Portfolio Company Selection Criteria: Accelerators vs Venture Capitalists

Cody Chang
Claremont McKenna College

Recommended Citation
http://scholarship.claremont.edu/cmc_theses/566
PORTFOLIO COMPANY SELECTION CRITERIA: ACCELERATORS VS VENTURE CAPITALISTS

SUBMITTED TO

PROFESSOR JANET K SMITH

AND

DEAN GREGORY HESS

BY

CODY CHANG

FOR

SENIOR THESIS

SPRING 2013

MAY 6, 2013
# Table of Contents

Acknowledgements ........................................................................................................ iv

Abstract ........................................................................................................................... v

I. Introduction .................................................................................................................. 6

II. Testable Hypotheses .................................................................................................. 10

III. Accelerator Structure ............................................................................................... 12

   1. History of Accelerators ...................................................................................... 12

   2. Accelerator vs Incubator .................................................................................. 13

   3. Rise of Accelerators ......................................................................................... 16

   4. Geographical Considerations ........................................................................... 18

   5. Accelerator Benefits .......................................................................................... 19

   6. Downsides of Accelerators ............................................................................... 22

   7. Accelerator Revenue Model ............................................................................ 23

   8. What is a ‘Successful’ Accelerator? .................................................................. 26

   9. The ‘Lean’ Methodology .................................................................................. 28

   10. Asymmetric Information ............................................................................... 29

IV. Data & Methodology ................................................................................................. 31

   1. Data Collection ................................................................................................. 31

   2. Data Description ............................................................................................... 33

V. Results and Analysis ................................................................................................. 35

VI. Conclusion ................................................................................................................ 40

Tables and Figures .......................................................................................................... 43

References: ...................................................................................................................... 52
Acknowledgements

I would like to express my sincere gratitude to Professor Janet K. Smith for her continued guidance and support during the completion of this thesis. This work would not have been possible without her valuable suggestions and insightful comments. Additionally, I thank Yohei Nakajima CMC’09 for suggesting the initial topic of interest for this thesis.

I would also like to thank the following individuals whose contacts and industry insights were invaluable to my thesis: Jed Christiansen, Michael Hartstein, Matthew Goldman of Wallaby Financial, Benjamin Kuo of SoCal Tech, Brian Stern at DPEC Partners, Thomas Hartocollis at Microsoft, Gerard Painter at Standard & Poor’s, Holly Wallace at Merrill Lynch for introducing me to Raymond Thek, Stephen Lehtonen for introducing me to UCLA Professor George Abe, Professor Sarah S. Orr for introducing me to Molly Schmidt of Tech Coast Angels, Bill Weeks for introducing me to Ellen Weber of Robin Hood Ventures, Simon Mills for introducing me to Jorge Mata, Kevin McNeely for introducing me to Karen Roche and the partners of all the accelerators that contributed to the completion of my study as well as the Global Accelerator Network.
Abstract

The explosive growth of ‘accelerators’ in the United States has given entrepreneurs and their startups the opportunity to pursue seed-stage financing. While the specific economic role of accelerators remains unclear, a study comparing the selection of portfolio companies between accelerators and venture capitalists was performed. A difference of means was performed on the responses per question between the collected 19 accelerators’ response and the 100 venture capitalists’ response, recorded from a prior study. It is found that venture capitalists place significantly more weight, than accelerators, on the potential of the startup’s product or service to be proprietary, to enter a high-growth market with little threat of competition within the first 3 years, and to deliver a high financial return within 5 to 10 years. The results also indicate that both accelerators and venture capitalists emphasize different attributes of the entrepreneur and venture team when considering selection.
I. Introduction

Entrepreneurial ventures known as ‘startups’ are high growth companies focused on repeatable and scalable business models (Graham 2012; Blank 2012). ‘Startups’ became a popular term during the dot-com boom of 1997 - 2000 to describe Internet based businesses. Google, Yahoo!, Amazon, and eBay were among these businesses that enjoyed explosive growth and immense popularity during this period. These businesses typically had lower barriers to entry into markets as the Internet was still immature and lacking in competitors. There was very little market saturation and the information potential of the internet was still unexplored. (Evans and Wurster, 1999; Hagel and Singer, 1999). Capital investments that funded these ‘startups’, beyond personal savings, came from venture capitalists (VCs), angel investors and sometimes business incubators (Hansen et al. 2000). These technology incubators held a portfolio of technology companies and offered retail office space on short term leases to these startups as well as guidance and coaching in areas of finance, business planning, marketing, legal, and manufacturing, etc (Peters et al. 2004). In some instances, they even offered financing in return for equity in the startups.

Incubators generally acted as informed third parties that offered services to startups at their seed-stage while simultaneously exposing these startups to the incubator’s network of investors. Previous literature has shown that such a third-party aids investment decisions for angels and VCs, especially when information may be asymmetric (Viscusi 1978; Biglaiser, 1993; Lizzeri, 1999). These third parties typically perform the basic due diligence on startups and serve as a monitor of progress during the
development of the startup until they reach venture capital or angel funding. Their observations may prove useful to a potential investor unfamiliar with the startup or the entrepreneur seeking funding.

Increasing speculation in the financial markets, low interest rates in 1998–1999 and the theory that startups should be “Getting Big Fast” were among a variety of factors that contributed to the eventual dot-com burst (Goldfarb, 2007). Renowned incubators like CMGi in Andover, Massachusetts, went from twelve operating companies and $1 billion in cash to absolutely nothing. Other incubators that serviced startups in Silicon Valley and other major cities dissolved as well. In recent years, however, there has been a reemergence of tech startups perhaps attributable to the falling costs of technology, turbulent financial markets in America and the wide accessibility to broadband Internet. This is observed in Figure 1, from the number of initial public offerings of technology companies in recent years compared to those during the years following the dot-com burst.

With the rise of startups, ‘accelerators’, which fill the role of a third party informant or certifier as business incubators in the past, have risen as well. In 2005, Y-Combinator (YC), the first of many accelerators in the United States, opened its doors to the first class in Boston, Massachusetts. Currently, there are over 149 private, non-institution based accelerators in the United States and YC has grown to provide over $1 billion in total funding while their exited portfolio companies netting well over that amount. ("Y Combinator," 2013) The distinguishing difference between incubators of the dot-com era and current accelerators is that accelerators profit not from leasing office space, but from investing in startups and the financial return yielded from the startups'
exit, defined by an initial public offering or acquisition. This appears to be similar to the financial motives of a VC.

VCs emerged in the 1940’s as an alternative to banks and financial institutions for funding (Gompers, 1994). Entrepreneurs that sought VC investments typically operated new ventures that were too small to raise capital in public markets and did not possess a history that qualified them for a bank loan or debt offering. Thus, VC investments were made during the early-stages of ventures, exposing the investment to high risk. In return, they took a large amount of equity in the ventures they invested in and usually subjected potential ventures to rigorous screening, prior to investing. Though the entrepreneurs had to sacrifice ownership of their venture, they gained the necessary financing to grow much quicker than a traditional business.

While current VCs each offer different areas and levels of resources to businesses, existing literature classifies VCs into a single homogenous group. They differ from consultants, as VCs offer financial resources (Casamatta, 2003) and differ from banks and institutions, as they are active investors in mentoring and coaching as well as investors with financial incentives (Chemmanur and Chen, 2006; Ueda, 2004; Winton and Yerramilli, 2008).

They are also seen as ‘informed agents’ that can identify promising startups and enable the startups to obtain other resources (Megginson and Weiss, 1991). VCs are then, both ‘scouts’ for startups as well as ‘coaches’ for startups (Hellmann, 2000).

