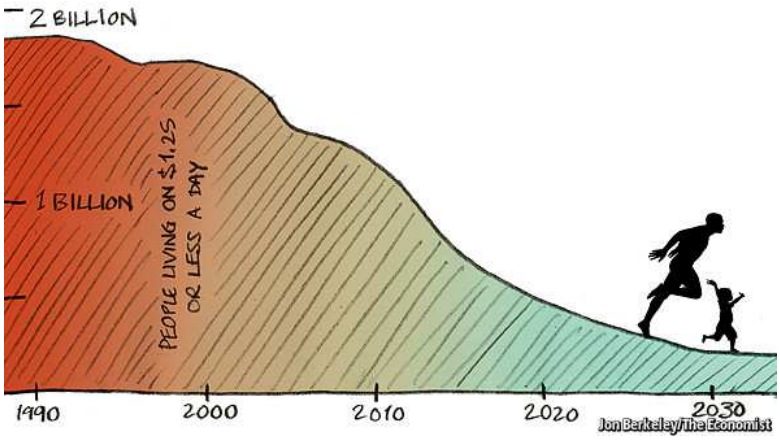


Figure 1: Number of people living on less than $1.25 per day globally[1]

But this development has not been homogeneous across the world. All regions have seen high growth in per capita income, more than doubling their GNI per capita from 2003 to 2011[2]. East Asia and Latin America have reached a higher income level per capita and thus have been able to grow a middle class with substantial purchasing power and potential for private investment and job creation (Figure 2). Africa and South Asia have not reached the same income levels. Their middle class, while growing, is still only a small share of the population.

[1] "The world's next great leap forward: Towards the end of poverty" , The Economist, June 2013, http://www.economist.com/news/leaders/21578665-nearly-1-billion-people-have-been-taken-out-extreme-poverty-20-years-world-should-aim?zid=304&ah=e5690753dc78ce91909083042ad12e30 , retrieved on 5/31/2013.

[2] "World Development Indicators", The Worldbank, http://data.worldbank.org/indicator/NY.GNP.PCAP.CD/countries/SSA-4E-8S-XJ?display=graph, retrieved on 5/31/2013.

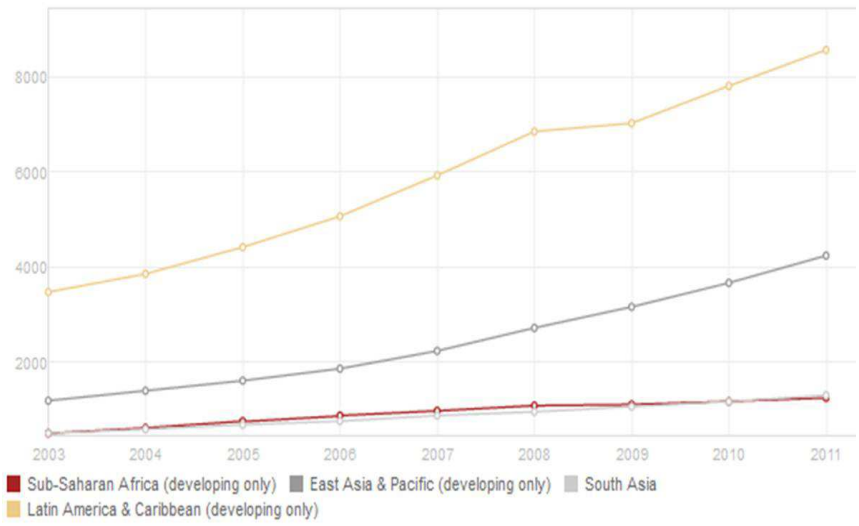


Figure 2: GNI per capita, Atlas method (current US$)[2]**Erro! Fonte de referência não encontrada.**

Africa Rising

Africa has experienced tremendous political change with many countries moving to become democracies as well as economic change with high growth rates, especially in Sub-Saharan Africa (Figure 3).

