IASP International Association of Science Parks and Areas of Innovation

35th IASP World Conference
on Science Parks and Areas of Innovation 2018
Isfahan, Iran

Entrepreneurship for growth and sustainability in STPs and AOIs.

Plenary session 6:

Entrepreneurship for growth and sustainability in STPs and AOIs

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Hosted by:

ISFAHAN
SCIENCE & TECHNOLOGY TOWN
(ISTT)

ISBN: 978-84-09-17612-0

Entrepreneurship for growth and sustainability in STPs and AOIs.

Building businesses to support the UN goal of creating "decent jobs and economic growth"

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Executive summary

The 17 Sustainable Development Goals published by UN in 2016, include the need to create sustainable employment opportunities but is not possible to ignore the fact that over 50% of people now live in cities.

The value the contribution of entrepreneurs to economic development is now increasingly recognised.

The Science Park and Areas of Innovation movement has been successful in developing and implementing increasingly effective programmes to support the ambitions of opportunity led entrepreneurs.

However, only 6% of start-ups manage to scale into companies that deliver the high levels of employment.

There is now a need for parks to adjust the balance of what they do to help companies scale.

The work behind these ideas has come from business schools and is being promoted by governments in more developed economies; however, the question that remains for discussion is, can these ideas work in cities in developing countries?

Introduction

The Sustainable Development Goals Report published by United Nations[1] in 2016 set out 17 ambitions to end poverty, protect the planet and ensure prosperity for all.

To enable individuals to meet personal challenges and to contribute towards creating sustained and inclusive economic growth, one of the most important influences is the ability for people to find sustainable employment.

Prevailing economic and social conditions in which individuals face this challenge differ markedly.

It is widely understood that these vary from those that are factor and efficiency driven to those that are predominantly knowledge based. The latter having developed as significantly greater value has been assigned to knowledge because of its utilisation in driving innovation.

In all the variants of economic models there are also nuances that are influenced by geography, national governance and politics, state regulations, and other more informal factors such as corruption, population size, age profile and population densities.

Social influences also include cultural, religious and political heritage with examples of these including the legacy of centrally planned economies and colonialism while in others there is a history of being driven by more freely operating markets.

In addition, further social issues include the dependency ratio in societies, population densities, such as those in rural and urban environments, and the proportions of the population that are unemployed, working as traders, artisans, professionals, necessity and opportunity entrepreneurs[2], and those that are self-employed and direct employees in the public and private sectors.

Despite all these variations and associated differences in employment profiles, it is now close to being undisputed that the process of innovation and the innovations this delivers, will play a fundamental role in meeting sustainable development and will involve complementarity between science and entrepreneurship if there is any likelihood of meeting the 17 UN goals.

Urbanisation

[1] https://www.un.org/development/desa/disabilities/envision2030.html

[2] Acs, Z. and Armington, C., 2006. Entrepreneurship, Geography and American Economic Growth. Cambridge, Cambridge University Press.

In 2008 the world reached a point when more than half of its human population lived in cities. And it is predicted that by 2030 the towns and cities of the developing world will make up 80% of urban humanity[3].

This process of urbanisation is driven to a degree by migration resulting from push factors such as drought, the uncertainty of commodity prices, political instability, as well as the pull of economic opportunities[4], and natural population increases in existing cities[5].

The consequence is that many cities are facing a range of problems associated with unclean water, high crime rates, limited transport options and poor planning particularly in relation to housing which results in the creation of shantytowns and not least of all youth unemployment[6]

Despite this shortcoming there are arguments that urbanisation has still led to more prosperity and economic reliability than living in areas with poor soil quality and other rural problems[7] and with the right policies, cities can become engines of transformative change toward inclusive, people-centred, and sustainable development with the World Bank now reporting that cities drive as much as 80% of global GDP which suggests that they are the engines of economic activity.

The level of attraction to cities means that in the coming decades cities will need to generate significant levels of employment as well as overcome the other challenges of consuming close to two-thirds of the world's energy and producing 70% of the world's greenhouse gases[8].