Accelerators, providing similar financial and non-financial value, may be interpreted as VCs at a smaller scale. The difference being the smaller investment made by an accelerator and the timing of their investment, usually made during the seed stages.
of a startup. Prior studies and literature also suggest that VCs evaluate a startup primarily on the startup’s business plan as well as interviews conducted with the entrepreneurial team. Among other interactions, VCs consider the entrepreneur, the product or service, and the market/financial considerations, such as investment size and exit potential prior to investing (Vinig and Haan, 2001; Hisrich and Jankowicz, 1990; Mason and Stark, 2004).

The purpose of this paper is to explore the differences in relevant criteria that technology accelerators use to admit startups and to compare that against venture capitalists’ (VCs) criteria when deciding whether or not to fund a business.

Given the different levels of risk at the time of investment in the lifecycle of the startup, I hypothesize that accelerators would weigh greater significance to the characteristics of the entrepreneur than VCs, less significance in the maturity of the product or service the startup provides, and greater significance on financial return. My study uses a survey-based research method to explore the potential overlap in these VC considerations and accelerator admission criteria. Additionally, my paper seeks to distinguish incubators and accelerators, explore the value added by accelerators, and the role of accelerators as intermediaries between startups and VCs. To the best of my knowledge, this paper represents the first attempt to compare the admissions and investment criteria between accelerators and VCs. The results of this study will hopefully prove useful to entrepreneurs seeking admissions into accelerators and to other parties interested in the dynamics of the investment role of accelerators.
II. Testable Hypotheses

The emergence of accelerators in the economy is a relatively new phenomenon. Because of the young nature of accelerators, research in the field of accelerators is very limited. However, previous literature about the changing investment behavior of individuals and institutions given different levels of risk has been well recorded. The most relevant of such literature is the risk-return tradeoff which states that higher risk investments have a greater possibility of yielding higher return. Because of the perceived risk of the investment made so early on in the lifecycle of the startup by accelerators, I hypothesize that the expected financial return demanded will be weighed considerably more for accelerators than VCs.

Additionally, the startups that generally apply to accelerator programs are at their seed-stage, many of which do not have prototypes or a working product. An investment made at this early stage is generally quite risky as there may be many unforeseen changes during the growth of the startup. Assuming that accelerators behave as rational investors, they will look for attributes in the startups to mitigate their risk. Since the startups that generally apply have limited development on their idea or product/service, I hypothesize that accelerators will evaluate the entrepreneur or the venture team more stringently than the product or service the team seeks to provide. Given that the startup idea may undergo changes, I also hypothesize that it is unlikely accelerators will weigh the maturity of the product or service as heavily as VCs.

These three hypotheses will be tested using the surveys sent to accelerators. A difference of means test will determine whether or not there is a significant difference
between VCs and accelerators when evaluating potential portfolio companies in the proposed three aspects.
III. Accelerator Structure

1. History of Accelerators

The literal definition of a ‘startup’ is a company that is in the first stage of its operations e.g. starting. This term can be used to describe small businesses like restaurants or software-as-a-service companies. However, popular sources seem to attribute this term to mean a business that possesses a model which is highly scalable and replicable. The high returns to investors and quick exits brought by technology companies during the dot-com era led popular media and investors to associate the term with technology related ventures. While the validity of this widespread definition may be debatable, this paper will use this popular view as its definition of a ‘startup’.

The typical funding cycle that a startup undergoes is first seed stage, venture capital, then public financing i.e. initial public offering. Seed stage financing includes borrowing money from family and friends, bootstrapping, accumulating credit card debt, or perhaps even funding from a job source. (Dean & Giglierano, 1990) Some entrepreneurs will look for micro-financing and loans as well as newer avenues, such as crowdfunding, to gain initial capital. Once these entrepreneurs have developed a minimum viable product or have enjoyed some market success, angel investors will typically be interested and give the entrepreneurs a second round of funding. Angel investments vary in size and frequency but generally fund the entrepreneur’s startup until it is ready for venture capital financing or has developed significant traction. Business incubators evolved to service seed staged startups that needed additional resources for development.
In 1959, Joseph Mancuso opened the Batavia Industrial Center as the first ‘business incubator’ where businesses were given support through a wide array of resources and services. (Stone, 2008) This included, but were not limited, help with business basics, networking activities, marketing assistance, high-speed Internet access, accounting/financial management, access to bank loans, loan funds and guarantee programs, presentation skills, links to higher education resources, links to strategic partners, access to angel investors or venture capital, comprehensive business training programs, advisory boards and mentors, management team identification, business etiquette, technology commercialization assistance, regulatory compliance, intellectual property management, and more. (2006, NBIA) In 2005, North American incubator programs assisted over 27,000 companies and generated annual revenues of $17 billion. (Knopp, 2007) Most of these incubators were non-profits that focused on seed-stage startups and ranged across industries from biotech to engineering.

In the late 1990s investors started to look for businesses that would bring in quicker and larger payoffs. Soon ‘private’ or for-profit incubation programs were launched and accounted for nearly 30% of all incubation programs. The dot-com bust, however, closed many of these incubators and by 2002, only 16% of all incubators were for-profit. By 2006, only 6% were for profit. (2006, NBIA) The altruistic non-profit model of an incubator was soon commandeered by the failure of for-profit incubators, many of which no longer exist today.

2. **Accelerator vs Incubator**
Business accelerators have been argued to be a more evolved form of the for-profit incubators (Menell, 2010) as accelerators select businesses into their program with the intent to gain financially from their initial investment while offering a suite of business development resources and actively participating in the development of the startup. (Why Incubate when You Can Accelerate?, 2000) The two terms, ‘incubator’ and ‘accelerator’ have been frequently used interchangeably in a variety of primary and secondary sources. Both institutions target and service seed-staged businesses and provide a variety of resources with the vision to see the startup succeed.

One major difference not seen in incubators in the past, but are prevalent in most accelerators is that the programs are cohort-based and its participants are usually only active for three to five months during the accelerator’s program. These participants conclude the program on a ‘Demo Day’ where they present the progress of the past few months and pitch in front of potential investors. (Konezal, 2012) Afterwards, participants continue to have access to the accelerator’s legal, PR, etc resources, but the business development interaction shifts to the next entering group of participants via a new application and screening process. Participants of incubators, however, usually stay for three to five years or extended periods of time to develop their product. While for-profit incubators may have had a more similar model to accelerators, non-profit incubators continue to allow their participants extended access to their resources when their participants typically need help in research and development. (2006, NBIA)

Accelerators provide seed amounts of funding in return for equity in a participant’s startup. (DesMarais, 2012) They have a vested interest to see those startups scale and eventually grow to exit the market such that the accelerator partners see a
financial return. For-profit incubators varied in their methods of gaining financial returns while non-profit incubators measured their success by the materialization of business ideas by their participants. Non-profit incubators were usually run by government agencies, universities or other large institutions that had little financial gain.

Although a formalized definition of an accelerator program has been compiled, many programs that advertises or brands themselves as accelerators do not adhere entirely to this definition. Additionally, the primary goals of different accelerators are usually dictated by the partners that run the programs who may choose to edit the format of their program based on those goals. While there appears to be a few shared attributes across most accelerators, it is difficult and inaccurate to state that all accelerators follow a specific, uniform model. The National Endowment for Science, Technology and in the United Kingdom provides the below definition of an accelerator program (Miller & Bound, 2011):

- An application process that is open to all, yet highly competitive.
- Provision of pre-seed investment, usually in exchange for equity.
- A focus on small teams, not individual founders.
- Time-limited support comprising programmed events and intensive mentoring.
- Cohorts or ‘classes’ of startups rather than individual companies

Both incubators and accelerators share certain institutional structures, but exceptions can always be found. For example, AmplifyLA located in Los Angeles, has rolling admissions and does not constrict its program to three to five months since they accept entrepreneurs as they apply. Highland Capital Partners’ Summer Accelerator Camp provides all their resources to admitted startups, but do not take equity for the
capital they provide the startups. Further examples of differing accelerator programs can be found upon increased examination.