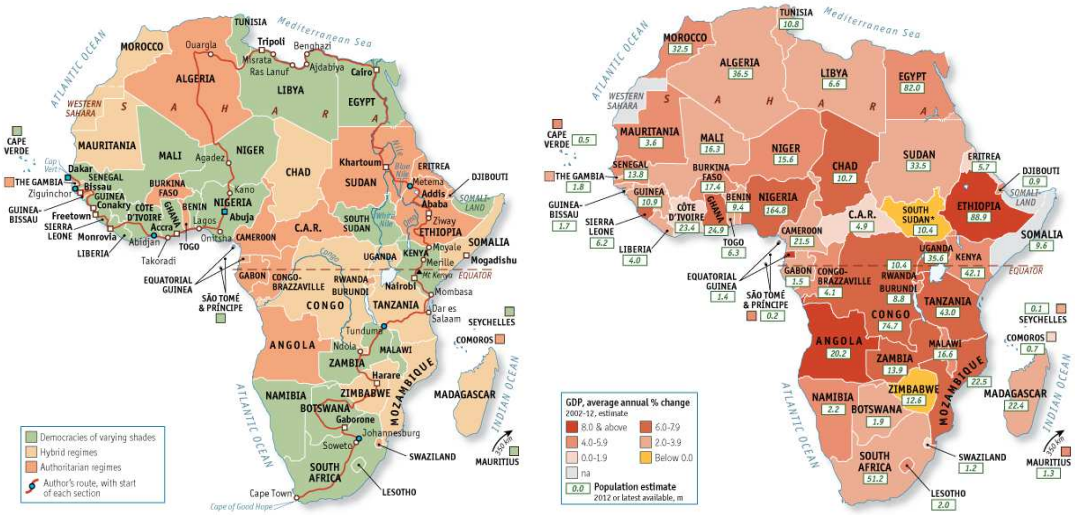


Figure 3: Forms of Government (left), GDP growth rates and population in Africa (right)[3]

Despite economic growth, unemployment rates in Africa remain high, especially for young people entering the workforce (Figure 4). Data from developed countries shows that the majority of jobs get created through startup companies as shown for Europe and the US in Figure 5. It is therefore not surprising, that African countries take initiatives to promote entrepreneurship within their countries to generate a sufficient supply of jobs especially for young people.

[3] "Africa rising: A hopeful continent", The Economist, March 2013, http://www.economist.com/node/21572377, retrieved on 5/31/2013.