These projections have sparked a growing interest for policy makers across all nations of how to meet the challenges of urbanisation that include creating opportunities for finding sustainable employment and creating sustainable urban environments.

The level of challenge of working to mitigate this set of circumstances sits within the remit of what has been described as a 'wicked problem'[9]. The nature of these 'problems' combine a lack of definition, they have no end as they are constantly changing. Solutions are not clear-cut being neither true nor false answers to the problem. In effect they are more in the nature of degrees of sufficiency to resolve the problem and this complexity is compounded because any mitigations that can help to lessen the problem are unlikely to be able to be tested. This, in itself, is a problem because in most cases outcomes are significant and are irreversible which adds a challenge in defining and implementing any mitigations. This means mitigations require continuous learning so these are not a limited a set of solutions, they are unique and derive their challenge from other problems, they are seen by different stakeholders in different ways, and when solutions are implemented if they fail those responsible for the mitigation are invariably blamed because the impact of the mitigation is commonly large and based on the nature of the problem an ever-changing challenge[10].

The question is, can entrepreneurship help mitigate the 'wicked problem' posed by the UN in its 17 challenges? If so the important question that faces city planners is how to capture value if they are to create to shift the dimensions of the wicked problem by solving some aspects of the challenges of urbanisation.

Mitigation by entrepreneurship

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[3] United Nations, Department of Economic and Social Affairs, Population Division (2014). World Urbanization Prospects: The 2014 Revision, Highlights (ST/ESA/SER.A/352)

[4] McGranahan G. D., Satterthwaite C., Tacoli D Mitlin and I Turok (2009), "Africa's urban transition and the role of regional collaboration", Human Settlements Working Paper. Series, Urban Change 5, IIED, London,.

[5] UNFPA state of the world population. Unleashing the Potential of Urban Growth UNFPA 2007.

[6] http://siteresources.worldbank.org/EXTPREMNET/Resources/EP126.pdf The World Bank: Poverty reduction and economic management network (PREM) Rethinking Cities: Towards Shared Prosperity. October 2013 – Economic Premise. Number 126. Edward Glaeser and Abha Joshi-Ghani

[7] Reshaping Economic, Geography, The World Bank, Washington DC 2009

[8] http://blogs.worldbank.org/developmenttalk/building-cities-innovation-and-growth

[9] 1973, Horst W.J. Rittel and Melvin M. Webber, *Policy Sciences*, "Dilemmas in a General Theory of Planning,"

[10] Haslam S., Shenoy B. Strategic Decision making: a discovery-led approach to critical choices in turbulent times. Kogan Page 2018.

In considering this problem it is important to recognise that science and entrepreneurship are entirely different but there is an underlying complementarity between them because entrepreneurship gives science its economic meaning and this has become more visible as a concept as the value of knowledge in the economy has increased since the 1950s.

This relationship suggests the role of entrepreneurs is going to be increasingly important if the challenges of population growth and urbanisation are to be met[11].

One consequence is that over the last 25 years the relationship between science and its value has resulted in a shift in the balance in the world's research base from meeting the ambition of general advancement to what is now fulfilling a greater mission orientation, which includes recognising the importance of entrepreneurship in driving economic activity.

Taking this concept and using it to support the ideas behind the UN goals for sustainable employment, there appears to an argument for creating the kinds of environments and services that have been pioneered by STPs & AOIs, where technology entrepreneurism is a key output, in both well developed economies as well as in those of less well-developed countries, where there are high rates of urbanisation.

In this context positive contributions to mitigations include evidence that many phenomena scale with city size and do this in a nonlinear way[12]. For example, as city size increases, per capita quantities such as wages and GDP increase by approximately 15% higher than the linear growth seen in smaller cities and levels of new patents are disproportionately granted in larger urban area that demonstrate increasing returns from 'affluence' and 'inventing' with respect to population size [13].

