Critical Success Factors for Business Accelerators: A Theoretical Context

Conference Paper · September 2017

CITATIONS
6

READS
6,689

1 author:

Michael Fowle
The Open University (UK)
11 PUBLICATIONS **25** CITATIONS

SEE PROFILE

Critical Success Factors for Business Accelerators: A Theoretical Context

Michael Fowle, Northumbria University, Newcastle upon Tyne, UK

Key words: business Accelerators, seed Accelerators, economic growth, startups

ABSTRACT

This paper examines the sparse but rapidly growing literature on Business (and Seed) Accelerators. It summarises the Critical Success Factors (CSFs) that have been identified by academic authors, and matches each factor to operational and strategic activity within an Accelerator and to theoretical arguments for and against their importance. The 10 CSFs identified are (1) Links to sources of funding, (2) Brand, (3) Business expertise, (4) Product expertise, (5) Startup financial support, (6) Urgency created by time-limited programme, (7) Quality of the programme, (8) Mentorship, (9) Networking, and (10) Action-orientation.

The aim is to match CSFs with literature from a wider range of disciplines, particularly psychology, sociology, economics, leadership and learning. These each help explain, justify, inform and give a theoretical context to the documented CSFs. The background models, once identified, are useful tools in the planning and analysis of Accelerators.

Accelerators are a relatively new phenomenon and there is correspondingly little analysis of their structure, impact and performance. Even the expressions "Business Accelerator" and "Seed Accelerator" are prone to misuse and confusion. This paper examines about 30 sources explicitly dealing with Business Accelerators and a larger number of papers that are valuable in understanding the foundation, aims and management of Accelerators, factors influencing their success and the possible theoretical basis for key claims and observations.

The paper searches the literature for the derivation and current use of key terms, contrasts academic definitions with each other and practitioner viewpoints, and offers a working definition of an Accelerator. There is no specific literature review section because the majority of the paper is itself a review. The paper identifies 10 CSFs, groups them into five broad themes, and concludes with a synthesis of selected current and classical theoretical models that offer explanations of the links between reported CSFs, business practice and startup performance in Accelerators.

The findings have strong implications for Accelerators in their decisions about Location, Delivery, Funding and Branding. With Accelerator numbers doubling in the UK over three years (Salido, Sabás & Freixas, 2013) high expectations from industry, education and policy makers, and very little consensus on best practice, this paper fills an important gap in the literature.

The perspective in this paper is intentionally theoretical, but there is a pressing need for an empirical review to confirm that theory and practice are aligned.

METHODOLOGY

The exercise is complicated by the variety of organisations calling themselves Business or Seed Accelerators and the wide range of stakeholders with differing outcome expectations. Accelerators are important but the term itself is now a source of confusion. Y Combinator, the world's first, most successful and most influential Accelerator does not use the word "Accelerator". Universities, local government, angel investors, large corporations and cooperatives are founding true Accelerators, and just as many are using the same expression to describe organisations that are clearly not Accelerators. The clearest definition is provided by Cohen and Hochberg (2014): "A fixed-term, cohort-based program, including mentorship and educational components, that culminates in a public pitch event or demo-day."

Accelerators are themselves only a relatively recent phenomenon. Consequently, the academic literature is sparse. There have been several attempts to bring together lists of Critical Success Factors but these are generally based on CSFs derived for Incubators, not Accelerators.

With so many sponsors and such uncertainty in the definition there is a wide divergence in the structures and aims of Business Accelerators. This paper starts by answering the question "what is a Business Accelerator?" It contrasts Incubators and Accelerators, and offers a generic working definition.

The definition is followed by a brief review of the history of the wider Accelerator phenomenon. Given the publicity and press coverage received by Accelerators, the literature is perhaps surprisingly limited, but Y Combinator was only founded in 2005 so specific references are necessarily recent. Some papers on the earlier incubator movement have been profoundly influential and there is continuing debate as to whether an Accelerator is more than simply a rapid incubator.

The review focuses in more depth on the identification of Critical Success Factors. Authors vary in their terminology and there is a large measure of duplication but it has been possible to identify ten discrete Critical Success Factors. These are listed and analysed in the context of the activities and circumstances of an Accelerator.

Critical Success Factors are grouped into five categories: (i) Context, (ii) Content, (iii) Community, (iv) Cash and (v) Cachet. Each category contains one or more specific factors. For example, Cash is divided into the Availability of Startup Funding (such as seed capital for those Accelerators that offer it) and Links to Wider Sources of Funding (improving the chances of Accelerator graduates' finding financial support and surviving long enough to develop and prosper).

For each factor, the paper analyses the academic attribution and either criticises the relevance of underlying theory or evaluates the scientific reliability of the supporting data. Is Startup Funding a success factor or a handicap? There is conflicting evidence and the data is highly dependent on the circumstances in which the funding is approved and deployed. Philosophical and methodological analysis is applied to the five categories and ten individual factors. The result is a list of justified critical success factors laid out in a logical grouping.

CONTRIBUTION

It is widely acknowledged that entrepreneurship is a key factor in economic growth (Wennekers & Thurik, 1999) and Accelerators are increasingly seen as an important policy tool, arguably the most important, for encouraging local entrepreneurship. The World Bank (2012) says "Entrepreneurial activity is a pillar of economic growth", and there is a strong correlation between entrepreneurship and growth (Smith 2010, Audretsch & Keilbach 2004). The Kauffman Foundation (Kane 2010) estimates that, between 1977 and 2005 in the USA, established companies destroyed a net 1m jobs per year, while each year on average 3m new jobs were created by startups in their first year. For balance, it should also be noted that the highest start-up rates are to be found in the poorest countries, and some economists have observed that entrepreneurs often earn less than they might reasonably expect in employment, suggesting to some that entrepreneurship is an inefficient use of human resources.

There is a strong current research focus on ways to create and drive entrepreneurship, either at an individual level (Ries, 2011; Osterwalder & Pigneur, 2010) or at an eco-system level through education (Seikkula-Leino et al, 2010), policy (Audretsch et al, 2007) or simple investment (Feld, 2012). Perhaps the most popular intervention, linking all these approaches is the Business Accelerator.

There may be hundreds of new Accelerators worldwide in 2016 (Hallen, Bingham & Cohen, 2016, suggest an average of nearly 40 per year in the US alone) but there is very little to guide the creators or explain how success can be achieved. This paper represents the first attempt to collate and synthesise the work of a range of authors to create a definitive list of Critical Success Factors for Business Accelerators. The pragmatic matching of critical success factors to strategic and operational design decisions is intended to inform policy makers and practitioners alike.