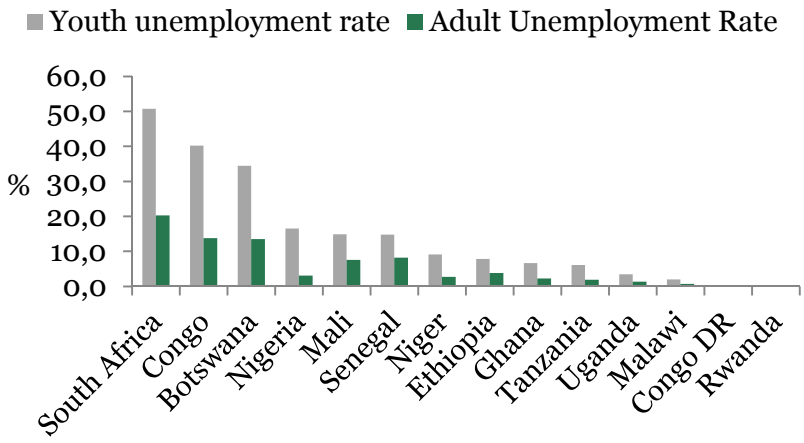


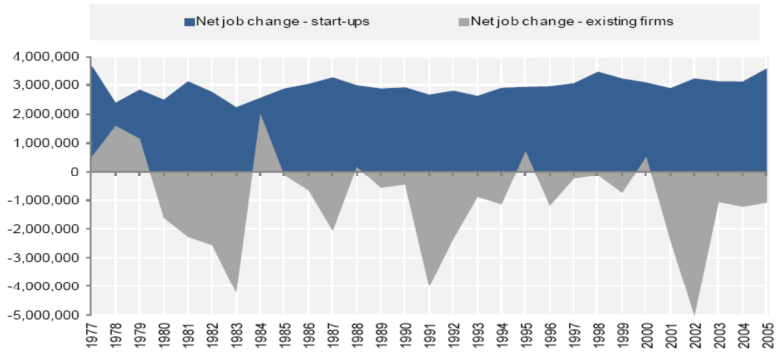
Figure 4: Adult and Youth Unemployment Rate in Sub-Saharan Africa (2011?)[4]

Table 1 Net job creation 2004-2010 by age group of enterprises that survived

	Number x 1,000,000
Newly born enterprises	17.5
Young enterprises	0.2
Established enterprises	-4.2
Total	13.5

Source: EIM, based on Amadeus/Orbis, Bureau Van Dijk

Figure A.1 US Net Job Growth at Startups versus Existing Firms, 1977-2005



Source: Kaufmann Foundation (2010), based on US Census, Business Dynamics Statistics.

Figure 5: Job Creation by Startups in Europe 2004-2010[5] (top) and in the US 1977-2005[6] (bottom)

[4] Broecke, S. and Diallo, A. B.,"Youth Employment in Africa - A Brief Overview and the ADB's Response", AfDB Partnerships Forum 2012.

[5] EIM Business & Policy Research, "Do SMEs create more and better jobs?", Zoetermeer, November 2011.

[6] OECD Working Party on SMEs and Entrepreneurship (WPSMEE), "Innovative SMEs and Entrepreneurship for Job Creation and Growth", 'BOLOGNA+10' HIGH-LEVEL MEETING, PARIS, 17-18 NOVEMBER 2010.

3 Incubators and Accelerators in Developed Countries

In many developed countries, incubators and accelerators are important connectors between universities, science and technology parks (STPs) and industry. Incubators and accelerators provide a flow of start-up companies that can then move to STPs as a natural landing spot. Thus they help create a critical mass of innovative companies and communities of entrepreneurs with many new ideas to foster the creation of new jobs.

Traditional incubation models provide start-up companies office space at reduced rent, IT infrastructure, front and back office services, training and mentoring, access to finance, business development support and intellectual property protection among others. Typically, start-ups stay up to three years within the incubator until they reach maturity or — in some cases — fail.

Increasingly, incubators don't just support entrepreneurs within their offices but also provide 'virtual incubation' to start-ups that are located outside of the incubator. This can include just participation in trainings and extend to providing almost the same services except for office space as to co-located start-ups.

Since 2005 when Paul Graham started Y-Combinator, accelerators have developed as a new breed of support entities. Key characteristics of accelerators are:

1. "The application process is open to anyone, but highly competitive. [Accelerators such as] Y Combinator and TechStars have application acceptance rates between 1% and 3%.
2. The focus is on small teams, not on individual founders. Accelerators consider that one person is insufficient to handle all the work associated with a start-up.
3. Start-ups are accepted and supported in cohort batches or classes (the accelerator isn't an on-demand resource). The peer support and feedback that the classes provide is an important advantage. If the accelerator doesn't offer a common workspace, the teams will meet periodically.
4. The start-ups must "graduate" by a given deadline, typically after 3 months. During this meantime, they receive intensive mentoring and training, and are expected to iterate rapidly. Virtually all accelerators end their programs with a "Demo Day", where the start-ups present to investors.
5. A seed investment in the start-ups is usually made in exchange for equity. Typically, the investment is between US$35,000 and US$100,000."[7,8]

Among accelerators, two main business models exist[9], shown in Figure 6 below. Y Combinator has a closed model with one location and Sequoia as the one dominating venture fund, while TechStars supports others in replicating its model and is open to involve a large number of venture funds and business angels that can differ by location. Startup Bootcamp in Europe is part of the TechStars Network and has itself spawned a number of accelerators in several European countries.