3. **Rise of Accelerators**

The first institution that used the same financial and revenue model of accelerators and offered similar resources in development was actually a medical devices ‘incubator’, the Foundry, in 1998. (Fishback, et al., 2007) However Y-Combinator (YC), started in 2005, and TechStars, started in 2006, have been credited as the leaders of the current accelerator models, with their focus in technology and internet startups.

The full effects of the dot-com burst were realized in 2002-2003 when funding for technology startups was no longer as accessible. Venture capitalists in the technology industry became bearish and avoided the same pitfalls of investing in technology companies. The falling costs of electronic hardware and software soon lowered the capital costs of entering into the technology sector. Additionally the talent of computer scientists continually progressed and did not stagnate. (Chafkin, 2012) The ensuing volatility in the market by the 2008 financial crisis and recession changed the investment options open to privately wealthy individuals. Suddenly, high risk investment options no longer provided high return. The financial markets were volatile and new regulatory laws further added ambiguity to the direction of financial markets.

Financial centers soon down sized and highly competent bankers as well as graduating students that no longer wished to seek a career in financial sector swelled the employment talent pool. These two factors pushed investors towards other options of investments. The media and publicity of technology companies exiting, like MySpace
and Facebook, during the financial meltdown further added furor for talented individuals to pursue an entrepreneurial path in technology and computer science.

Popular media theorizes that given the investors dissatisfaction of the financial returns from the market and the supply of technology ventures, intermediary entrepreneurs looked to replicate the third party information access that incubators had. Venture capitalists moved further up the investment tier and suddenly, there was a gap in seed stage funding. Angels, while still accessible, did not possess institutional support that incubators had. Accelerators, which provided such institutional support, seemed to fill the gap that incubators had and operated as a viable vehicle for investment to satisfy privately wealthy individuals and investors.

Many of these wealthy individuals and investors were, in fact, angel investors themselves. Unfortunately, technology startups that these accelerators target are often first-time entrepreneurs that have not been exposed to angel investing processes. (Wadhwa, 2010) Since there is no uniform protocol to access angel investors, first-time entrepreneurs are deterred by the time typically expended to understand and potentially close an angel round of funding. Accelerators almost all operate on an application basis. Terms and conditions of their equity and investment are laid out clearly and are typically non-negotiable. The programs of accelerators also educate the entrepreneur of further investment options. Other institutionalized support is also offered to equip first-time entrepreneurs with the knowledge to further their startups. When compared to Angel groups, the cost and perceived difficulty of entering into a funding round is far greater than with Accelerators. (Reich, 2012)
4. Geographical Considerations

The decreasing cost of electronic software and hardware as well as accessibility to broadband internet has fundamentally changed the scope of businesses reaching consumers. An increasing number of businesses and services are also starting to rely on software and computer automated solutions. (Andreeseen, 2011) The demand for software solutions has increased and the cost of entering the technology sector has drastically decreased. This concentration of technology businesses has caused accelerators to start segmenting themselves as well. For example, financial tech startups are sought after by New York accelerator FinTech Innovation Lab while other accelerators focus on certain demographics, such as minority markets, startups led by founders of a specific gender, etc. While these segmented accelerators have only recently appeared, some have already been proven ineffective and have ended their programs, realizing that the nature of their segment does not match with the accelerator model. For example, Greenstart, an accelerator that focused on cleantech, realized that the three month period was much too short and the seed funding made nominal impact. They have repositioned themselves as a venture capital and later stage investor where they can meaningfully impact cleantech startups given the nature of the cleantech industry. (Schwartz, 2013)

The focus of accelerators on the technology sector may be indicative of a self-selection bias. In a 1998 study conducted by Bob Zider, it was found that venture capitalists, while believing to have selected the right entrepreneurs and business, seemed merely to be investing in the right industry and section. Similarly, we perhaps find that accelerators, like incubators in the past, follow the direction of the investment behavior of
venture capitalists. It is no surprise then that the top ten largest venture backed acquisitions of 2012 were all technology based or biotech based. (Ludwig, 2013)

This focus also indicates the proliferation of accelerators in areas that offer closer, geographical access to the venture capital tech community. For example, in observing the accelerators in the United States, there seems to be a clear concentration of accelerators based in the east and west coast. (See Figure 2) Entrepreneurs seeking accelerator funding or a more favorable startup ecosystem have been found to leave cities lacking accelerators. (Sentementes, 2011)

Additionally, technology startups arguably require very little upfront capital investment since they are programming or web based. Development for a prototype within three months is well within the limits of accelerators to ask of tech founders. However, for other industries such as biotechnology, three months of research may barely be sufficient.

5. Accelerator Benefits

An entrepreneur may be interested in joining an accelerator for various financial or developmental reasons. The entrepreneur’s startup may just be an idea that needs various resources to materialize or requires an accelerator’s network to raise additional capital. The goal of accelerators is to give startups the necessary resources to grow and scale quickly so that their product reaches the market as opposed to the entrepreneurs bootstrapping or slowly developing their network and searching for resources. The entrepreneurs may be three years from reaching the market whereas an accelerator may cut that time down to one year. For programs like Y-Combinator, the accelerator founder,
Paul Graham, cites the alumni of their program to be one of their major assets and a contributing factor to their success. Current accelerator participants can easily reach out to individuals who have gone through the three to five month process for advice or even technical guidance. Below are additional reasons for entrepreneurs to join an accelerator (LaunchHouse, 2013):

a) Speed: Startups are defined by their quick ability to grow and scale. Accelerators provide institutional support for startups needing to transition from ideas to developing a working prototype, quickly. Additionally, because most accelerators are technology focused, as are their startups, the threat of a competitor developing a similar product and launching that to market quicker than non-accelerated startups is mitigated. Accelerators push their startups to develop products quickly so that their disruptive technology can perhaps grab initial market share.

b) Networking Opportunities: Accelerator programs usually have events or speakers to interact with the startup teams. The teams then have additional opportunities to pitch their startup, meet potential investors, or possibly recruit for their startup.

c) Mentors: Accelerators pair individuals with industry or technical expertise to each startup. These mentors use their experience and personal network to support the startups by offering professional advice and connections to entrepreneurs that typically are not as well connected and may not possess a technical business background.

d) Business Education: Entrepreneurs in the accelerator programs are typically taught various business concepts such as branding, marketing, customer development, etc. Because many of the entrepreneurs are young, they may not
have the knowledge or expertise in different areas of business development. Accelerators expose these entrepreneurs to such concepts which will further educate the entrepreneur but also potentially reduce costs for outsourcing for the startup.

e) Exposure to Funding: Accelerator programs typically concluded with a ‘demo-day’ where the entrepreneurs will show a crowd of potential investors what they have done during the few months of the program. The entrepreneurs are only given a few minutes to pitch their ideas and interested investors will approach that startup for more details. This ensures that the startups have exposure to potentially an additional round of funding past the accelerator’s own seed-stage investment.

f) Peers and Alumni: Participants in the program are entrepreneurs that undergo the same process and usually develop camaraderie with individuals that are like-minded and working towards a similar goal. Alumni also open resources and advice to entrepreneurs in the program, giving the participants a support group. The network of alumni has been cited by Y-Combinator Founder, Paul Graham, and its participants as its number one resource and asset. (Carr, 2012)

In review of the above benefits, accelerators increase the human capital of the startups through their educational phases, decrease the entrepreneur’s search cost for mentors, advisors etc, and provide the potential for additional funding. (Wu, 2011)

An entrepreneur seeking a business development program with the perceived benefits listed above must be willing to forego equity in their startup. However, if the entrepreneur possesses the financial capital already necessary to scale their startup
without the need for investors and sound business background, education, and experience without the need for mentors, peer group or educational instruction, they should reconsider applying and joining an accelerator.