Despite these benefits it is also clear that part of the 'wicked problem' of urbanisation is that the undesired properties of urbanisation also tend to increase following the same 15% rule, including crime, traffic congestion and certain diseases[14],[15],[16].

This evidence suggests cities may have the right ingredients for developing fertile STP & AOIs.

However, to have the necessary impact on employment generation STPs & AOIs need to 'up their game' by adding to their range of services business education programmes which can help to support more entrepreneur led start-ups to scale and reach into wider markets.

In part this view is also echoed by the World Bank[17] that has reported that empirical data has documented that education and entrepreneurship are the two major forces that determine the success of cities.

These shifts in the level of understanding of the problem of creating employment have influenced many governments, including that of the UK, to alter its R&D investment strategies. Today in the UK there is now a new industrial strategy[18] that is supported by associated

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[11] Routledge Handbook of Entrepreneurship in Developing Economies. Williams C.C. and Gurtoo A. 2017

[12] Nomaler O., Frenken K, Heimeriks G (2014) On Scaling of Scientific Knowledge Production in U.S. Metropolitan Areas. PLoS ONE 9(10): e110805. doi:10.
1371/journal.pone.0110805

[13] Bettencourt LMA, Lobo J, Strumsky D, West GB (2010) Urban scaling and its deviations: revealing the structure of wealth, innovation and crime across cities. PLoS One 5: e13541. Available: http://dx.plos.org/10.1371/journal.pone.0013541.

[14] Nomaler O¨, Frenken K, Heimeriks G (2014) On Scaling of Scientific Knowledge Production in U.S. Metropolitan Areas. PLoS ONE 9(10): e110805. doi:10.

[15] Gao X, Guan J (2009) A scale-independent analysis of the performance of the Chinese innovation system. J Informetr 3: 321–331. Available: http://www.sciencedirect.com/science/article/pii/S1751157709000364.

[16] Bettencourt LMA, Lobo J, Strumsky D, West GB (2010) Urban scaling and its deviations: revealing the structure of wealth, innovation and crime across cities. PLoS One 5: e13541. Available: http://dx.plos.org/10.1371/journal.pone.0013541.

[17] Ghani, Ejaz, William Kerr, and Stephen O'Connell. 2012. "What Makes Cities More Competitive? Spatial Determinants of Entrepreneurship in India." Policy Research Working Paper Series No. 6198, World Bank, Washington, DC.

[18] HM Government 2017. Industrial Strategy: Building a Britain fit for the future. November 2017. Nationalarchives.gv.uk/doc/open-government-licence/version/3

research investment strategy which also emphasises the role of entrepreneurs as important players in this strategy and in creating innovation clusters around universities and research organisations based on bringing together research, business expertise and entrepreneurial drive.

The UK government has also continued to support access to R&D tax credits and extended this to providing 'cash-back' for loss making companies that are in the R&D phase of development: much of its funding for innovation is focussed on entrepreneurs not universities; it has merged its Innovation Agency with the National Research Council; and has challenged the performance of universities by measuring their research, teaching and innovation related performance. This new model that assesses performance has been cast to drive innovation and it is looking to its base of entrepreneurs to do this.

There has also been a concomitant growth in interest by students and industry about the relevance of the both the content and nature of degrees courses with a rise in interest in those that include elements of entrepreneurship.

This change in emphasis has not only influenced how and research is funded but also where it is conducted. This includes making funding available to support the work of science and technology parks through programmes such as the Higher Education Innovation Fund, supporting science and innovation audits to understand regional strengths in enabling technologies, strategies to create clusters and some planning authorities are supporting the development of innovation districts all of which are concerned with bringing entrepreneurship to bear on science in its broadest definition.

Clearly these changes have been made in one of the top ten economies; however, it is clear from the literature that entrepreneurship and presence of entrepreneurs is now almost universal.