INCUBATORS AND ACCELERATORS

Business Accelerators are a relatively new phenomenon, with the first being founded in 2005. This relative disciplinary youth means that there is a thin legacy of academic literature. However, the high levels of public and political interest in the impact of Accelerators have created a wave of very recent papers, many of them working papers, and often by younger researchers. Consequently, for an academic literature review, a higher-than-usual proportion of the material used in the outline review is sourced from websites and articles in general publications, rather than from academic journals. Most of the market data currently available

is in industry reports with particularly helpful content in the publications from NESTA (Miller & Bound, 2011) and Telefonica (Salido et al., 2013).

Perhaps the most frequently quoted definition of an Accelerator (in Cohen & Hochberg, 2014; and Carmel & Richman, 2013) is offered by Miller and Bound (2011). In their NESTA report they claim an Accelerator has five definitive features: (i) an application process that is open to all, yet highly competitive; (ii) provision of pre-seed investment, usually in exchange for equity; (iii) a focus on small teams and not individual founders; (iv) time-limited support comprising programmed events and intensive mentoring; and (v) cohorts or classes of startups rather than individual companies.

The definition is popular because it is clear, and there are few competing definitions to rely on. However, it is not a perfect definition. The broad range of industry-specific Accelerators such as Techstars (IT), London's The Fashion Project (fashion) and Springboard's women-led companies in alternating Life Sciences and Digital Media cohorts all make Miller and Bound's feature (i) inapplicable: these Accelerators are not open to all.

The requirement (ii) for pre-seed investment is less convincing when the UK's Entrepreneurial Spark (2015) styles itself "the largest free business Accelerator in the world". It, and Aalto's Startup Sauna, offer no startup funding (Karimaa, 2012). University Accelerators, particularly in Europe, rarely offer significant (or indeed any) startup funding and many also breach the first condition of openness by insisting that at least one founder is a current or recent student.

A useful and fairly comprehensive review of incubators and Accelerators is offered by Thomas van Huijgevoort (2012). His thesis is that Accelerators are a distinct phenomenon and more than simply a specific form of third generation incubator. Accelerators have two distinguishing features: (i) shorter incubation period and (ii) selection and admission criteria. He offers a hybrid definition of a business Accelerator by combining the work of Christianson (2009) and Miller & Bound (2011) to produce a list of eight elements.

1. Funding
2. Small teams, not individual founders
3. Defined period usually 3-6 months
4. Intensive coaching/education programme
5. Networking
6. An open application process – which is highly competitive
7. Optionally: a Demo Day at graduation
8. Optionally: free or subsidised office space

As this list uses Miller & Bound, the same objections apply.

Bill Aulet, the Managing Director of the Martin Trust Centre for MIT Entrepreneurship suggests a simpler list of defining features: "space, structure, funding and status" (quoted in

Feld, 2012, p118). Again, the inclusion of funding is specifically American as US and Canadian Accelerators tend to offer investment, while European Accelerators often do not.

For the purposes of clarity, this review adopts its own working definition. An Accelerator is a support environment for speeding the growth of startup or young companies or new business projects, including (a) co-location, (b) cohorts of alumni progressing together towards a time-limited goal, (c) a structured learning and development programme and (d) the benefits of networking within the programme and with the wider community.

This specifically excludes virtual Accelerators (Ruohonen & Oy, 2007) although, as a model, they have particular promise for targeted micro-niche programmes where there is no, or insufficient, regional concentration of potential clients. The insistence on co-location also runs counter to the opinions of Nolan (2003) and von Zedtwitz (2003) whose definitions allow for virtual incubators, although their work precedes the first Accelerator. The exclusion is consistent with the wider purpose of this review. A more contentious feature of the working definition applied in this paper is the absence of any requirement to provide funding. This is explained above but remains the main issue that might divide a US from a European readership.

Halt, Fesnak, Donch and Stiles (2014) discuss incubators and Accelerators as strategic mechanisms for universities to exploit their dormant intellectual property assets. The chapter heading is "Monetization Strategies for Universities and Research Centers" and they are more concerned with licensing, IPO (the issue of shares to the public) and other exits for the universities. Their vision of Accelerators is that they are a strategic extension of the activities of a Technology Transfer programme (Halt et al, 2014, p 211).

Incubators are often publicly owned, or operate within regional government or universities. Abetti and Rancourt (2006) found that one third of incubators in the US, Finland and Ukraine are tied to universities. "Incubation has become a popular method to support economic development" (Mian, 2016) and their purpose is to strengthen regional or national economies. Wynarczyk & Raine (2005) conclude that business incubators in the North East region of the UK contribute in three ways: they add value to the regional economy; they improve outcomes for individual businesses and they encourage business startup. Their measures of success include occupancy rates and business survival, both of which may be perverse measures (see below).

There is a natural conflict between universities, governments and non-profit organisations and the commercial intent of Accelerators and their alumni. There is also a conflict between universities who are ranked and rewarded by their success in retaining and awarding degrees to their students, and startup founders who, if successful, should commit themselves unreservedly to their new ventures. The universities want the business success but are punished by the immediate consequences of that success (Carney, 2013). Successful university accelerators are likely to increase the drop-out rate as students leave to pursue their fledgling new ventures. Business schools rely heavily on accrediting bodies such as EQUIS, AMBA and AACSB, and also on public rankings, which often assess graduate salaries as an indicator

of the impact of the schools' programmes. One of the most influential sources, the Financial Times (2017), publishes its methodology for the European Business School rankings stating: "The first two alumni criteria are average income three years after graduation and salary increase compared with pre-MBA salary, both weighted at 20 per cent." Although "the incorporated self-employed earn much more per hour and work many more hours than the salaried and unincorporated", startup founders, particularly in their first years, pay themselves less than they might otherwise earn (Levine & Rubinstein, 2016). Consequently, a boom in entrepreneurship will reduce the average salary of graduates and damage the ranking of the business school.

Accelerators tend to have a direct profit goal and many commentators see them as one end of the venture capital spectrum. Fehder & Hochberg (2014), who compare Accelerators to angel investors and incubators, find that areas with established Accelerators enjoy higher levels of entrepreneurial financing activity both within the Accelerator and more widely. This stimulus to the entrepreneurial eco-system is likely to satisfy local government and the Accelerator's owners, and it echoes the theme of Feld's (2012) Startup Communities.

Success Factors for Incubators

Hackett and Dilts (2004a, p66) draw on the work of Smilor (1987), Campbell et al., (1985) and Merrifield (1987) to create a list of Critical Success Factors (CSFs). Although these are necessarily directed at incubators, they are reproduced here because they are the academic starting point for much of the recent work on CSFs for Accelerators. Hackett and Dilts group their CSFs in three domains: the community, the incubator and the "incubatees".