Y Combinator

techstars

[7] "Seed Accelerator"; Wikipedia; http://en.wikipedia.org/wiki/Seed_accelerator; retrieved Jan 10, 2013.

[8] Miller, P.; Bound, K. (June 2011); "The Startup Factories - The rise of accelerator programmes to support new technology ventures"; NESTA; London, UK.

[9] Gilani, A.; Dettori, G.; "Incubators in US and Europe - Speed and scale in capital formation"; presentation for the Kauffman Fellow Program; slide 8.

2005	2006
Silicon Valley, ~~Boston~~	Boulder, Boston, Seattle, NYC + >20 partners
Single VC LP (Sequoia) + angels	Broad VC-focused LP base + angels
~70 companies	~10 companies
Summer / Winter	Summer
There already is a Y Combinator in your town: Y Combinator. The seed funding business is national, not regional…It might be international. – Paul Graham	*What the TechStars Network is really just saying is, "Yes, you should clone this model (in your community), and here's how."* – David Cohen

Figure 6: Business Models of Y Combinator and TechStars[9]

Currently, about 200 such accelerators exist, mainly in the US and Europe. Most are very young and without a longer track record. Those with the most success so far are shown in

Figure 7.

Rank	Program
1	TechStars Boulder
2	Y Combinator
3	Excelerate Labs
4	LaunchBox Digital
5	TechStars Boston
6	KickLabs
7	TechStars Seattle
8	Tech Wildcatters
9	DreamIt Ventures
10	The Brandery
11	Capital Factory
12	NYC Seedstart
13	Betaspring
14	BoomStartup
15	AlphaLab

Rank	Program
1	SeedCamp (UK/Europe)
2	Startupbootcamp / Tetuan Valley (Spain)
3	Startupbootcamp (Denmark)
4	Springboard (Cambridge, UK)*
5	Openfund (Greece)
6	NDCR LaunchPad (Ireland)
7	Propeller Venture (Ireland)
8	Startupbootcamp (Ireland)*

Figure 7: Accelerator Rankings in the US and Europe[9]

4 Enabling Factors for Incubators and Accelerators in Emerging Economies

With overall economic growth but persistent high unemployment, especially among young people, in many emerging economies, fostering entrepreneurship and innovation has become a core target of economic development efforts by governments and international organizations. In Africa, many national governments or university have established or are in the process of establishing incubators and accelerators as part of their efforts. The business models they adopt mirror those found in similar institutions in developing countries in most cases.

Before we look at business models that can work in emerging economies, it helps to look at enabling factors critical to their success:

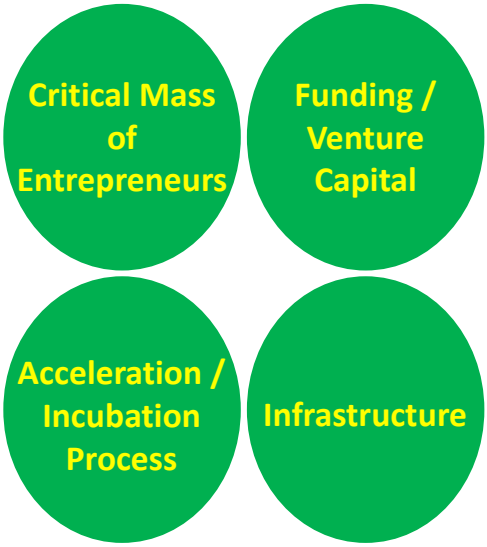


Figure 8: Enabling factors for incubators and accelerators

We discuss experiences gained so far with programs and support models for entrepreneurs[10] as well as innovators[11] at the Namibia Business Innovation Centre (NBIC) with respect to key enabling factors shown in Figure 8.