6. **Downsides of Accelerators**

Entrepreneurs that do not have immediate access to resources for the startups may consider the benefits offered by accelerators. However, startups that have progressed beyond the seed stage may choose to reconsider those perceived benefits against what they have already developed prior to admittance into a program.

While the funding from accelerators is not typically seen as a valuation of a company, the entrepreneur must weigh the cost of the equity against those benefits. Startups that have already received seed stage funding may already have given an equity stake to outside investors. For startups to forego additional equity, it may not be the wisest choice if the funding is not proportionate to their prior investments, especially if the entrepreneurs believe the resources that the accelerator provides is nominal.

Startups and their founding entrepreneurs also interact with mentors that the accelerator typically pairs with them. While some mentors have relevant expertise, others may potentially derail the startups they advise. The quality of mentorship varies per accelerator and is neither constant nor consistent. They do not come from the same background or training. Additionally, the validation from the accelerator partners may vary. During the weekly session that many accelerators have, potential opportunities for growth that may be completely latent may just be dismissed by accelerator partners and
bad mentors. The critical advice of some may work against the startups as the opinions may be the opinions of few.

Entrepreneurs may also choose to leave the accelerators if their style and habit of work is not complimentary to the cohort based program. The three to five month required milestone varies with each accelerator but for startups that simply need more time for development may feel that such a deadline is useless and perhaps disadvantageous to the startup.

Research further asserts that while startups are gaining seed stage funding, later stages of funding, namely Series A and other venture capital are becoming scarcer. (Perlroth, 2013) Startups that grow past the seed stage but are unable to obtain the necessary financing to scale further, potentially risk the loss of additional customers. Other startups may also be entirely funded by investment capital before they reach the critical mass to charge customers and have revenue. Such startups risk absolute failure as they may not be able to sustain the venture operations without further financing. Startups must evaluate the long term investment and financing landscape prior to joining an accelerator program.

7. **Accelerator Revenue Model**

Accelerators primarily profit from the exit of their invested startups. They will typically give $18,000 to $25,000 to a seed-stage startup in return for 6% to 8% equity of that startup. (Clifford, 2012) Once the startups are acquired, offer an initial public offering, or otherwise deliver some opportunity of liquidated return, the accelerators gain revenue from their equity stake in the exited startup.
Accelerators offer startups their seed funding from a larger pool of funds that are usually comprised of the private funds of accelerator partners or other privately wealthy individuals. Y-Combinator (YC), for example, funded their first class in 2005 with the private funds of founders Paul Graham, Robert Morris, Jessica Livingston and Trevor Blackwell. (Ricketts, 2009) They later received venture capital funding from Sequoia Capital in 2009 to further invest in their startups. Paul Graham and his partners managed this fund by reinvesting in YC startups but explicitly stated that this did not change the investment behavior of Sequoia Capital and their habits of directly investing in YC startups. The venture capital funding does not entitle Sequoia Capital to the rights of the startups. (Graham, 2009) While the accelerators themselves, may gain further financing, the startups admitted to those accelerators retain their autonomy.

Other accelerators are large enough such that they are investment funds themselves. For example, 500 Startups grosses approximately $4 million in annual revenue from three sources. They gross approximately $1.5 million in management fees from their $60 million fund, charging 2% average over ten years, but starts at 3%/yr and decreases 0.5% every other year. Unlike YC however, 500 Startups charges the participant startup-entrepreneurs $6,000 per founder and $3,000 to cover program costs. Their third source of income comes from hosting a variety of conferences and events for entrepreneurs where sponsorships and conference fees comprise another revenue model. (McClure, 2012)

In observing multiple accelerator revenue models, there seems to be no conclusive or definitive model that all accelerators follow. Some profit from the liquidation of their startup investments, other from management fees, and some from program fees.
Mentors that are typically involved in advising the startups of accelerators are typically not paid, though, some like those at StartMate, are also investors to the fund so they inherently have an interest in the startups. The benefits for mentors being involved in accelerators include access to the accelerator network themselves and the deal flow from the startups they interact with. Future advisory roles or executive-level jobs may also provide incentive for non-investors and mentors.

The accelerator’s rationale follows that $20,000 to a class of 40 startup entrepreneurs is an investment of $800,000 for 8% equity per startup. Even in the 2.5% chance of one startup exiting for $10 million, the fund would break even for that class. In reality, startups that leave the accelerator programs may continue on to raise additional rounds of funding that may dilute the shares of the accelerator’s equity in the startup. While some accelerators require an anti-dilution clause, many accelerators, such as YC and Techstars do not. (Taku, 2010) Contracts between accelerators and their admitted startups vary by accelerators. In examining four accelerators (YC, Techstars, Founders Institute, Series Seed) and their term sheets with their startups, none of them offer the accelerators anti-dilution. This is perhaps done to allow the value of the accelerators’ equity to increase upon later rounds of funding. While their percentage maybe diluted, the value of the portion of the startup they own will have increased due to the increase in the total company valuation. The price that accelerators pay for their equity in the startup then becomes negligible compared to the value of the equity once new investors arrives.

Even if the entrepreneurs failed to raise additional rounds of funding, they still have options in the workforce as being accepted into an accelerator as prestigious as YC or Techstars can arguably be a resume booster for those entrepreneurs.
8. **What is a ‘Successful’ Accelerator?**

A brief overview of accelerators show that only two accelerators seem to have positive return based on their investments, Y-Combinator and TechStars. Roughly 45% of 29 (Devaney & Stein, 2012) accelerator programs surveyed failed to have even a single graduate startup raise additional venture funding. Following YC, as of early 2013, the startups that have exited or are currently operating with funding is 35-41% (166 startups) while the number of exited startups constitutes 12-14% (56). Those still in operation make up 79-92% (370) of all startups and roughly 9-11% (43) have folded. If, the startups that have exited or continued to operate with additional rounds of funding are deemed as ‘successful’, the success rate of YC could be approximately 35 to 41% (166/468 \(\approx 0.35\) to 166/404 \(\approx 0.41\)). The primary founder of YC, Paul Graham, however, defines success strictly by an ‘exited’ startup. (Graham, Ideas for Startups, 2005) Accounting for this, the success rate is then between roughly 56/468 \(\approx 0.12\) and 56/404 \(\approx 0.14\) or 12-14%. (Jorgenson, 2013)

By extension, a successful accelerator would be one that provides sufficient resources for their startups to ‘exit’ or perhaps continue on to later rounds of funding. Unfortunately, news sources seem to believe that the supply of accelerators exceeds the amount of good ideas in the market and that bad ideas are getting funded by the overflowing amount of accelerators (Carr, 2012). Additionally, it seems that there just aren’t enough good mentors to advise the startups. (Relan, 2012) Some VCs are also convinced there is an ‘accelerator bubble’ (Clark, 2013), with far too many accelerators
believing that they add value to startups, or possess the expertise to evaluate a successful startup.