Entrepreneurship

There is substantial literature about the nature of entrepreneurs and the processes involved in entrepreneurship[19]. Much of this focusses on the theory of knowledge, the nature of being an entrepreneur and the systems of ideas and ideals that form the basis of the economic and political life of nations[20]. This has produced a rich debate of which much is academic; however, practical conclusions on the value added by these the nature of the entrepreneurial activity varies: These variations comprise:

- 'Rent seeking' that look to increase their interests in an asset, such as land or a commodity, but that does not add to the overall stock of national value, e.g., it is about redistribution of wealth, not increasing wealth. The business skills of these entrepreneurs cannot be denied, and these have value as the skills they develop can be transferred to profit seeking entrepreneur led businesses.
- 'Profit seeking' entrepreneurs fall into two groups. The first are those that run 'me-too' businesses which are those individual that exceptional business skills that help them to out-perform others in the same market or sector. Commonly their skill is to be alert to gaps in the market and finding ways to exploit this gap or to increase efficiency.
- The second group are 'profit seeking' entrepreneurs that are highly innovative and introduce new products and services to a market which gives them a competitive advantage in a market or helps to create a new market[21].

[19] Edited by Casson C., Yeung B., Basu A., and Wadeson N. The Oxford Handbook of Entrepreneurship. Oxford University
Press 2006.

[20] Monica Lindgren, Johann Packendorff, (2009) "Social constructionism and entrepreneurship: Basic assumptions and consequences for theory and research", International Journal of Entrepreneurial Behavior & Research, Vol. 15 Issue: 1, pp.25-47,

[21] Baumol W. J., Entrepreneurship: Productive, Unproductive and Destructive. Journal of Political Economy, Vol, 98, No. 5, Part 1 (Oct. 1990), pp 893-921.

- ‘Social entrepreneurs’ are individuals that create large scale, systemic and sustainable change through invention or a different approach to economic development that has first and foremost a focus on social and ecological value creation while trying to optimise the financial value creation to make the outputs sustainable[22].
- The literature also reflects on the various motives for individual taking on the mantle of entrepreneurs. This indicates some individuals being driven to developing entrepreneur led enterprises because of ‘push’ factors which are based on the necessity of earning a living. In contrast some are ‘pulled’ into entrepreneurship because of the opportunity they perceive in the market place. However, this division can be blurred as some that are pushed into entrepreneurship may have the talent but not the time to pursue this type of economic activity because of social constraints such as need to run a family; however, they are still an important asset.
- The value of both groups is that they are alert to market opportunities and create ‘profit seeking’ businesses. It interesting to note that any review of the internet on the fastest growing companies in Africa throws up a range of entrepreneur led businesses, which are deploying new technology, rather than large companies that have historically dominated the employment statistics.
- There is also one other important role. Group entrepreneurs can help the public sector resolve some of the challenges of urbanisation by taking a role as active citizens in developing solutions to their own environment.

However, for completeness it is also important to note that there are arguments about the importance of entrepreneurs in the economy which are based on the view that their contribution derives from their simple participation in what is, in effect, a rising market and that their value is overstated.

This broad-based review and assessment of entrepreneurs has helped to define these individuals as people that specialise in making judgments about the coordination of resources that help to make a new market or can exploit market failure. This encompasses both those individuals that are alert to opportunities in the market, which can arise from market failure as well as those that fit within the Schumpeterian model of entrepreneurship that requires entrepreneurs that create disruptive changes to markets.

These processes need the necessary organisational skills to undertake the dynamic task of exploration and innovation as part of strategic decision making. It is this capacity which is suggested as a fundamental distinction of entrepreneurs when compared with individuals that are just involved in business. It is suggested that those individuals, whether they are innately capable of this capacity or trained in this way of thinking, are key to developing mitigation to ‘wicked problems’ but they cannot do this without the complementary activity of science in its widest definition that includes technology and engineering.

The value of this broader approach to defining entrepreneurship is that it helps to open the debate around the value of both ‘necessity’ driven entrepreneurs and those that are ‘opportunity’ driven in helping to meet the UNESCO targets of sustainable employment because of their capacity to exercise the right commercial judgements as they test ideas against both competition and market demand.