We investigate how a critical mass could be reached by scaling programs beyond one city, how accelerators and incubators could engage with startups in a way that addresses the challenges discussed above. We outline options for creating investor communities but also address alternative models for funding startups with emphasis on the situation in emerging economies.

4.1 Critical Mass of Entrepreneurs

Entrepreneurial Teams

Accelerators and incubators and investors look not just for good ideas, even more important is the founding team. Entrepreneurial spirit, passion and the ability to cover the core functions within a startup company.

In Namibia, about 50% of startups are founded by individual entrepreneurs. Even if there is a founding team, there are many cases where the entrepreneurs have a technical idea but none of them have any technical background to drive its implementation. This severely reduces the probability for success unless additional founders with the missing skills can be added to the team.

In Namibia, almost all entrepreneurs NBIC works with go through some form of skills training for business and/or on the technical skills.

Scalable Business Models

[10] Toelg, C. and Honsbein, D.; "Building the Critical Mass for STPs in small Countries – The Namibian Experience"; Proceedings of the XXVIII IASP World Conference on Science and Technology Parks, IASP - International Association of Science Parks, Copenhagen, Denmark, 2011.

[11] Toelg, C. and Imene, L.; "Beyond R&D – STPs as Drivers of New Innovation Concepts in Emerging Countries"; Proceedings of the 29th IASP World Conference on Science and Technology Parks, IASP - International Association of Science Parks, Tallinn, Estonia, 2012.

Investment in startup companies carries risk. In the US, about 30-40% of venture funded startups get liquidated and only 1 out of 10 produces the expected returns for their investors[12]. An investor might lose several investments and will look at the few successful ones to recoup all of his total investments plus a reasonable return commensurate with the risk taken.

To generate substantial returns for investors is only possible if startups have a scalable business model that enables them to grow exponentially in value – usually because they have developed innovative technologies, products or services that are potentially disruptive rather than incremental within their market niche. Most startup businesses do not fall into this category. In Namibia, less than 10% of entrepreneurs requesting support from NBIC plan for growth beyond Namibia or even their local community. With a small population of only 2.1 million, their market potential is limited. And 80- 90% have ideas in traditional business areas such as retail, services, agriculture etc. that are not suitable for acceleration.

Rapid prototyping

Accelerators especially rely on entrepreneurs to develop a prototype or even a minimum viable product (MVP) within three months to show to ventures funds on demo day. Therefore, mainly startups in Internet, cloud computing, mobile applications and other software will get accepted that fulfil this criterion.

In Namibia, it takes developers a lot longer than the 3 months that accelerators typically allow in most cases to develop a prototype. The reason is lack of experience in software engineering as most developers gain skills in class room settings and not through private passion for coding, limiting their practical experience and exposure e.g. to open source code that could speed up their projects significantly.

Critical mass

Incubators and, to an even greater extent accelerators, rely on a critical mass of entrepreneurs to receive a large enough number of applications enabling them to filter out cohorts of about 10 high-potential startups that then receive support. TechStars reports that its Spring 2013 TechStars class for New York City had an applicant pool of nearly 1,700 companies with an acceptance rate of only 11 companies, i.e. 0.6%[13]**Erro! Fonte de referência não encontrada.**. In order to find the best 1% - 3% of entrepreneurs with the best ideas and the right team would require at least 300 applications per cohort of ten startups. That means that for an accelerator to attract sufficient applications once or twice a year on a continuous basis there has to be an 'entrepreneurial community' of potential entrepreneurs that is at least one order of magnitude larger – about 3,000 - 5,000 strong.

Except for the big population centres in African countries such as Kenya, Nigeria or South Africa with a large population and vibrant entrepreneurs' community, such numbers are hard to achieve in just one country.

4.2 Funding / Venture Capital

Funding Needs

[12] Gage, D., "The Venture Capital Secret: 3 Out of 4 Start-Ups Fail", The Wall Street Journal, 19 September 2012, http://online.wsj.com/article/SB10000872396390443720204578004980476429190.html , retrieved June 3, 2013.