While the success of many of these accelerators can be touted, YC and TechStars may suffer from a self-selection bias where the top few startups that would have exited anyways apply to top accelerators simply because of the prestige. This view questions whether or not some accelerators are simply competent admissions officers that identify already successful startups or truly contribute to the success of the startups they ‘nurture’. Paul Graham states that perhaps the ‘success’ of their accelerator program is not measured entirely to the exit of their startups as they

"don't have to sweat whether startups have exits at all. The biggest exits are the only ones that matter financially, and those are guaranteed in the sense that if a company becomes big enough, a market for its shares will inevitably arise. Since the remaining outcomes don't have a significant effect on returns, it's cool with us if the founders want to sell early for a small amount, or grow slowly and never sell (i.e. become a so-called lifestyle business), or even shut the company down.” (Graham, Black Swan Farming, 2012)

Unfortunately, accelerators must deal with the information asymmetry from the application and brief interview and the actual details of the startup. While accelerators maybe choosing winners, David Tisch of TechStars states that "You're going off so little data, and these companies are so early that you can't feel utterly confident in the bets you make. Once they start the program, that's when you get to know how well you picked them. That's when the pressure starts.” (Chafkin, Future TechStars, Step Forward, 2012)

Though the advantages of technology based businesses may be their inherent record of tracking via analytics, purchases, etc, accelerators are limited in their judgment given some of the varying states of the startups.
9. The ‘Lean’ Methodology

Popular startups and accelerators operate on the ‘Lean Methodology’ or the ‘Lean Startup’ model coined by Eric Ries in his blog and subsequent 2005 book. The ‘Lean’ methodology follows the principles of the manufacturing and engineering models where waste elimination is examined at an almost obsessive level. American manufacturers took to Japanese manufacturing operation models to reduce waste and increase efficiency by eliminating unnecessary and costly areas that had marginal effects of increasing consumer adoption or added little value to the end user. Iterative processes to test or measure ideas as quickly as possible for customer response was emphasized to ensure only the best ideas were awarded time and effort for further production. (See Figure 3)

Ries applies these ‘lean manufacturing’ concepts to technology startups so that startups focus on building a core product, or minimum viable product, that wholly addresses the problems and concerns of the consumer, with the least amount of functions. By constantly gauging consumer feedback to this minimum viable product, the startups are able to test different hypotheses on how to best solve the consumer problem, using the least amount of funds. This is in contrast to the dot-com era startups which sought to first gain critical market share before producing revenues, thus expending vast amounts of capital before validating the need for such expenses. The Lean Startup model emphasizes maximizing cost-effectiveness alongside problem-solution identification for consumers by constant solicitation of feedback.

The widespread popularity of this methodology can perhaps be observed even beyond startups as the accelerators admitting ventures may be employing the iterative and cost-effective processes outlined in the Lean Startup. The institutional model of
accelerators, investing seed amounts and cycling through groups of startups, follows the ‘lean approach’ as the accelerators are diversifying their funds across many startups per cycle. This cost-effective method is also cost minimizing as the success of a startup per cycle may be low, thus requiring the accelerator to dedicate further operational funds and developmental support to the few startups that do survive. In this manner, accelerator partners arguably save the time they would have otherwise spent on a less successful startup. Their return in time and money is maximized per cycle of startups they admit. While there is lacking empirical data for accelerators themselves applying the lean methodology, there are observable similarities between the methodology and their organizational structure nonetheless.

10. Asymmetric Information

The role of accelerators in the business and investment ecosystem can be compared to that of a third-party informant and, at times, a certifier. Similar to incubators, accelerators act as an intermediary between startups and venture capitalists, sometimes complementing or even substituting angel investors. The value of having a third-party informant for venture capitalists can potentially be measured by the level of asymmetric information between startups and venture capitalists.

Accelerators invest in seed amounts to tens of startups per cycle while venture capitalists tend to invest in considerably larger amounts while making fewer investments. The risk diversification between these two methods of investment differs greatly as VCs do not have the luxury of spreading their funds as widely as accelerators. Thus, VCs would naturally look to mitigate as much risk as possible by conducting as thorough due
diligence as possible per investment decision. Unfortunately, information given by the startups’ entrepreneurs may be inherently bias. Accelerators, who have interacted with these entrepreneurs at a seed stage, possess knowledge of, not only the entrepreneurs, but also the development of the startup. They can potentially act as advocates, recommenders, influencers, or even saboteurs to funding from VCs. For VCs, a third-party who has interacted extensively with the startup has a considerably more informed opinion of the venture than the VCs who were only briefly introduced to the startups.

An example of the value that accelerators generate for VCs is StartFund. In 2011 Yuri Milner and SV Angel decided to fund YC startups by offering them $150,000 in convertible debt with no cap and no discount. (Arrington, 2011) This fund is only for the startups that complete the YC program and the partners of YC do not have direct management of these funds. To Yuri Milner and SV Angel, YC acts as a third-party certifier that either competently screens for potentially successful startups, or equips the entrepreneurs with the necessary skillset to scale their business – perhaps both. While YC has no direct interaction with the StartFund, the role they have with their startups is clearly valued by outside investors, as demonstrated by StartFund.

Y-Combinator is only one of many accelerator programs in the nation, but is the only one whose participant entrepreneurs’ benefit from StartFund. For an entrepreneur, gaining access to an accelerator’s resources may potentially lead to the success of the startup, whether it is at Y-Combinator or not. This leads entrepreneurs to consider the particular focus of accelerators when seeking to admit startups.
IV. Data & Methodology

1. Data Collection

This study was conducted by surveying partners at accelerator programs in the United States. The survey consisted of twenty five questions. The first twenty three were based off of a previously conducted study that used near identical questions to survey venture capitalists. The twenty fourth question asked the participants to rank their allocated time per task indicated, and the twenty fifth question was open ended to ask the accelerators about their relationship with VCs.

The first twenty three questions came from the same set of questions that MacMillian, Siegel and Narasimha used for their “Criteria used by Venture Capitalists to Evaluate New Venture Proposals” (1995) (See Table 1). To determine these questions, they interviewed fourteen VCs in the New York metropolitan area and asked them about their criteria in evaluating venture proposals. They then selected twenty-seven of such criteria and organized them into respective groups: the entrepreneur’s experience, personality, characteristics of the market, and financial considerations. They then sent the questions in a survey to all the members of the National Venture Capital Association and all members listed in Venture Magazine’s 1983 Directory of Venture Capitalists. A total of 102 responses were received, with 100 responses recorded for study, out of 150 surveys sent out.

For this study, the questions were modified slightly to fit the profile of businesses looking to join accelerators. For example, in MacMillian, Siegel and Narasimha’s questionnaire, there was no criterion about the venture team’s willingness to pivot, or change the focus of the company. This is a common attribute that accelerators typically
look for, in varying degrees of importance, as a business joining an accelerator is in its seed-stages while those going to VCs are usually further along the business cycle. Additionally, some questions regarding financial considerations were omitted because businesses that enter into accelerators very rarely interact with the terms of those questions. (See Table 2)

The twenty fourth question regarding time allocation follows the study conducted by Bob Zider, “How Venture Capital Works” (1998). Zider’s study shows the percentage of time that VC’s dedicate to various tasks, such as reviewing business plans, serving as directors and mentors, etc. (See Figure 4) Since the objective of my study is to analyze the selection criteria of accelerators against VCs, asking how accelerators spend their time with businesses may possibly explain why accelerators place certain weights in particular criteria. Additionally, the twenty fifth question gave accelerators the opportunity to self-describe their relation to VCs.

To collect data from accelerators, the edited survey was sent to 127 accelerators via direct email and through the Global Accelerator Network. Personal contacts and other forms of communication was also used to encourage accelerators to complete the survey, resulting in responses from 19 accelerators – six from the Greater Los Angeles area, three from New York City, three from Michigan, two from the San Francisco Bay area, two from Tennessee, one in Missouri, and one that operates in Europe but services American startups.
2. Data Description

The data collected from 19 accelerators were compiled and the mean and standard deviation for each of the questions were compared with their venture capital counterparts per question answered. (Table 4). A two-sample $t$-test difference of means was conducted on each question, except for three questions specifically asked to accelerators, between the given data from venture capitalists and the collected data from accelerators. The 100 venture capitalist sample size and 19 accelerator sample size yielded 117 degrees of freedom that gave a 1.658, 1.981, and 2.619 critical $t$ values at 90%, 95%, and 99%, respectively. Of these categories, the only question with a significant difference at 90% was the VCs who rated ‘the potential to exit via an IPO or acquisition’ higher than accelerators. Accelerators rated ‘The target market enjoys a significant growth rate’ lower than VCs did while VCs rated both ‘Was referred to us by a trustworthy source’ and ‘the firm’s familiarity with the venture team’s reputation’ lower than accelerators at the 95% level. At 99% level accelerators rated ‘The product is/ has the potential to be proprietary or protected’ and ‘The potential to deliver a 10x ROI within 5-10 years’ lower than VCs. Additionally, accelerators rated ‘Degree of leadership ability demonstrated in the past’, ‘Track record that was relevant to venture’ and ‘There is little threat of competition during the first three years’ lower than VCs while VCs rated ‘Ability to articulate when discussing venture’, and ‘Personal compatibility with the firms’ mentors’ lower than accelerators.