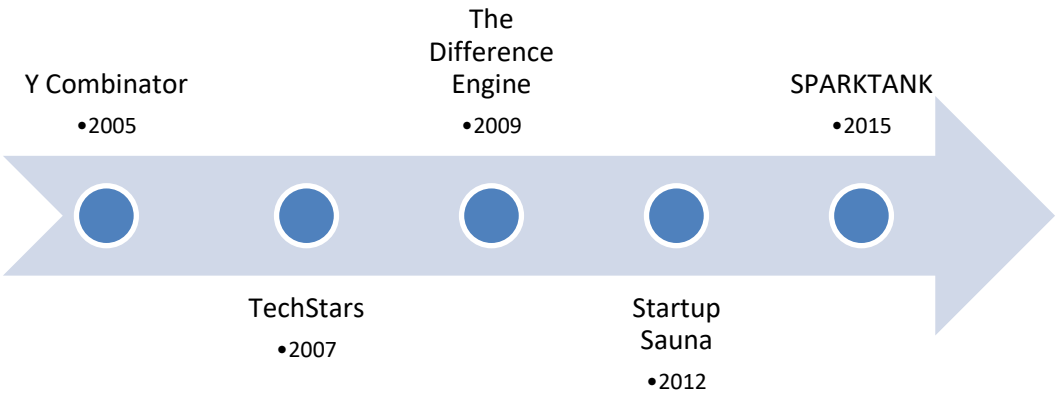
Community	Incubator
1. Community support	1. Perception of success
2. Entrepreneurial network	2. Access to finance
3. Entrepreneurial education	3. In-kind financial support
4. Ties to a University	4. Selection & monitoring for incubatees
	5. On-site business expertise
Incubatee	6. Milestones with clear policies & procedures
1. Business attractiveness	
2. Perception of success	

The Importance of Business Accelerators

The rise of the business Accelerator is a consequence of parallel changes in technology and business philosophy. There are greatly reduced startup and infrastructure costs for new businesses, especially for cheap, scalable IT-based startups. The Internet and the Cloud make a range of business tools available free or for very little charge. Online services are flexible and scalable and obviate the need for large capital investment, and Eric Ries's (2011) Lean Startup approach makes rapid iteration an expectation, not an exception.

The world's first Accelerator, Y Combinator, started in Cambridge Massachusetts in March 2005. Over the following two years two more Accelerators (Techstars and Seedcamp) were formed. To give an idea of the rate of growth, there were 3 Accelerators worldwide in 2007, 100 in all of Europe in 2013 and more than 65 initiatives calling themselves Accelerators or Incubators in London alone in 2016 (Tech London). Economically, Accelerators may be highly effective. Telefonica's 2013 report "The Rise of the UK Accelerator and Incubator Ecosystem" claims a low 8% failure rate for Accelerator graduates and Y Combinator claims that the market valuation of its graduate companies exceeds $30b.

Hallen et al (2016) cite Seedcamp as opening in London in 2007 but Seedcamp is not, and has never called itself, a true Accelerator. [Explain] In 2009 the first true Accelerator opened outside the US, when the publicly-funded Difference Engine was started by Jon Bradford in Newcastle upon Tyne in the heart of England's North East. Since then Newcastle has seen Ignite100 (2011), SPARKTANK (2015), and, in 2016, The Launch Factory and Entrepreneurial Spark. SPARKTANK is unusual as it was founded as a stand-alone free Accelerator and is now embedded within a post-graduate degree in entrepreneurship. Entrepreneurial Spark, the world's largest Accelerator by participant numbers, stands out by virtue of its size and the fact that it neither charges, nor takes an equity stake nor offers startup capital.



The promise of the Accelerator approach to business generation has been recognised by corporations (Barclays, O2, Google), universities (Stanford, MIT, Cambridge) and regional government (Barcelona Activa, Startup Chile) as well as by individual investors such as Paul Graham, Brad Feld and David Cohen. The focus, aims and structures of Accelerators vary widely and there is no universal definition that adequately brings all together. This is a problem when government, industrial and venture capital backing are becoming widely available for Accelerator projects.

ACCELERATOR CRITICAL SUCCESS FACTORS

Jed Christianson was the first to specifically research the emerging world of Accelerators (in his Cambridge University MBA thesis, 2009). He surveyed 100 Accelerator graduates and created a short list of the five aspects of Accelerator provision they valued most highly. They are shown here in order of importance.

1. Links to sources of funding
2. Brand
3. Business
4. Product
5. Startup financial support

Miller and Bound (2011) add two valuable additional factors:

6. Urgency created by time-limited programme
7. Quality of the programme

A final factor, perhaps harder to define, is the contribution of internal networking (Huijegevoort, 2014). Miller & Bound (2011) suggest that the value derives largely from social learning, especially for the less-experienced entrepreneurs; but peer-pressure, mutual support, expectation and motivation are also significant components.

8. Internal networking

Radojevich-Kelley & Hoffman find that mentorship, its inclusion and quality in an Accelerator, is the key success factor for Accelerator graduates. Good mentorship increases the chances of finding onward investment, particularly from VCs and angels.

9. Mentorship

Jukka Karimaa (2012) describes the factors to which he attributes the success of Helsinki's Startup Sauna. They are Acceleration, Networking and Brand Associations. All three of these refer to the quality of intervention, be it mentoring, coaching or the formal aspects of the programme, and they reinforce and confirm the findings of the other researchers.

I add a tenth factor, Action-orientation, because it is the essence of acceleration, is at the heart of Lean Startup philosophy and is assumed by most of the authors from whose writing these factors are drawn. The table below matches individual factors to authors.

CSFs by Author	Christianson	Miller & Bound	Huijegevoort	Radojevich-Kelley & Hoffman Karimaa	Aulet
Links to sources of funding	✓				✓
Brand Value and Perceptions of Success	✓			✓	
Business Expertise	✓				✓
Product Expertise	✓				
Startup financial support	✓				✓
Urgency created by time-limited programme		✓		✓	✓
Quality of the programme		✓			✓
Internal networking			✓	✓	
Mentorship				✓	✓
Action-orientation				✓	

Table 1: List of Identified Critical Success Factors by Source

Thematic Treatment of CSFs	Context	Content	Community	Cash	Cachet
Links to sources of funding	✓			✓	
Brand Value					✓
Business Expertise		✓			
Product Expertise	✓	✓			
Startup financial support				✓	
Urgency		✓			
Quality of the programme		✓			
Internal networking			✓		
Mentorship	✓		✓		
Action-orientation		✓			

Table 2: Critical Success Factors by Theme

Table 2 groups the 10 CSFs into five wider thematic groups. They are discussed in the following section.

Context

Accelerators flourish where entrepreneurship flourishes. Hence Silicon Valley (Y Combinator, 500 Startups), New York (Techstars, Angelpad), London (TechStars, Seedcamp), Helsinki (Startup Sauna), Berlin (Axel Springer Plug and Play, Microsoft Ventures) and Amsterdam (Rockstart, Startupbootcamp) each have several Accelerators. This clustering may be a symptom of local demand, or the Accelerators themselves may be a contributory factor in regional growth. Certainly David Cohen and Brad Feld's Techstars appears to have been a factor in creating an entrepreneurial boom in Boulder, Colorado (Feld, 2012).