[13] Chang, E., "TechStars NYC 2013 Class", TechStars Blog, April 3, 2013, http://www.TechStars.com/TechStars-nyc-2013-class/, retrieved June 3, 2013.

The good news is that funding needs are lower than in developed countries, as salaries and other costs are lower as well. Often only $5,000 to $10,000 is needed to get the entrepreneurs started. Exceptions are mainly startups that require import of technology and equipment from developed countries.

The bad news is that funding needs are lower than in developed countries, which requires the execution and administration of a large number of investments to place a certain amount of funding in the market, with the added challenge of limiting the overhead cost per deal. This is possible only by standardizing the selection process, support, due diligence, legal matters, financial matters etc. similar to the approach taken by micro lenders.

Venture Capital

Trust in young entrepreneurs being able to successfully build a company and deliver returns on investment is low and neither private investors (angels) nor the few funds that exist in larger African countries such as South Africa are likely to invest at the seed stage. Hence, there is no venture capital community. And while loan programs exist in most countries, they are an option for traditional retail and service businesses that can quickly generate revenue to pay back loans and for capital-intensive business where the assets purchased can serve as collateral, but not for entrepreneurs who would need a year or longer to develop a product and enter the market and can neither generate the cash flow to pay back loans quickly nor offer collateral to secure such loans.

In Namibia there is currently no pool of venture capital available that could be utilized to fund startups at the seed stage. However, such funds could potentially be sourced through government, the Development Bank of Namibia or international donors. Today, the most prominent source of 'seed funding' is through family members and friends of the entrepreneurs.

Exits

Getting acquired is the most common form of exits. In the US, "of the 6,613 U.S.-based companies initially funded by venture capital between 2006 and 2011, 84% now are closely held and operating independently, 11% were acquired or made initial public offerings of stock and 4% went out of business, according to Dow Jones VentureSource. Less than 1% are currently in IPO registration"[12]. Of the startups TechStars supported since 2007, about 80% are still active, 10% have been acquired[14] and 10% have failed[15].

For Africa, there is no similar study available to our knowledge, but acquisitions would be the most likely form of an exit for investors as well. Existing venture funds and investment firms might take the role of acquirer. A good example is Mxit[16], a social networking and chat platform, which sold a 30% stake to US$15-billion South African-based media company Naspers in 2007 and then got acquired by startup investment firm World of Avatar in 2011[17].

4.3 Acceleration / Incubation Process

Selection

[14] Note that 'acquisition' might not necessarily translate into positive returns for investors as many startups that run out of cash get acquired for their assets by others which only avoids total write-off of an investment.

[15] "TechStars Stats", TechStars Website, http://www.TechStars.com/companies/stats/, retrieved June 3, 2013.

[16] Mxit Website, http://site.mxit.com/

[17] "Mxit", Wikipedia, http://en.wikipedia.org/wiki/Mxit, retrieved June 3, 2013.

As in developed countries, selection is based primarily on the quality of the team, their personalities, passion, drive, maturity and skills and to a lesser extent on the business idea.

As many entrepreneurs participate in trainings to acquire missing skills, NBIC can use their performance in these preliminary steps to gauge the quality of the team. Acceleration becomes on stage in a whole support process where entrepreneurs have to complete one stage to move to the next one. This process can be used as on-going due diligence to determine investments.

Mentors

Accelerators see their value less in the funding they provide rather than the advice and mentoring they provide.

The experience with entrepreneurs in Namibia underlines the importance of mentoring – not just to give advice but also to keep the entrepreneurs focused. Mentoring has been more important than e.g. funding issues for the success of startup companies. Opposed to US or European acceleration models, mentoring typically needs to continue for several years until a startup has success in the market, i.e. well beyond the acceleration stage. Finding experienced executives willing to serve as mentors is a challenge however.