The data collected from the questions regarding time allocation of venture capitalists versus accelerators did not seem to have much difference as it seems the bulk of their time is both relatively focused on directing and monitoring the applicable
ventures. VCs seemed to dedicate more time in recruiting management than accelerators did though. (See Figure 4).

The unavailability of the full venture capital data set from MacMillian, Siegel and Narasimha unfortunately restricted the scope of statistical tools that could have been used to conduct a more rigorous comparison of their individual results compared to those of accelerators.

A correlation among the means of all responses given per question between VCs and Accelerators yielded a 0.717 coefficient.
V. Results and Analysis

In review of my initial three hypotheses, varying degrees of statistical significance shows different results per hypothesis.

Differences in evaluating the characteristics of the entrepreneur, denoted by the first thirteen questions of the survey, were significant at the 99% both for VCs and accelerators. Accelerators valued the entrepreneurs’ ability to articulate the venture and their personal compatibility with the firm’s mentors much higher than VCs did. This perhaps owes to the fact that accelerators investing at an early stage must be confident that the entrepreneurs have the ability to market and ‘sell’ their idea to potential customers, investors, or any other individuals interacting with the venture. For firms requesting VC funds, those ventures may already have reached a level of market acceptance such that the personal ability of the entrepreneur becomes negligible in investment considerations. Similarly, the computability of VC mentors with the venture team or entrepreneur may not be as important as the team may operate competently in autonomous means given the level of success already demonstrated by the team. This is slightly contrary to the data collected on how VCs spend their time as it would be seemingly sensible that they would consider compatible teams more heavily given that 25% of their time is spent directing and monitoring. Accelerators must consider the compatibility of the venture team with the mentors since perhaps the accelerator has a potentially longer relationship with the venture team if they are investing at the seed stage and hope that their startup exits. If incompatible with the mentors they are paired with, it may be indicative of some team dynamic
Accelerators, or their mentors, generally interact with their entrepreneurs and startups more intensely during their three to five month program period. Additionally, the assessment of whether or not the entrepreneurs would be compatible is typically conducted in a potential interview. I would have thought that VCs would rate compatibility higher than accelerators since the negotiation of the terms of venture capital typically take weeks, if not months. There is also a much longer commitment of VCs to the entrepreneurs after the startups have been funded. Perhaps one of the reasons is that accelerator entrepreneurs tend to be younger so the opportunities of these entrepreneurs are perceived to be more. If an accelerator wanted to continue to mine the ideas of these entrepreneurs, they are in it for the long haul. For example, YC had an application for entrepreneurs to apply with no ideas, indicative of their search for talent in individual entrepreneurs and not their proposed idea or business. This younger entrepreneur mentality may also explain why VCs seemed to weigh both the leadership and the track record of the entrepreneurs more than accelerators did. Younger entrepreneurs may have less opportunity and time to demonstrate a track record or leadership that is satisfactory for accelerators. The tier of investment that VCs make are also considerably higher than accelerators and VCs see this as some form of risk mitigation.

Further analysis of the characteristics of the entrepreneur show that at the 99% level, VCs weigh the degree of leadership that the entrepreneur has had in the past as well as their track record relevant to the venture considerably more than accelerators. The average age of accelerator entrepreneur-applicants is relatively young so they may not possess the track record or necessary leadership that accelerators would consider, should they have weighed that in their admittance criteria. Compared to VCs, however, VC
investments are made at a lower frequency but at a higher amount. The level of risk per investment is thus higher, given a lack of diversification, and perhaps their focus on leadership and a relevant track record is a method for them to mitigate risk by investing in a competent entrepreneur.

At the 95% level, accelerators weighed their familiarity with the venture team and whether or not the team was referred to them by a trustworthy source higher than VC did. As David Tisch of TechStars stated, accelerators accept ventures based on extremely few pieces of information. Prior knowledge or reference from existing individuals may give the accelerators more information to make an informed decision about accepting the ventures. VCs may not be concerned as much since they perhaps engage in much more rigorous due diligence prior to investing given the high amount they intend to invest. The additional familiarity and reference from a source maybe negligible compared to the level of due diligence they conduct. The value of having additional due diligence may be helpful to their decision process nonetheless.

VCs seemed to weigh the growth rate of the market and the product potential to be proprietary with the threat of competition within the first three years more than accelerators did at the 90% and 99% levels respectively. In analyzing these investment criteria, all three may be interpreted seen as attempts to mitigate risk. The large investment that a VC makes can be both profitable and protected if their investment is made in a relatively growing, unsaturated market where the product holds intellectual property rights. The chances of the venture succeeding can perhaps be argued to be higher given these circumstances. Consistent with my second hypothesis, an accelerator may not be so concerned with these criteria since the startups that apply to their programs
may only be in seed stage, idea phase where the idea may change or address a different market. Requiring their applicants to address those similar criteria to VCs may be too premature. They have a different focus since their seed stage investment may not even guarantee any development of intellectual property. Furthermore, since most accelerators are strictly focused on technology, the threat of competition within three years maybe infeasible for an accelerator to consider, given the lower barriers of entry for new firms, inherent in the technology industry.

Lastly, VCs seemed much more concerned than accelerators that their investment has the potential to return ten times their investment within five to ten years, at the 99% level. While this would be ideal for accelerators, it may not be realistic for them to expect this type of return. As Paul Graham stated, it is highly unlikely for a startup in each accelerator cycle to survive. Contrary to my third hypothesis, expecting that their seed stage investment made across tens of startups per cycle would return ten times that value would be an unrealistic metric from accelerators to screen applicants for. VCs, on the other hand, operate with a considerably larger investment and must be convinced of the return for their investment to be impactful or successful at all. The risk associated per investment is much more concentrated for VC’s, so they want to be confident that they are investing in the startup with the most potential to succeed. Accelerators on the other hand may be aware that many of their seed investments will not give them a feasible return, so they screen their applicants less heavily on that potential.

The open-ended responses that addressed the relation of the respondent’s accelerator to VCs showed mixed results. While some responses reaffirmed the notion that accelerators were ‘filters’ and acted as third party informants, others responded by
saying that they mainly interact with angel investors. Other responses indicated that their startups do not interact with VCs at all while more showed that accelerators were simply ‘partners’ with VCs. These results may imply that accelerators themselves do not truly understand the economic role they play or perhaps show that accelerators may be segmented into further tiers. (See Table 3)

In review of the time allocation between the two parties, the extra time spent by VC’s in recruiting management maybe consistent with their desire to invest in businesses where the entrepreneur has had a track record of leadership. Otherwise, in other areas of comparing VCs to accelerators, the 0.72 correlation is perhaps indicative of the similarities between the two institutions. The remaining 0.28 may account for the factors influenced by the different stage that the investment is made in the lifecycle of the startup. (See Table 5)
VI. Conclusion

Accelerators are arguably new players in the entrepreneurial ecosystem and their specific impact on the ecosystem is still unknown. In observing the history of the technology industry and the entrepreneurial ecosystem as a whole, accelerators seem to have some key distinctions with other third party intermediaries in the past, such as incubators. While the objectives of incubators and accelerators are to ultimately have the startups progress and grow, their motivations for doing so differ. The financial model that accelerators use mimics for-profit incubators of the dot-com era, who were driven by financial incentives. Non-profit incubators continued to believe in progressive startups for economic development or other altruistic purposes, evident by their non-financial motivations. Unfortunately, there is no definitive demarcation between incubators and accelerators as the wide variety in accelerators cause an overlap in attributes with incubators. Furthermore, it is unlikely that VCs will care to make that distinction as their primary methods of evaluation does not change whether or not the startups that approach them underwent an accelerator or incubator.