Richard Florida (2014a) identifies three elements that contribute to a city's ability to attract the "creative class": Talent, Tolerance and Technology. He looks specifically at quality of life citing (1) social offerings such as entertainment and culture, (2) openness, which is effectively tolerance of new arrivals and their lifestyles, and (3) aesthetics which includes architecture, landmarks, geography and the streets of a city. "What makes an enduring difference in a city's quality of life are small, lowcost, community-initiated, and bottom-up improvements like parks, bike paths, neighborhood improvements, and so on" (Florida, 2014a, p203).

A successful Accelerator must either tap a local entrepreneurship resource or draw founders to it. It is not surprising that the top "city brands" overlap closely with the world's most successful Accelerators, whether ranked for "buzz" and "assets" (Guardian, 2014) or for Presence, Place, Prerequisites, People, Pulse and Potential (Anholt, 2016 and 2006).

Clearly, the business environment will affect outcomes so a review of PESTEL factors will give an indication of economic health. Michael Porter's Diamond model is much criticised, especially by Rugman (1991 and 1992), and is flawed as a predictor of national growth. It is, however, a helpful starting place for an examination of the context for Accelerators and their founders and particularly striking to note how Porter's Advanced Factors are weighted differently for entrepreneurial businesses. The model identifies Competition, Factor Conditions, Demand and Support Industries as key contributors to regional growth. Of these, Competition is less important for IP-based startup companies. Factor Conditions are also different for information-based startups where the availability of appropriate technical skills matters far more than geographical or geological resources. Support industries are essential, as the "Lean" approach encourages outsourcing. Virtual teams remove the need for co-location in many areas but financing, legal support, marketing and advisors all benefit from face-to-face interaction (Kenney and Paton, 2005).

The third of Porter's four factors, Demand, is key. Most Accelerators adopt Eric Ries's (2011) Lean Startup approach with a focus on a Minimum Viable Product (MVP). Y Combinator avoids Ries's terminology but advises its founders to "launch fast and iterate". This iteration is a cycle of customer validation and requires close contact with customers. While this can be done well using a variety of communication channels, it is done best when the interaction is personal and direct. "Until you launch you're designing for hypothetical or at best tame users, instead of actual ones" (Y Combinator, 2016). The conclusion is that the best location for an Accelerator is as close as possible to the customers its founders need to reach.

Content

This section includes the two Critical Success Factors, Business expertise (CSF 3) and Product expertise (CSF 4) and, specifically, the manner in which this learning is acquired by the founders. It covers the structure of an Accelerator programme as well as the specific information content of the workshops, presentations and required outputs. Location, funding, mentors and culture are all addressed in other sections.

In practice, the quality of office space seems to matter less than the location, although Fowle and Jussila (2016), co-founders of SPARKTANK, emphasise that culture and expectation are key and claim, "The moderating effects of community require physical interaction and a geographical centre". Y Combinator does not house its founders and, indeed, no longer describes itself as an Accelerator, but it does insist that at least one member of each startup team is resident in the San Francisco Bay area for the three-month duration. Most Accelerators do offer a working environment and this is a definitive requirement in this paper and for many authorities (Aulet quoted in Feld, 2012; van Huijgevoort, 2012; Miller & Bound, 2011) although not all (Ruohonen & Oy, 2007; Nolan, 2003; von Zedtwitz, 2003).

There are two identified areas of learned content: market expertise and product expertise. It is self-evident that knowledge and experience in both areas will contribute to business success. Product/market issues are the most important in Bruno and Leidecker's (1988) review of the causes of business failure, followed by ineffective teams. Strong expertise may help with issues of design, timing and sales strategies, but when delivered in an experiential setting they also contribute knowledge and know-how to the entrepreneurial team.

Jaffee (2007) identifies sources of improved learning for students, including interaction with peers, active engagement and problem-solving, and richer relationships with faculty. All of these apply to the working and learning environment of an Accelerator offering co-location. Schein (1993) says "dialogue is necessary as a vehicle for understanding cultures and subcultures, and that organizational learning will ultimately depend upon such cultural understanding. Dialogue thus becomes a central element of any model of organizational transformation" and if dialogue makes learning faster, improves problem solving and is the key to the Learning Organisation, then the practice of dialogue in Accelerator cohorts also creates a culture of dialogue that founders are more likely to take into their startups.

Double loop learning (Argyris and Schon, 1974) involves a cycle of monitoring and adjustment that focuses on purpose, conceptual understanding and strategy – closer in principle to Schumpeter's (1942) creative destruction. The evolution of an entrepreneurial business necessarily requires double loop learning. In an Accelerator the reflective mechanism, the external viewpoint and the challenge (Schon, 1983), come from internal cohorts and team coaching as well as external contacts with mentors, potential investors and the alumni network.

A sense of urgency is a crucial element in new venture creation, project management and change management. "Within a Lean implementation the need to create a sense of urgency is

vital since this reinforces the Lean competitive philosophy of speed to market" (Bhasin, 2012). Kotter (2008) identifies a number of ways to create a sense of urgency, including establishing a clear vision, fostering commitment, communicating urgency and setting short-term goals, and celebrating wins. These are all characteristic of the Accelerator approach where founders are completely committed, and the structure of the Accelerator creates a clearly articulated purpose, artificial urgent deadlines and peer pressure (and assistance) to perform.

Action-orientation is its own field of research, grounded in emotional regulation and linked with resilience, a key entrepreneurial trait. Those who are action-oriented choose their own goals, engage intellectually and emotionally with their work and are able to discard projects that cease to be viable (Moss, 2016). The Longman Business English Dictionary gives a simple definition: "Using practical methods which involve doing things to deal with problems, not just talking about ideas, plans, or theories." It is easy to manipulate temporary changes in action-orientation, and repeated temporary changes become habitual. Van Putten, Zeelenberg, and Van Dijk (2009) show that, following a disappointment, a reflective exercise based on thought and emotion tended to promote "state-orientation", while reflection focused on ways to improve or capitalise on the setback increased "action-orientation". This is a key finding for Accelerators (and an instructive finding for academic courses).

Community

The internal and external community for an Accelerator give access to resources, direct support, confidence, and improved learning. This section will focus only on learning which has been proposed as the decisive factor in organisational performance (Lopez et al, 2005).

Accelerators differ from incubators because, among other things, they focus on the development of their alumni. Even the use of the word "alumni" suggests parallels with the academic world. Because Accelerators are active, the content is necessarily practical with constant testing, experimentation and problem solving. David Kolb's Learning Cycle of action, reflection, conception and application (Kolb, 2014) draws heavily on the work of Dewey, Piaget and Lewin, and more recently acknowledges the influence of William James. There is an almost Cartesian underlying theme that everything, including the examination of experience, is itself simply experience.