This broad set of descriptors of entrepreneurs also helps to inform those responsible for defining and promulgating regulations and social norms that define the permitted boundaries of entrepreneurship, either formally or informally, that there may be some sense in allocating resources to all entrepreneurs as they may be attracted to use some of the proceeds of rent taking activities into opportunity led businesses.

In making judgements about entrepreneurs it is also important to recognise that innovation as a process and resulting innovations have a context.

Experience shows that innovation can be important at several levels. These range from:

[22] http://www.schwabfound.org/content/what-social-entrepreneur

- Products and services that are entirely new to the world, while others are new just to countries, regions or local markets. The latter are no less valid in their contribution to economic development compared with those that are derive 'new to the world' or entirely novel innovations.
- Going beyond the novelty in national, regional or local market, some innovations are based on more nuanced changes associated the degree of change to products and services that are being promoted. These can range from innovation that brings extreme and radical changes and alter the course of history while, to a much lesser extent, incremental innovations can still add value by producing small step changes to products that might just be commercially valuable because of their influence on pricing.
- Innovations can create new markets through the work of both entrepreneurs driven by 'pull factors' by adding new dimensions to existing market as well as those driven by 'push factors' because both contribute meaningfully to economic and social development.

Harnessing entrepreneurship in the urban environment and the role of STPs and AOIs

Over the last 20 years the service package that has been developed by S&TP and AI have become increasingly sophisticated. There has also been a rise in interest in entrepreneurship as means of earning a living. There is also easier access to funds for entrepreneurs through organisations that cover the spectrum of development of technology from technology readiness levels 1 to 9. These range across grants and loans from government and to private funds.

Behind this evolution is a history of science parks, such as those in the UK, in Birmingham, Bradford, Warwick and the Surrey Research Park that have operated programmes that share the risk with start-ups[23].

These ideas are now nearly universal in countries with facilities that span both rural and city locations, there are examples that cater for specific technologies, some are sponsored by governments and others by corporate. The most recent estimate is that there are some 7,000 active centres today and the breath of the property and service package offered to the market has become highly sophisticated[24].

Pre-incubation for pre-revenue businesses is now an option with facilities that are widely spread across all continents. In UK, but with an international reputation, the SETSquared[25] consortium of 5 UK universities including Surrey's Research Park based operation, that have established what has been ranked for the second year running (2017) the world's top university incubator for its performance. Others that have a prominent internet presence include CcHub[26] (Co-Creation Hub Nigeria).

Co-working spaces are now common place. These are run by a range of operators and offer varying levels of sophistication and opportunities; space, business development events, networking opportunities that include job boards, and these can all be accessed through a range of membership opportunities. Allied to these many have now developed routes to finance through alliances with loan and equity finance programmes.

The Surrey Research Park has created and sponsors a computer games focussed co-working space that is managed by two entrepreneurs from the games sector on its behalf. This offers 46 desks with a Virtual Reality suit that is now focussing on using 5G technology.

Examples include those run by the private sector such as Google Campus that has an international presence across Europe and Asia. Operated by TechHub this offers a range of memberships that include drop-in co-working, 24/7 co working and 24/7 access to private office space. The RAIZCorp[27] incubation programme trades under the trade mark protected

[23] Parry M., City centre and urban edge parks – what lessons can be learnt from each other? Proceedings of the IASP Conference Recife Brazil 2013.

[24] Mian S., Lamine W., and Fayolle A. Technology Business Incubation: An overview of the state of knowledge. Technovation 50-51 (2016) 1-12.

[25] http://www.setsquared.co.uk/start-support/innovation-centres/setsquared-surrey-guildford

[26] https://cchubnigeria.com/

[27] http://www.raizcorp.com/

banner of Prosperator has been built around mentoring and support that reflects the entrepreneurial talent of the business entrepreneur behind the project that offers sponsored and partner entrepreneur programme.