The value added by accelerators though, cannot be understated. In addition to the various business development resources and funding given to the startups, the entrepreneurs also significantly decrease their search costs in finding potential investors, mentors, partners, etc. Allowing entrepreneurs access to networking gives them a considerable advantage in sustaining their business and potentially developing key relationships to scale and obtain additional rounds of funding.
For VCs, accelerators act as valuable intermediaries that provide VCs with third party information, as witnessed by Startfund. Successful startups that graduate through accelerators maybe introduced to other angel investors and potentially venture capital financing. In this regard, accelerators offer a fair amount of signaling for VCs but can equally suffer from mediocrity, just as the failed startups they may have accepted. While StartFund is indicative of the effectiveness of signaling, this was merely for one accelerator. The collected responses from accelerators also show that their role with other investment parties is inconclusive. Some accelerators felt that they catered their startups for angel investment groups while others stated that they were direct filers for venture capitalists.

Additionally, accelerators are a business themselves and their success is dependent upon their best returns. While their investments are small, the screening process maybe bias as it would seem that they have the interest to pick the companies that will succeed with or without the added values of the accelerator. This would minimize the risk of their investment and potentially lower the costs of mentoring the startups.

In review of the hypotheses of this paper, the results from this study showed that accelerators generally place the same weights as VCs did when considering their investment. However, the key difference is that the stage in the financing cycle that accelerators participate in seems to have a clear impact on the direction of those weights. For example, while both accelerators and VCs focused on the entrepreneur, accelerators considered that many tech startups are started by young individuals that may not possess the same level of leadership that VCs look for.
Some pitfalls of this paper are that there was a disproportionate reliance on media sources as academic and empirical research on the field of accelerators is very new. Although 19 responses from 127 accelerators yielded a 15% response rate, the data collection could have benefited from a greater response from the accelerator community and may have suffered from self reporting biases.

Further areas of research maybe to explore the typical investment required to join an accelerator as a partner and the equity taken by an accelerator partner in the general fund. For some accelerators, exploring the sizes of the program classes and the number of mentors as well as the average ages of mentors and entrepreneurs may perhaps explain some phenomena in accelerator success. The primary motivations and qualifications of becoming a mentor may also be an additional area of research.

The lack of existing research in the study of accelerators contributes to an incomplete analysis of their specific role in the economy. While it is clear that accelerators provide definitive benefits to entrepreneurs and startups, further empirical studies must be conducted to truly understand the impact of accelerators in the startup and entrepreneurial ecosystem.
Tables and Figures

Figure 1

Number of Technology and Communications Sector Initial Public Offerings

Source: (Charlos, 2012)
Figure 2

Distribution of Accelerator Programs in the United States

Source: (Allen, 2013)
Figure 3

The Lean Startup Methodology: Process-Diagram

Source: (Ries, 2012)
Figure 4

Allocation of Time Spent by Accelerators and Venture Capitalists

Source: (Zider, 1998) – Venture Capitalists

*Collected Responses* - Accelerators
Table 1

Results and Criteria Used by Venture Capitalists to Evaluate New Venture Proposals

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. The entrepreneur’s personality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Capable of sustained intense effort.</td>
<td>3.60</td>
<td>0.57</td>
</tr>
<tr>
<td>2. Able to evaluate and react to risk well.</td>
<td>3.34</td>
<td>0.73</td>
</tr>
<tr>
<td>3. Articulate in discussing venture.</td>
<td>3.11</td>
<td>0.71</td>
</tr>
<tr>
<td>4. Attends to detail.</td>
<td>2.82</td>
<td>0.69</td>
</tr>
<tr>
<td>5. Has a personality compatible with mine.</td>
<td>2.09</td>
<td>0.81</td>
</tr>
<tr>
<td>II. The entrepreneur’s experience</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Thoroughly familiar with the market targeted by venture.</td>
<td>3.58</td>
<td>0.57</td>
</tr>
<tr>
<td>7. Demonstrated leadership ability in past.</td>
<td>3.41</td>
<td>0.67</td>
</tr>
<tr>
<td>8. Has a track record relevant to venture.</td>
<td>3.24</td>
<td>0.69</td>
</tr>
<tr>
<td>9. The entrepreneur was referred to me by a trustworthy source.</td>
<td>2.03</td>
<td>0.62</td>
</tr>
<tr>
<td>10. I am already familiar with the entrepreneur’s reputation.</td>
<td>1.83</td>
<td>0.71</td>
</tr>
<tr>
<td>III. Characteristics of the product or service</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. The product is proprietary or can otherwise be protected.</td>
<td>3.11</td>
<td>0.71</td>
</tr>
<tr>
<td>12. The product enjoys demonstrated market acceptance.</td>
<td>2.45</td>
<td>0.74</td>
</tr>
<tr>
<td>13. The product has been developed to the point of a functioning prototype.</td>
<td>2.38</td>
<td>0.90</td>
</tr>
<tr>
<td>14. The product may be described as “high tech.”</td>
<td>2.03</td>
<td>0.96</td>
</tr>
<tr>
<td>IV. Characteristics of the market</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. The target market enjoys a significant growth rate.</td>
<td>3.34</td>
<td>0.64</td>
</tr>
<tr>
<td>16. The venture will stimulate an existing market.</td>
<td>2.43</td>
<td>0.76</td>
</tr>
<tr>
<td>17. The venture is an industry with which I am familiar.</td>
<td>2.36</td>
<td>0.78</td>
</tr>
<tr>
<td>18. There is little threat of competition during the first three years.</td>
<td>2.33</td>
<td>0.72</td>
</tr>
<tr>
<td>19. The venture will create a new market.</td>
<td>1.82</td>
<td>0.83</td>
</tr>
<tr>
<td>V. Financial considerations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. I require a return equal to at least 10 times my investment within 5-10 years.</td>
<td>3.42</td>
<td>0.79</td>
</tr>
<tr>
<td>21. I require an investment that can be easily made liquid (e.g., taken public or acquired).</td>
<td>3.17</td>
<td>0.89</td>
</tr>
<tr>
<td>22. I require a return equal to at least 10 times my investment within at least 5 years.</td>
<td>2.34</td>
<td>0.81</td>
</tr>
<tr>
<td>23. I will not be expected to make subsequent investments.</td>
<td>1.34</td>
<td>0.52</td>
</tr>
<tr>
<td>24. I will not participate in latter rounds of investment (requires my participation in the initial round of investment).</td>
<td>1.20</td>
<td>0.45</td>
</tr>
</tbody>
</table>

Sample size: 100; scale: 1–4, where 1 means irrelevant and 4 means essential (see Table 3).

Source: (MacMillian, et al., 1986)
Table 2

Questionnaire sent to Accelerators

Directions: Please rate the importance and relevance of the below attributes when considering admitting a Startup.

1 – Irrelevant – Not a factor in the decision making process
2 – Desirable – A factor which improves the likelihood of selected
3 – Important – A factor which must be present in order to be selected, unless other factors specifically compensate for this factor’s absence
4 – Essential - A factor which must be present under any circumstances in order to be selected

Please base your answers on any interactions (application, interview, etc) that you had prior to selecting a Startup to your program.