There is increasing recognition of the importance of reflection as an essential part of learning. Graham Gibbs's (1988) reflective cycle is widely adopted in classrooms and is an integral part of many training programmes, including medicine, because, as Boyd and Fales (1983) say in their title, "Reflective learning key to learning from experience".

Accelerators are built on experience and the structure of the programmes implicitly involve reflection -from Y Combinator's dinners, to Springboard's mentors and SPARKTANK's team coaching. "Funding startups in batches works better for everyone than the usual approach. It's more efficient for us, but also better for the startups, who probably end up helping one another at least as much as we help them" (Y Combinator, 2016).

Local industry, the entrepreneurial eco-system and universities are all important components of the community surrounding an Accelerator. Large companies like Apple, Google and Intel, create silos of expertise, attract specialists, spin-off new ideas and themselves become customers to specialist startups. Universities perform most of these functions, and are often leading or significant partners in science parks and incubators. There is room for discussion about whether universities are effective in teaching entrepreneurship (Carrier, 2007; Sanchez, 2103; Küttim et al, 2014), and some evidence that university incubators, university VC funding and their commercial orientation all have less impact on the spin-out rate than internal technology-transfer policies and the research eminence of the university (Di Gregorio and Shane, 2003). There is, however, no doubt that universities contribute to the flow of research, ideas and innovations. They make good neighbours for Accelerators.

Cash

Cash is the oxygen of business. It links to Sources of funding (CSF 1) and Startup funding (CSF 5).

Davila et al (2003) identify access to venture capital as a success factor for young companies. As with other factors, there is a debate about the causal relationship: do venture capitalists (VCs) cluster in areas where there is demand for startup funding, or does the presence of VCs create startups? Hellmand and Puri (2001) suggest that VCs are part of a self-reinforcing cycle that stimulates economic growth. They also suggest that the presence of VCs affects the choices, strategy, aspirations and trajectory of new ventures, specifying HR practices including reward schemes and stock options.

Pfeffer and Salancik (1978) describe how investors open doors to networks and improve access to a range of support resources. Zaheer et al (2000) also focus on the value of networking and partnership opportunities, while Shleifer and Vishny (1997) point out that the VCs themselves are a resource beyond funding as they contribute directly to the company's decision-making, management strength and experience.

Participation in an Accelerator, of itself, may significantly mitigate the principal-agent problem in agreeing funding (Kaplan and Stromberg, 2001). An Accelerator gives mentors, angels and venture capitalists months to develop a relationship with founders and assess their suitability. Funding can be highly competitive and the challenge of presenting a convincing case to investors, though potentially distracting (Castrogiovanni, 1996), creates another target for founders and increases the acceleration bonus.

Occasionally the lure of funding and the competition to win investment distracts the founders from the core purpose of the company (Van Dyke, 2012). It might just as easily be argued that a lack of funding can become a fatal distraction for a startup. Either way the opportunity to find financial backing is a positive contribution, but the Accelerator must not allow its funders to deviate from the prime purpose of engaging with their target market.

Cachet

The final category is cachet, the special recognition or prestige that comes from the Accelerator's brand and reputation (CSF 2).

Michael Spence in his 2001 Nobel prize-winning "Job Market Signaling" argues that, for an employer, a candidate's educational qualifications are a proxy for other forms of proof of ability and would have value even if the educational content were worthless. The same argument applies to Accelerators. A theoretical IT startup founded through Y Combinator, funded by Kleiner Perkins Caufield Byers and based in Mountain View is not an ordinary startup. Its brand associations are so strong that it commands a level of respect even though the description says not a word about its product or market.

George Akerlof's "Market for Lemons" (2001) describes the information asymmetry between seller and purchaser of a used car. Lack of evidence drives the purchaser to assume the worst about the car and to discount its value to offset the risk. This uncertainty exists in startup companies, which are not only inherently risky, but their activity is not subject to the same levels of disclosure as more established or public companies. The risk is reflected in the very high discount factors, typically 50-70%, used to value their project cash flows (Bhagat, 2014). The valuation penalty is reduced as the perceived risk is reduced, and that is a material benefit delivered by positive brand associations, such as those offered by a recognised Accelerator (Williamson, 1979).

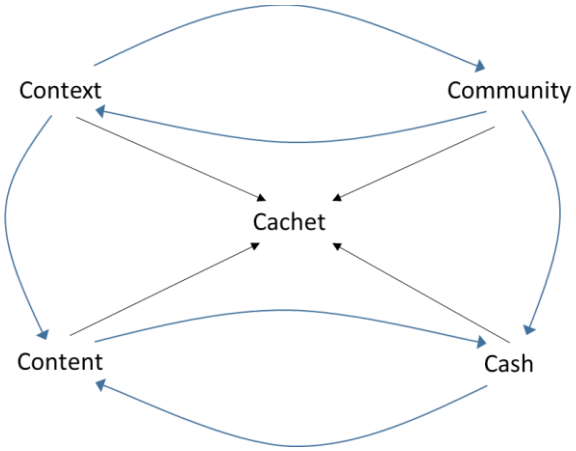
The effect is not limited to the raising of capital. In any negotiation (for example, with landlords, suppliers or staff) the reputation of the startup, which has no track record, is disproportionately affected by association with an Accelerator.

For the Accelerator itself, reputation allows it to attract more and better applicants, the increased quality creates better outcomes and a richer alumni network and those enhance the reputation still further in a virtuous cycle. A second feedback loop is created when the Accelerator can signal its exclusivity. Robert Cialdini (1993) lists Scarcity and Social Proof as two of his six principles of persuasion, and gives the example of a nightclub hiring bouncers to stimulate desire. Stock and Balachander (2005) interpret the manipulation of waiting lists for cars and other new products as signalling. This is the value in Techstars revealing their 1% acceptance rate and 500 Startups publishing their "thousands of applications" for 30 places.

The Accelerator needs to demonstrate its quality and desirability through exclusivity and social proof. It needs either to be remarkable or to innovate to keep itself in the public eye, and it needs to show that its alumni prosper.

CONCLUSION

There is a short history and limited empirical evidence for the performance of Accelerators. This paper shows that their apparent success has strong theoretical backing and suggests that Accelerators work by, intentionally or fortuitously, combining the advantages observed in a wide range of business-related fields. The structure of an Accelerator allows these separate sources of benefit to complement each other. A drive towards action creates results that reinforce the brand and attract investors and mentors. These improve the quality of the experience for founders and allows a more selective intake. This paper does not take a systems dynamics approach, but there is a clear self-reinforcing, positive feedback loop: a spiral of success. Context influences the Contents and structure of the Accelerator, the nature of the community, the available cash and is a significant part of the Cachet or brand value of the Accelerator. The diagram below summarises the influence each theme has on the other. Reinforcing loops continue until one element reaches a limiting value. The challenge for Accelerators is to nurture each of these five elements so each expands and contributes to the overall success.