There are reported to be 2,000 business incubators in the Asia region for entrepreneurs[28]. These cater for a wide variety of both rural entrepreneurs as well as examples such as the Tianjin Women's Business Incubator (China), the Rural Technology Business Incubator at IIT Madras, and include facilities in Bangladesh, China, India, Indonesia, Malaysia, Micronesia, Mongolia, Nepal, Philippines, Sri Lanka, Thailand and Vietnam and is recognised by the Indian government.

Accelerators are now common place. These offer business education programmes, mentoring, and training that focus on building investment ready business. Examples in the UK include Telefonica's WAYRA[29] which is now in its 5th year of operation and has invested in 160 companies that have raised over a $150m.

There are also an increasing number of Innovation Challenge led start-up competitions such as the MSDUK Innovation Challenge that is run with the specific target of identifying innovative entrepreneurs from ethnic minority backgrounds across the UK[30].

A number of start-up education programmes have also been established which provide immersive technique to support entrepreneurs with ambition to start and scale businesses. Well known examples include Mind the Bridge[31] which is based in California.

Aurik in South Africa offers a 5-step programme based on a diagnosis of a business, setting growth goals, and then building and scaling with the benefit of ensuring a solid base to the process and helping to mitigate the risks associated with growing the enterprise[32].

Less formal education packages to supplement these projects has also proliferated. Commonly these are associated with University business schools, such as the 'Unrulyversity' from City University with Tech City London, and the University of Surrey Business School Insights Laboratory run at Surrey with the Surrey Research Park.

The one common theme of all these initiatives is that they focus on entrepreneurs. As already recognised entrepreneurs are being drawn into this way of life for a variety of reasons and because of their close proximity in cities many are building effective networks, improving their business skills and improving their credit rating with lenders which has value.

Among this raft of entrepreneurs, it is suggested that there are individuals that have the potential to grow businesses with the right level of business education.

This assumption suggests that the next challenge facing the STP & AOI movement and for cities where there is no STP & AOI initiative, is to build on this existing base of entrepreneurs by introducing strategies for producing HGC which deliver higher levels of employment, exports and high levels of economic impact.

The literature on scaling and, after speaking to entrepreneurs on the Surrey Research Park about experience of scaling, is that much of the what needs to be done is based around access to resources, business and management models.

Scaling business

The extent of the challenge of scaling start-ups has been framed by research conducted in the UK. The first challenge is that the population of HGCs that have scaled successfully among the many thousands of start-ups, is small[33].

A first simple question about growing these is about the process, i.e.:

[28] http://cdn2.hubspot.net/hubfs/521885/China-Internship-Placements_Sep2016/Data_Files/InfodevDocuments_328.pdf?t=1492796739692

[29] https://wayra.co.uk/about-us/

[30] http://innovationchallenge.msduk.org.uk/#overview

[31] https://mindthebridge.com/startups/startup-school/

[32] www.aurik.co.za

[33] NESTA 2009, The Vital 6 per cent; how high-growth innovative businesses generate prosperity.

- Should strategies be adopted to help to grow the proportion of start-ups that have high growth potential?
- Or should strategies be adopted to increase the number of start-ups to create a bigger base from which the same proportion of high growth companies can be developed?

The consensus of most governments is the former option has the greatest merit.

Other findings suggest:

- Statistics show high growth firms are equally involved in high and low-tech sectors. This suggests that incubation and accelerators should adopt broad based entry criteria in cities in less developed economies. This may not be possible for all start-up programmes but is certainly an option for those that have public sector support particularly in urban areas where the level of technological prowess of the pool of entrepreneurs they recruit may not match political aspiration but that can be resolved through the presence of an effective management team that can justify its decisions.
- There are international differences in sectors which exhibit growth in different locations, e.g., with the UK being higher than the US in Finance related business while the opposite is true in manufacturing-based businesses. This suggests that smart specialisation related policies are implemented to help build the capacity of a location to develop as a hotspot for scaling. This suggests that data is needed to assess place-based assets that may that have value to entrepreneurs
- The work of NESTA has shown that the capacity for innovation, is the most important source of growth which suggests R&D needs to focus on producing functional technology that has economic impact that, in some instances, can be linked to local smart specialisation.
- Strategies to support scaling include developing regional talent pools, creating networks of experienced senior managers; encourage the presence of business networks and mentors on sites that can be promoted as role models; help to create a business culture that provides recognition for successful entrepreneurs and successfully scaled companies. This suggests that through developing civic pride those leaders of communities that emerge can be identified and recruited to support these projects
- Building 'hotspots' of high growth firms helps to build momentum for wider improvements in economic performance. This takes a concerted effort and suggests that STPs & AOIs that succeed in creating high proportions of HCBs will help to accelerate regional development.

A review of the current literature concerning growth potential commonly identifies typical management strategies that characterise high growth companies relate to how they approach decision making.

Current thinking that has been developed in the University of Surrey's Business School[34] has laid out the importance of using discovery-led decision making to develop strategic business decision. This process is based on the capacity of companies to spread the decision making necessary to start and scale a business over time based on the level of known and un-known aspects building a company.

To be effective the conclusion is that entrepreneurs that have high growth potential need to have the capacity to:

- Experiment with ideas about the product or service they sell and using this process develop the value proposition by confirming assumptions about both 'what they know' and 'what they do not know' and then developing strategies to turn unknowns and assumptions into knowns.
- Based on reducing assumptions to a level that can be tolerated it is then appropriate to build the necessary business and management model and scale the business but to also

[34] Haslam S., Shenoy B. Strategic Decision making: a discovery-led approach to critical choices in turbulent times. Kogan Page 2018.

be aware that the process of continuing to frame ideas and asking the right question is essential as part of continuous development.

- Framing the right question is critical because it is this process that is important in trying to match market need to a commercial solution (product or service). There are many business development techniques that have been developed to support this process such as using the question 'why'[35] [36], using 'business model canvas' techniques, and developing strategies using 'Balanced Scorecard' score card techniques.

Work done by the Cambridge Judge and Oxford Said Business Schools and published by Barclays[37] has proposed that to be effective in driving scale-ups number of other business and management components in place. These include:

- A number of generic drivers need to be in place within companies. These include having a will to grow and commit to ambitious growth, top quality management which means building a strong and broad team with top management skills, that has the right skills base and an inherent appetite to build relationships with partners with which to strive for success. His needs the company to identify its core competences and the ability to put these into the context of spreading into new markets.
- Having in place systems that enable growth of numbers of employees and profitability. This requires effective systems to be implemented that allow delegation. The advice about encouraging this initial growth is to establish management practices for HR and sales that enable the founding team to move beyond the start-up stage.
- To develop the capacity to accelerate the growth to meet the 20% compound growth needs constant reviews of markets including looking to develop exports. Many aspects of urbanisation in less developed countries are found in many cities. One of the opportunities this presents is to use local talents in any city with ambition to develop to use business techniques by pulling together entrepreneurial talent to be deployed to resolve major challenges.

These details have been summarised in Table[38]

	Actions for SMEs trying to grow	**Actions for... those supporting SME growth (including policy makers)**
Generic drivers of growth		
Commitment	Commit to ambitious growth goals and milestones and share the vision	Investors can check for the presence of commitment to growth through regular discussions of ambition and targets.
Founder / Team	Develop and empower a professional top management team that is complementary in skills: commercial, technical, strategy, execution (processes).	Team Investors are already looking at the quality of the TMT as the resource that is being invested in. Investors should add leadership development as a condition for scalability.
Partners	Develop extra-firm support and collaboration, e.g., professional board, alliances, suppliers and financiers.	Promote interaction among entrepreneurs and their stakeholders. Track and showcase successful alliances.
Take off		

[35] Weyland C. R., The Power of Why: Breaking out in a competitive market. Amazon Publishing 2013.
[36] Lang A., The Power of Why. Harper Collins e-books 2012.
[37] Scale-up UK: Growing Businesses, Growing our Economy. A report from the business schools at the University of Cambridge and the University of Oxford, convened by Barclays.
[38] Recommendations by Judd and Said Business School published in Scale-up UK: Growing Businesses, Growing our Economy. A report from the business schools at the University of Cambridge and the University of Oxford, convened by Barclays.