Investment and Business Connections

Accelerators end the 3 month accelerations phase typically with a demo day where the startups present their prototypes and pitches to VCs. They also help the startups with business connections[18].

4.4 Infrastructure

Accelerators offer work space and infrastructure so the entrepreneurs can focus on developing their product prototypes or at least a proof of concept without distraction for the short acceleration spurt. Having ten or more teams work side by side creates motivational pull and a "can do" atmosphere. Therefore, some accelerators, e.g. Y Combinator, require entrepreneurs to be onsite while others don't.

In Namibia, the number one reason for startups to fail early is loss of focus. This is driven to a large extent by the absence of funding which forces entrepreneurs to take up contract jobs to earn a living while developing their original business idea. In many cases, the line between the two gets blurred and a startup planning to develop a mobile application for tourists becomes a provider of websites, enterprise applications, or whatever a potential customer might be interested in. Acceleration therefore would need to cover living expenses on the one hand and require presence on-site with frequent interactions with mentors on the other hand.

NBIC has tested this approach successfully with entrepreneurs interested in developing a full business plan. They attend the NBIC Bootcamp which starts with refining the business idea and a weekend training on market research after which the entrepreneurs have a period to talk to customers, research market and competition before they are taken to a remote lodge for nine days to receive training in business and financial planning in the morning and spend the afternoons and evenings working on their business plan with mentors on site.

NBIC has only a small incubator and most startups being incubated are supported through virtual incubation with trainings and mentoring taking place on site, but work often done at home or in a

[18] Graham, P., "What Happens At Y Combinator", Y Combinator Website, http://ycombinator.com/atyc.html, retrieved June 3, 2013.

startup's own offices. What has been an important factor is providing co-working space. Many entrepreneurs don't necessarily need their own office, but like to work on site sometimes.

5 Incubation and Acceleration Business Models in Emerging Economies

To make an accelerator model work in Africa, the following modifications to the business model applied in the US and Europe should be considered based on the discussions above:

5.1 Critical Mass of Entrepreneurs

Accelerators have to broaden their reach to establish a critical mass of entrepreneurs with a sufficiently large pipeline of startups. They can achieve this by

- Reaching out beyond the city or town where the accelerator has its seat. NBIC for example is running programs for entrepreneurs in smaller towns in Namibia. The starting point is the establishment of a peer group of entrepreneurs that meets regularly with additional trainings offered as needed. Startup Bootcamp in Europe e.g. runs "Pitch Days" in many cities across Europe to facilitate the initial contact with startups at a local level[19]. The same could be done in emerging economies, potentially with prior trainings and practice sessions offered to refine pitches.
- Reach out beyond one country to attract a larger number of entrepreneurs. Y-Combinator has only one location, but accepts applications from across the globe, whereas TechStars and Startup Bootcamp in Europe (which is part of the TechStars network) have multiple locations across the US and Europe, respectively, to broaden their reach. NBIC would need to partner with similar organizations across Southern Africa and define a common process to tap a sufficiently large enough pool of entrepreneurs. This is currently at implementation stage with support from Global Business Labs, Sweden which forms the anchor for similar programs under way in Namibia, Botswana and Uganda.
- Broaden the range of business ideas that can get accepted. Especially accelerators in Africa, as elsewhere, focus on IT startups primarily, but could also support non-IT businesses. For non-IT businesses this is more difficult as they would have to be in a position to have a prototype or at least proof of concept ready within 3 months. Increasing the acceleration phase to six months would allow inclusion of non-IT businesses and would also help in dealing with gaps in skills.

5.2 Funding / Venture Capital

Countries such as Namibia lack venture funds and business angels to fund startups. To be successful, accelerators could pursue the following:

- Encourage and support entrepreneurs in applying for funds through participation in international competitions such as the Nokia Innovation Challenge Award[20], from individual investors e.g. through VC4Africa[21], or through organizations such as Endeavor Global[22] or Acumen[23].