There are many types, approaches and measures of success for a Business Accelerator. Each may have a slightly different purpose, aims and values and each may be accountable to its own unique set of stakeholders. However, for general success an Accelerator should:

1. Be located close to the customers for its companies
2. Focus on the cohort and group learning
3. Create strong internal and external networks
4. Offer funding as a reward, not a guarantee
5. Integrate with investor networks
6. Build its brand through innovative features, positive associations and remarkable alumni stories
7. Be selective, choose the best and signal exclusivity
8. Have a high-quality programme with entrepreneurial coaches and time pressure to achieve goals.

REFERENCES AND BIBLIOGRAPHY

Abetti, P. A., & Rancourt, C. F. (2006). University incubators as agents for technology transfer and economic growth: case studies in USA, Ukraine and Finland. *International journal of technology transfer and commercialisation*, *5*(4), 308-337.

Accelerator-London (2015). Retrieved from http://www.Accelerator-london.com/for-business/incubation/

Advantage Accelerator, Ohio State University (2015) Retrieved from http://advantage.oregonstate.edu/about-advantage-Accelerator

Akerlof, G. (1995). The market for "lemons": Quality uncertainty and the market mechanism. In *Essential Readings in Economics* (pp. 175-188). Macmillan Education UK.

Allen, D.N., McCluskey, R., 1990. Structure, policy, services and performance in the business incubator industry. Entrepreneurship Theory and Practice 15 (2), 61–77

Amit, R., Glosten, L., & Muller, E. (1990). Entrepreneurial ability, venture investments, and risk sharing. *Management science*, *36*(10), 1233-1246.

Anholt, S. (2006). The Anholt-GMI city brands index: How the world sees the world's cities. *Place Branding and Public Diplomacy*, *2*(1), 18-31.

Anholt, S. (2016) The GfK City Brand Index, retrieved 10 August 2016 from http://www.gfk.com/fileadmin/user_upload/dyna_content/Global/documents/Press_Releases/2016/20160119_City-Brand-Index-2016_press-release_vfinal.pdf

Argyris, C. (1982). Reasoning, learning, and action: Individual and organizational. Jossey-Bass.

Argyris, C., & Schon, D. A. (1974). Theory in practice: Increasing professional effectiveness. Jossey-Bass.

Audretsch, D. B., Grilo, I., & Thurik, A. R. (Eds.). (2007). *Handbook of research on entrepreneurship policy*. Edward Elgar Publishing.

Bergek, A., & Norrman, C. (2008). Incubator best practice: A framework. Technovation, 28(1), 20-28.

Bhagat, S. (2014). Why do venture capitalists use such high discount rates?.*The Journal of Risk Finance*, *15*(1), 94-98.

Bhasin, S. (2012). An appropriate change strategy for lean success.*Management Decision*, *50*(3), 439-458.

Blichfeldt, B. S., & Andersen, J. R. (2006). Creating a wider audience for action research: Learning from case-study research. Journal of Research Practice, 2(1), 2.

Bliemel, M. J., Flores, R. G., Hamilius, J., & Gomes, H. (2013). Accelerate Australia far: Exploring the emergence of seed Accelerators within the innovation ecosystem down-under. Australian Centre for Entrepreneurship Research Exchange, February, 4-7.

Bøllingtoft, A., & Ulhøi, J. P. (2005). The networked business incubator—leveraging entrepreneurial agency?. Journal of business venturing, 20(2), 265-290.

Boyd, E. M., & Fales, A. W. (1983). Reflective learning key to learning from experience. *Journal of Humanistic Psychology*, *23*(2), 99-117.

Bruno, A. V., & Leidecker, J. K. (1988). Causes of new venture failure: 1960s vs. 1980s. *Business Horizons*, *31*(6), 51-56.

Bruton, G., Khavul, S., Siegel, D., & Wright, M. (2015). New Financial Alternatives in Seeding Entrepreneurship: Microfinance, Crowdfunding, and Peer-to-Peer Innovations. Entrepreneurship Theory and Practice, 39(1), 9-26.

Campbell, C., Kendrick, R. C., & Samuelson, D. S. (1985). Stalking the latent entrepreneur: business incubators and economic development. Economic Development Review, 3(2), 43-49.

Capdevila, I. (2014). Coworking Spaces and the Localized Dynamics of Innovation. The Case of Barcelona. The Case of Barcelona.(August 1, 2014).

Carmel, E., & Richman, J. (2013). Building International Social Capital at the Startup Chile Accelerator. Available at SSRN 2326003.

Carney, M. (2013). Retrieved from http://pando.com/2013/03/26/for-university-Accelerators-good-intentions-arent-good-enough/

Carrier, C. (2007). Strategies for teaching entrepreneurship: What else beyond lectures, case studies and business plans. *Handbook of research in entrepreneurship education*, *1*, 143-159.

Carvalho, L., & Galina, S. (2014). Business services and business incubators. In Actas de la 4ª Conferencia Ibérica de Emprendimiento (p. 89).

Casasnovas, G., & Bruno, A. (2013). Scaling Social Ventures: An Exploratory Study of Social Incubators and Accelerators.

Castrogiovanni, G. J. (1996). Pre-startup planning and the survival of new small businesses: Theoretical linkages. *Journal of management*, *22*(6), 801-822.

Chan, K. F., & Lau, T. (2005). Assessing technology incubator programs in the science park: the good, the bad and the ugly. Technovation, 25(10), 1215-1228.

Christiansen, J. (2009). Copying Y Combinator, A framework for developing Seed Accelerator Programmes. Cambridge: University of Cambridge. (MBA Dissertation ad Judge Business School and Jesus College).

Cialdini, R. B. (1993). Influence: The psychology of persuasion. *New York: Morrow*.

Cohen, S. (2013). What Do Accelerators Do? Insights from Incubators and Angels. Innovations, 8(3-4), 19-25.

Cohen, S., & Hochberg, Y. V. (2014). Accelerating startups: The seed Accelerator phenomenon. Available at SSRN 2418000.

Collinson, S., & Gregson, G. (2003). Knowledge networks for new technology–based firms: an international comparison of local entrepreneurship promotion. R&D Management, 33(2), 189-208.

Davila, A., Foster, G., & Gupta, M. (2003). Venture capital financing and the growth of startup firms. *Journal of business venturing*, *18*(6), 689-708.

Dee, N., Gill, D., Lacher, R., Livesey, F., & Minshall, T. (2012). Centre for Technology Management.

Dempwolf, C. S., Auer, J., & D'Ippolito, M. Innovation Accelerators: Defining Characteristics Among Startup Assistance Organizations.

Di Gregorio, D., & Shane, S. (2003). Why do some universities generate more start-ups than others? *Research policy*, *32*(2), 209-227.