Management systems	Scale-up requires standardisation and repeatability. Develop an understanding of the portfolio of required management practices and develop/apply them selectively throughout the growth process. Couple the process of implementing management practices with increased delegation.	Raise awareness and make education available on management systems, so entrepreneurs and managers of small firms understand them and can go to adoption. Investors and lenders should make standardisation (at least in a minimal form) a criterion in positive investment decisions Develop and prioritise training programs or interventions that privilege in-depth application of practices rather than simply exposure to them.
Acceleration		
Core competence	Develop flexible and valuable core competences from the outset (e.g., brand, technology, customer knowledge). Apply them to carefully identified and underserved suitable market(s).	SMEs often do not think in terms of core competency, they think in terms of what is being delivered to the customer. A clear articulation of the core competency (if necessary, with the help of coaching) can be a condition for investment/lending.
Strategy	Strategy defines the offer, seen through the eyes of customers, and of the organisation. Avoid reactive and complex product proliferation; instead, seek opportunities to leverage either the current market or the unique competencies.	Stakeholders should offer the possibility (and encouragement) for SME TMTs to look at themselves through external eyes, and to strategize scalable offerings, and demand such thinking for investment /lending decisions.

To support this process the Barclays report also sets out some additional recommendations concerning the infrastructure to support these businesses:

These include:

- Increase the number of UK venture capital funds that are sufficiently large to finance scale-ups.
- Grow the number of experienced UK investors with in-depth sector expertise and strong international networks.
- Develop a UK venture debt market to complement equity funding.
- Establish the London Stock Exchange as the leading pan-European stock market for scale-ups.
- Develop new approaches for creating liquidity in private company shares.
- Collect systematic data about the financing of scale-ups.

In addition to these initiatives city authorities have the opportunity to use their powers to recruit entrepreneurial teams to address urbanisation problems with the view to building solution to some of the aspect of the wicked problem and if this works to commercialist the output.

Examples of how this can be progressed include:

- Collecting data to inform decisions for city development and making this available to entrepreneurs to develop solutions. A recent example of this is the Mapaton project in Mexico City[39].
- A number of cities are now organising hackathons to help to resolve regional challenges. If these are successful solutions can be commercialised.
- Running 'gov-camps' – this involves mixing government officers, entrepreneurs, and those in universities with business school experience in 'laboratories' to work on city-based challenges.

Conclusion

There is a challenge that effects all countries which relates to creating employment for youth. This is most acute, but not exclusively a problem, in those countries that are working hard to raise their level of economic development. This is part of what can be termed a wicked problem that has no single solution that does not have set further problems.

One part of the solution that has been suggested is that as a start the good work done by STPs & ATIs in creating start-ups can be taken further by looking at new ideas to support more of these business scale-up as High Growth Companies.

This is a response to research findings that as low as 6% of start-ups scale to create the greatest bulk of employment.

Entrepreneurship is in many instances a response to unemployment because of necessity as well as being developed in response to opportunity; however, the common characteristic that links both motives for entrepreneurship is an uncertainty. Given that the numbers of entrepreneurs are rising there is a view that if more of those inclined to this way of life could be exposed to relevant business education that is focussed on helping entrepreneurs to scale their companies this could help influence the job market.

This challenge has been recognised and a number of business schools ae focussing on developing business management models to try to increase the level of understanding how this scaling more of the start-ups for which science parks are famed, can be helped to scale to create more employment.

[39] http://www.mapatoncd.mx/