[19] "Startup Bootcamp Pitch Days", Startup Bootcamp Website, http://www.startupbootcamp.org/events.html, retrieved June 3, 2013.

[20] http://afrinnovator.com/blog/2010/09/16/virtual-city-scoops-1million-for-best-mobile-technology-innovation-in-nokia-competition/

[21] https://vc4africa.biz/

[22] http://www.endeavor.org

[23] http://acumen.org/

- Establish a (small) seed fund with money from local government, industry, international organizations or groups of local business men. The US NGO Endeavor Global e.g. takes the latter approach, others such as Acumen in the US use donations for investments in emerging economies. No such fund exists in Namibia at the moment.
- Create a network for larger investments. Once 'Demo Day' comes, there should be investors willing to invest in the growth of startups. In the absence of venture funds this could be a combination of private investors, banks willing to provide loans in some cases, companies looking for solutions. NBIC e.g. has engaged in contracts with larger companies if it had entrepreneurs interested in developing a solution. The entrepreneurs work as sub-contractors for NBIC and the contracts give them the intellectual property so they can use the solution developed for their first customer as reference prototype and continue developing it into a proper product either with a proper investment, or at this stage, with a bank loan. It should be noted however that this structure only works in some cases and is used as a work-around until proper funding is possible.
- Accelerators (and other investors) could exit when a client startup is being acquired, by selling their stake to other investors or by selling it back to the management team with a mark-up that can be negotiated at the time of exit or be agreed on with the original investment.

5.3 Acceleration / Incubation Process

The core acceleration process should be integrated into an overall support structure and process entrepreneurs pass through:

- Experience so far shows that most entrepreneurs need additional skills training in business and technical skills which does not stop with Demo Day. A more long term involvement is needed that includes training and mentoring to make startups successful. Accelerators might need to fund this involvement by taking a larger share up to 20% depending on services provided and length of engagement. Alternatively, startups could pay for support once they get their first investment. Mixed forms, e.g. use of convertible loans is an option as well.
- To keep startups focused on their business, Accelerators could maintain a board seat. Board meetings could provide a platform for mentoring.
- Mixed models in working with startups are possible. IT startups could enter into an acceleration model over six months, while non-IT startups could work within a more traditional incubation model for one to two years.

5.4 Infrastructure

Accelerators should provide work space and require entrepreneurs to work on-site. For incubation this is not required, physical and virtual incubation could be combined to increase the number of startups that can be supported. Shared co-working space should be provided so entrepreneurs can meet and work if they like to on site.

6 Conclusion

NBIC's experience shows that in smaller countries such as Namibia it will be difficult to find a large enough number of startups that really have high potential and thus the potential to achieve a significant return on investment. This will likely still be the case if outreach into all regions of the country can be achieved. Options to address this challenge include

- The establishment of a larger areas of innovation across Southern Africa to include startups from other countries;
- Alternatively, investment of resources in a few ‘pearls’ without a larger program;
- A broadening of business ideas that are eligible for acceleration beyond IT / Internet provided they have the necessary market potential and can create a prototype or proof of concept within six months maximum.

Funding is an issue in all countries as they lack a ‘venture culture’ and the few venture funds that exist e.g. in South Africa usually refrain from investing in startups at the seed stage. Dedicated funds through local governments or international organizations could fill the gap until a venture culture takes hold. Participation in international competition and investments from international NGO are good ways to get the initial push and provide the best marketing a startup can get.

Some of the challenges such as a skills gap exist in many countries independent of population size. As a result, there are only few startups such a MPesa in Kenia or Mxit in South Africa that scale up and many startups with good ideas and potential that struggle to take off.

As Asia and Eastern Europe demonstrate, it is possible to develop a venture community over time and overcome the challenges we discussed. Hopefully, most of the modifications and work-arounds compared to acceleration and incubation models in the US or Europe will be temporary and not be needed anymore once education systems improve, role models of successful startups appear and a venture culture develops.