Entrepreneurial Spark. Retrieved 10 August 2016 from http://www.entrepreneurial-spark.com/

Evans, D. S., & Jovanovic, B. (1989). An estimated model of entrepreneurial choice under liquidity constraints. *The Journal of Political Economy*, 808-827.

Fehder, D. C., & Hochberg, Y. V. (2014). Accelerators and the regional supply of venture capital investment. Available at SSRN.

Feld, B. (2012). Startup communities: Building an entrepreneurial ecosystem in your city. John Wiley & Sons.

Fernández, F. J. R. (2015). Competencia emprendedora: Emprender en la sociedad del conocimiento. La iniciativa Tiimiakatemia en Finlandia y su adaptación al País Vasco. Modelo de enseñanza Tiimiakatemia. Adaptación realizada" Team Academy Euskadi". La competencia emprendedora. Formulación de la... In Competencias genéricas en educación superior: metodologías específicas para su desarrollo (pp. 103-140). Narcea.

Financial Times (2016, February 24) retrieved from https://www.ft.com/content/72b3a752-d9be-11e6-944b-e7eb37a6aa8e.

Florida, R. (2014b). The Rise of the Creative Class--Revisited: Revised and Expanded. Basic books.

Florida, R. (2014a). The creative class and economic development. *Economic Development Quarterly*, *28*(3), 196-205.

Fowle, M. (2006, February). Interdentity: Belonging, Behaviour and Identity Online. In Telecommunications, 2006. AICT-ICIW'06. International Conference on Internet and Web Applications and Services/Advanced International Conference on (pp. 118-118). IEEE.

Fowle, M., & Jussila, N. (2016). The Adoption of a Finnish Learning Model in the UK. ECIE, 11th European Conference on Innovation and Entrepreneurship

Gedeon, S. (2010). What is entrepreneurship? *Entrepreneurial practice review*, *1*(3).

Gibbs, G. (1988). Learning by doing: A guide to teaching and learning methods.

Gran, E. R. (2016) Impact of the Reputation of Venture Capital Firms and Startup Participation in Accelerator Programs on Early-Stage Startup Growth. *CMC Senior Theses*. Paper 1295. Retrieved from http://scholarship.claremont.edu/cmc_theses/1295

Granovetter, M. (1985). Economic action and social structure: the problem of embeddedness. American journal of sociology, 481-510.

Granovetter, M. S. (1973). The strength of weak ties. American journal of sociology, 1360-1380.

Guardian. (2014). Guardian Cities Brand Barometer, retrieved 10 August 2016 from https://www.theguardian.com/cities/gallery/2014/may/06/from-milan-to-mecca-the-worlds-most-powerful-city-brands-revealed

Hackett, S. M., & Dilts, D. M. (2004a). A systematic review of business incubation research. The Journal of Technology Transfer, 29(1), 55-82.

Hackett, S. M., & Dilts, D. M. (2004b). A real options-driven theory of business incubation. *The Journal of Technology Transfer*, *29*(1), 41-54.

Haines, J. K. (2014, October). Iterating an Innovation Model: Challenges and Opportunities in Adapting Accelerator Practices in Evolving Ecosystems. In Ethnographic Praxis in Industry Conference Proceedings (Vol. 2014, No. 1, pp. 282-295).

Hall, D. (2007). Fail fast, fail cheap. Business Week, 32.

Hallen, B. L., Bingham, C., & Cohen, S. (2016). Do accelerators accelerate? The role of indirect learning in new venture development.

Halt Jr, G. B., Fesnak, R., Donch, J. C., & Stiles, A. R. (2014). Monetization Strategies for Universities and Research Centers. In Intellectual Property in Consumer Electronics, Software and Technology Startups (pp. 209-216). Springer New York.

Hancock, D. R., & Algozzine, B. (2006). Doing case study research: A practical guide for beginning researchers. Teachers College Press.

Hansen, M. T., Chesbrough, H. W., Nohria, N., & Sull, D. N. (2000). Networked incubators. Harvard business review, 78(5), 74-84.

Hellman, F. T., & Puri, M. (2001). The determinants of venture capital funding: evidence across countries. *Journal of Corporate Finance*, *6*, 241-289.

Hoang, H., & Antoncic, B. (2003). Network-based research in entrepreneurship: A critical review. Journal of business venturing, 18(2), 165-187.

Hughes, M., Ireland, R. D., & Morgan, R. E. (2007). Stimulating dynamic value: Social capital and business incubation as a pathway to competitive success. Long Range Planning, 40(2), 154-177.

Isabelle, D. A. (2013). Key Factors Affecting a Technology Entrepreneur's Choice of Incubator or Accelerator. Technology Innovation Management Review, 3(2).

Jaffee, D. (2007). Peer cohorts and the unintended consequences of freshman learning communities. *College Teaching*, *55*(2), 65-71.

Kane, T. (2010). The importance of startups in job creation and job destruction. Kauffman Foundation Research Series: Firm Formation and Economic Growth.

Kaplan, S. N., & Stromberg, P. (2001). *Venture capitalists as principals: Contracting, screening, and monitoring* (No. w8202). National Bureau of Economic Research.

Karimaa, J. (2012). Open sourced seed Accelerator as a facilitator of startup success. International Business.

Kenney, M., & Patton, D. (2005). Entrepreneurial geographies: support networks in three high-technology industries. *Economic Geography*, *81*(2), 201-228.

Kerr, W. R., Nanda, R., & Rhodes-Kropf, M. (2014). Entrepreneurship as experimentation (No. w20358). National Bureau of Economic Research.

Kolb, D. A. (2014). Experiential learning: Experience as the source of learning and development. FT press.

Kotter, J. P. (2008). *A sense of urgency*. Harvard Business Press.

Küttim, M., Kallaste, M., Venesaar, U., & Kiis, A. (2014). Entrepreneurship education at university level and students' entrepreneurial intentions. *Procedia-Social and Behavioral Sciences*, *110*, 658-668.

Lendrem, D. W., & Lendrem, B. C. (2013). Torching the Haystack: modelling fast-fail strategies in drug development. Drug discovery today, 18(7), 331-336.

Levine, R., & Rubinstein, Y. (2016). Smart and Illicit: Who Becomes an Entrepreneur and do they earn more? *The Quarterly Journal of Economics*, qjw044.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry* (Vol. 75). Sage.

Lyons, T. S., Li, S., & Zhao, B. (2003). The state of the Wisconsin incubation industry in 2002: an analysis of the results of the survey of membership. Report prepared for The Wisconsin Business Incubator Association.

Martens, M. L., Jennings, J. E., & Jennings, P. D. (2007). Do the stories they tell get them the money they need? The role of entrepreneurial narratives in resource acquisition. Academy of Management Journal, 50(5), 1107-1132.

Mason, C., & Brown, R. (2014). Entrepreneurial Ecosystems and Growth-Oriented Entrepreneurship. Final Report to OECD, Paris.