4. I. Characteristics of Venture Team
   1. Capability of sustained intense effort
   2. Ability to evaluate and react to risk well
   3. Ability to articulate when discussing venture
   4. Attention to detail
   5. Personal compatibility with me/accelerator mentors
   6. Familiarity with the market targeted by the venture
   7. Degree of leadership ability demonstrated in the past
   8. Track record that was relevant to venture
   9. The Accelerator’s familiarity with the venture team’s reputation
   10. Was referred to us by a trustworthy source
   11. If multiple members, the team has prior, demonstrated experience working together
   12. Must have more than one member in the team
   13. Demonstrates willingness to pivot

5. II. Product or Service
   1. The product is/ has the potential to be proprietary or protected
   2. The product enjoys demonstrated market acceptance
   3. The product has been developed to the point of a functioning prototype

6. III. Characteristics of the Market
   1. The target market enjoys a significant growth rate
   2. The venture will stimulate an existing market
   3. There is little threat of competition during the first three years
   4. The venture will create a new market

7. IV. Financial Considerations
   1. The venture has the potential to deliver a financial return equal to 10 times the accelerator’s investment within 5-10 years
   2. The venture has the potential to exit via an IPO or acquisition
   3. The venture has the potential to deliver a financial return equal to 10 times the accelerator’s investment within at least 5 years

8. V. Allocation of Time
   Please indicate the percentage of time your Accelerator, as a whole, spends on each activity.
   Your Percentages should TOTAL 100%

   Soliciting Business       Selecting Opportunities
   Analyzing Applications/Business Plans   Negotiating Deals
   Directing and Monitoring     Consulting
   Recruiting Management     Assisting with Relationships
   Exiting

9. Please describe your accelerator's role in relation to Venture Capitalists. (Max: 200 Words)
Table 3

Accelerator Responses to their role in relation to Venture Capitalists

- Product and go to market mentor

- An essential part of the tech ecosystem that eliminates 99% of the noise and allows VC's to focus their efforts. Also encourages/promotes entrepreneurship and further develops the market here in LA.

- We love VCs... we also love angels, strategics and kickstarter. Goal is to get companies funded by the right type of capital. For some this is VC for others it is angel or strategic or maybe even bootstrap.

- When startup enrolls into Speed Tech Accelerator a 5% equity stake is given up. Equity amount can increase later on if private funders and start-up agree upon additional deal amount.

- We are funded by VC's and facilitate relationships between our companies and VC's (our own and others).

- We have a strong relationship with Venture Capitalists. They are seen as potential downstream funders for our portfolio companies. However, we're mostly engaged in active relationships with angels as they are the ones who invest in early stage impact companies. Note: the focus of our program is on impact entrepreneurship.

- Customers, partners, co-investors.

- [We are] friendly with VC groups. We see our role as feeder system to both VCs and Angels.

- Typically, the companies graduating our program are not ready for VC funds. We will facilitate connections when necessary.

- We talk to angels mainly (cca 50 ppl), there are just a few VCs related to our program.

- Besides the VCs who invested in the companies as part of the program, we try to make introductions for the companies, and invite VCs/investors to accelerator networking events.

- We recruit capital and connect our teams to it.

- Work with early stage and series A VCs. They listen to our recommendations very thoroughly since we filter good start ups for them

- We have strong working relationships that lead to mentoring and investment opportunities.

- Partner
<table>
<thead>
<tr>
<th>Questions</th>
<th>Venture Capitalists</th>
<th>Accelerators</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Capability of sustained intense effort</td>
<td>3.6 0.57</td>
<td>3.68 0.48</td>
<td>0.08</td>
<td>0.682</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ability to evaluate and react to risk well</td>
<td>3.34 0.73</td>
<td>3.42 0.61</td>
<td>0.08</td>
<td>0.516</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ability to articulate when discussing venture</td>
<td>3.11 0.71</td>
<td>3.58 0.51</td>
<td>0.47</td>
<td>3.440***</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attention to detail</td>
<td>2.82 0.69</td>
<td>2.89 0.74</td>
<td>0.07</td>
<td>0.409</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal compatibility with me/accelerator mentors</td>
<td>2.09 0.81</td>
<td>2.74 0.56</td>
<td>0.65</td>
<td>4.248***</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Familiarity with the market targeted by the venture</td>
<td>3.58 0.57</td>
<td>3.32 0.67</td>
<td>-0.26</td>
<td>-1.609</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degree of leadership ability demonstrated in the past</td>
<td>3.41 0.67</td>
<td>2.84 0.5</td>
<td>-0.57</td>
<td>-4.265***</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Track record that was relevant to venture</td>
<td>3.24 0.69</td>
<td>2.68 0.48</td>
<td>-0.56</td>
<td>-4.293***</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Accelerator's familiarity with the venture team's reputation</td>
<td>1.83 0.71</td>
<td>2.32 0.89</td>
<td>0.49</td>
<td>2.258**</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Was referred to us by a trustworthy source</td>
<td>2.03 0.62</td>
<td>2.53 0.84</td>
<td>0.5</td>
<td>2.449**</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If multiple members, the team has prior, demonstrated experience working together</td>
<td>2.53 0.9</td>
<td>2.53 0.9</td>
<td>2.53</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Must have more than one member in the team</td>
<td></td>
<td>3.21 0.92</td>
<td>3.21</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demonstrates willingness to pivot</td>
<td></td>
<td>2.84 1.07</td>
<td>2.84</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The product is/ has the potential to be proprietary or protected</td>
<td>3.11 0.71</td>
<td>2.58 0.77</td>
<td>-0.53</td>
<td>-2.794***</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The product enjoys demonstrated market acceptance</td>
<td>2.45 0.74</td>
<td>2.63 0.9</td>
<td>0.18</td>
<td>0.832</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The product has been developed to the point of a functioning prototype</td>
<td>2.38 0.9</td>
<td>2.68 1.06</td>
<td>0.3</td>
<td>1.176</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The target market enjoys a significant growth rate</td>
<td>3.34 0.64</td>
<td>2.95 0.62</td>
<td>-0.39</td>
<td>-2.513**</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The venture will stimulate an existing market</td>
<td>2.43 0.76</td>
<td>2.63 0.6</td>
<td>0.2</td>
<td>1.287</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There is little threat of competition during the first 3 years</td>
<td>2.33 0.72</td>
<td>1.74 0.56</td>
<td>-0.59</td>
<td>-4.017***</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The venture will create a new market</td>
<td>1.82 0.83</td>
<td>1.89 0.81</td>
<td>0.07</td>
<td>0.367</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The potential to deliver a 10x ROI within 5-10 years</td>
<td>3.42 0.79</td>
<td>2.84 0.83</td>
<td>-0.58</td>
<td>-2.791***</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The potential to exit via an IPO or acquisition</td>
<td>3.17 0.89</td>
<td>2.68 1.11</td>
<td>-0.49</td>
<td>-1.803*</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The potential to deliver a 10x ROI within at least 5 years</td>
<td>2.34 0.81</td>
<td>2.63 0.68</td>
<td>0.29</td>
<td>1.651</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The data is compiled from the responses of 100 venture capitalists out of 150 surveys sent and 19 accelerators out of 127 surveys sent. The above table presents summary statistics per question rated from 1, being irrelevant, to 4 being essential. ***, **, and * denote statistical significance for the t-test differences in means at the 10%, 5%, and 1% level.
Table 5

**Correlation of Mean Responses between Accelerators and Venture Capitalists**

<table>
<thead>
<tr>
<th></th>
<th>VC-Mean</th>
<th>Acc-Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>VC-Mean</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Acc-Mean</td>
<td>0.717082</td>
<td>1</td>
</tr>
</tbody>
</table>
References:


Jorgenson, N. M. (2013, January 1). *What's the success rate of startups that have been funded by Y Combinator?* Retrieved February 18, 2013, from Quora: https://www.quora.com/Y-Combinator/Whats-the-success-rate-of-startups-that-have-been-funded-by-Y-Combinator


Menell, B. (2010, April 2). *Camp-like "accelerator" programs are the new startup incubators.* Retrieved April 1, 2013, from VentureBeat News: http://venturebeat.com/2010/04/02/startup-accelerators-how-to-apply/