Mason, C., & Harrison, R. (2016). 5 Spatial variations in the role of equity investment in the financing of. *Small Firms in Urban and Rural Locations*, 132.

McAdam, M., & Marlow, S. (2007). Building futures or stealing secrets? Entrepreneurial cooperation and conflict within business incubators. International Small Business Journal, 25(4), 361-382.

Melbourne Accelerator Program (MAP). Retrieved from http://map.eng.unimelb.edu.au/about/

Merrifield, D. B. (1987). New business incubators. Journal of Business Venturing, 2(4), 277-284.

Mian, S. A. (1996). Assessing value-added contributions of university technology business incubators to tenant firms. Research policy, 25(3), 325-335.

Mian, S. (2016). Business incubation and incubator mechanisms. In Technology Entrepreneurship and Business Incubation: Theory, Practice, Lessons Learned (pp. 1-33).

Miller, P., & Bound, K. (2011). The Startup Factories: The rise of Accelerator programmes to support new technology ventures. NESTA.

Moss, S., (2016). Retrieved 10 August 2016 from http://www.sicotests.com/psyarticle.asp

Nolan, A. (2003). Public policy on business incubators: an OECD perspective. International Journal of Entrepreneurship and Innovation Management, 3(1), 22-30.

Osterwalder, A., & Pigneur, Y. (2010). Business model generation: a handbook for visionaries, game changers, and challengers. John Wiley & Sons.

Pfeffer, J., & Salancik, G. R. (2003). The external control of organizations: A resource dependence perspective. Stanford University Press.

Price, R. (2004). The role of service providers in establishing networked regional business Accelerators in Utah. International Journal of Technology Management, 27(5), 465-474.

Radojevich-Kelley, N., & Hoffman, D. L. (2012). Analysis of Accelerator companies: An exploratory case study of their programs, processes, and early results. Small Business Institute® Journal, 8(2), 54-70.

Rapoport, R. N. (1970). Three dilemmas in action research with special reference to the Tavistock experience. Human relations, 23(6), 499-513.

Ries, E. (2011). The lean startup: How today's entrepreneurs use continuous innovation to create radically successful businesses. Random House LLC.

Rugman, A. M. (1991). *Diamond in the rough: Porter and Canada's international competitiveness*. University of Toronto. Ontario Centre for International Business.

Rugman, A. M. (1992). Porter takes the wrong turn. *Business Quarterly*, *56*(3), 59-64.

Ruohonen, J., & Oy, A. (2007). VICTA–Virtual ICT Accelerator. Technology Review, 219(2007).

Salido, E., Sabás, M., & Freixas, P. (2013). The Accelerator and Incubator Ecosystem in Europe. Telefonica Europe.

Sánchez, J. C. (2013). The impact of an entrepreneurship education program on entrepreneurial competencies and intention. *Journal of Small Business Management*, *51*(3), 447-465.

Saxenian, A. (1996). Regional advantage. Harvard University Press

Schein, E. H. (1993). On dialogue, culture, and organizational learning. *Organizational dynamics*, *22*(2), 40-51.

Schön, D. A. (1983). The reflective practitioner: How professionals think in action (Vol. 5126). Basic books.

Schumpeter, J. (1942). Creative destruction. *Capitalism, socialism and democracy*, 82-5.

Seikkula-Leino, J., Ruskovaara, E., Ikavalko, M., Mattila, J., & Rytkola, T. (2010). Promoting entrepreneurship education: the role of the teacher? *Education+ Training*, *52*(2), 117-127.

Shane, S., & Venkataraman, S. (2001). Entrepreneurship as a field of research: A response to Zahra and Dess, Singh, and Erikson. Academy of management review, 26(1), 13-16.

Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of management review*, *25*(1), 217-226.

Shleifer, A., & Vishny, R. W. (1997). A survey of corporate governance. *The journal of finance*, *52*(2), 737-783.

Smilor, R. W. (1987). Managing the incubator system: critical success factors to accelerate new company development. Engineering Management, IEEE Transactions on, (3), 146-155.

Smith, A. (1991). *The wealth of nations* (Vol. 3). A. S. Skinner (Ed.). New York, NY: Prometheus Books.

Spence, M. (1973). Job market signaling. *The quarterly journal of Economics*, 355-374.

Stake, R. E. (1995). The art of case study research. Thousand Oaks, CA: Sage.

Stock, A., & Balachander, S. (2005). The making of a "hot product": A signaling explanation of marketers' scarcity strategy. *Management Science*, *51*(8), 1181-1192.

Tech London (2017, February 24) retrieved from https://www.tech.london/incubators.

Tekic, Z., Kovacevic, I., Vrgovic, P., Orcik, A., Todorovic, V., & Jovanovic, M. (2013). iDEA Lab: Empowering university–industry collaboration through students' entrepreneurship and open innovation. In Proceedings of International Conference on Technology Transfer (pp. 269-272).

Thornton, P. H. (1999). The sociology of entrepreneurship. Annual review of sociology, 19-46.

Van Dyke, M. (2012). How much risk are you prepared to take? *Nature biotechnology*, *30*(9), 821-824.

Van Huijgevoort, T. (2012). The 'Business Accelerator': Just a Different Name for a Business Incubator.

Van Putten, M., Zeelenberg, M., & Van Dijk, E. (2009). Dealing with missed opportunities: Action vs. state orientation moderates inaction inertia. *Journal of Experimental Social Psychology*, *45*(4), 808-815.

Venkataraman, S. (1997). The distinctive domain of entrepreneurship research.Advances in entrepreneurship, firm emergence and growth, 3(1), 119-138.

Wennekers, S., & Thurik, R. (1999). Linking entrepreneurship and economic growth. Small business economics, 13(1), 27-56.

Wiggins, J., & Gibson, D. V. (2003). Overview of US incubators and the case of the Austin Technology Incubator. International Journal of Entrepreneurship and Innovation Management, 3(1), 56-66.

Williamson, O. E. (1979). Transaction-cost economics: the governance of contractual relations. *The journal of law & economics*, *22*(2), 233-261.

Wilson, K. E., & Silva, F. (2013). Policies for Seed and Early Stage Finance.

Wynarczyk, P., & Raine, A. (2005). The performance of business incubators and their potential development in the north east region of england. Local Economy, 20(2), 205-220.

Y Combinator (2016) Retrieved 10 August 2016 from https://www.ycombinator.com

Zaheer, A., Gulati, R., & Nohria, N. (2000). Strategic networks. *Strategic management journal*, *21*(3), 203.

Zahra, S., & Dess, G. G. (2001). Entrepreneurship as a field of research: Encouraging dialogue and debate. Academy of Management Review, 26(1), 8-10.

Zedtwitz, M. V. (2003). Classification and management of incubators: aligning strategic objectives and competitive scope for new business facilitation. International Journal of Entrepreneurship and Innovation Management, 3(1), 176-196.