Corporate Accelerators: A Study on Prevalence, Sponsorship, and Strategy

by

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Abstract

In recent years, corporate accelerators have emerged as a new method to foster collaboration between startups and established companies. This thesis presents, to my knowledge, the first comprehensive database of corporate accelerator programs across the globe. On the basis of this resource, I propose a definition for corporate accelerators and show that they follow the same basic principles as non-corporate accelerators. Further, I provide evidence that corporate accelerators have been growing considerably over the past few years and have reached a level of presence close to that of corporate venture capital funds. While growth has been slowing down recently, I argue that corporate accelerators are well-suited to becoming a permanent element in the startup ecosystem and that they are likely to capture market share from non-corporate accelerators. On the basis of a population of 847 largely capitalized corporations I show that corporate accelerators are more frequently sponsored by large, information-related firms that are also investing corporate venture capital. This study provides first indications that corporate accelerators are not likely to deliver direct operating profits to the sponsoring firms. However, I provide examples of significant strategic explorations, including companies that select portfolio firms to help them innovate along their supply chain and distribution channels or to provide them with strategic gains in the marketplace.

Thesis Supervisor: Scott Stern
Title: David Sarnoff Professor of Management of Technology

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This thesis is the culmination of a rewarding journey during my one-year stint at MIT. The support I have received in this work exemplified the helpful, friendly, and inspirational atmosphere on campus—it's been a life-changing experience.

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This thesis has also benefited from the strong support of my colleague and friend Alexander Katzung, manager of a corporate accelerator at Airbus. His personal network and out-of-the-box thinking is beyond comparison. I am also grateful for the support of Daniel Fehder at MIT.

All of this would have been of no avail without my family. Thank you for a lifetime of encouragement, learning, and love.

This thesis is dedicated to my partner and love Wiebke Kannenberg. I'll never forget our time in Cambridge.

Cambridge, August 2015

Florian Heinemann

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Chapter 1

Introduction

A rapidly growing number of startup accelerators are operated by established, large corporations instead of independent managers. In fact, a recent study estimated that as much as a third of all accelerators in Europe were backed by corporate entities as of 2015 (Mocker et al. 2015). Such a shift may have important implications for the startup ecosystem: accelerators have helped 5,000 startups, such as Airbnb and Dropbox, by providing mentorship and easy access to funding throughout their earliest stages. Those ventures went on to raise more than $12B in follow-on investments (Christiansen 2015; Ernst & Young 2013). While the greater involvement of corporations in this process is welcomed by some as a way to combine the creativity of startups with the leverage of large firms (e.g. World Economic Forum 2015), others warn about potentially negative ramifications, such as conflicts of interest (e.g. Crichton 2014).

These discussions highlight the importance of understanding the phenomenon of corporate-sponsored accelerators (i.e., *corporate accelerators*) in more depth, yet broad studies about them are still rare. This is not surprising considering that the majority of these programs were launched in the past two years. Hochberg (2015) and Dempwolf et al. (2014) were among the first to treat the topic academically by offering definitions and positioning these new programs within the startup ecosystem. Authors such as Mocker et al. (2015) detailed case studies of selected corporate accelerators to provide guidance to managers who are about to start such programs. This academic work is complemented by the published opinions of venture capitalists, entrepreneurs, and managers of such programs, which form another critical part of the literature about this subject.

This thesis aims to augment the existing research by providing insights into some fundamental questions about corporate accelerators, grounded on a comprehensive examination of newly gathered data. I focused particularly on questions that I believed would most help further more detailed research:

1. What are corporate accelerators?
2. How do they differ from regular accelerator programs?
3. Are they already or are they likely to become common practice?
4. What kinds of companies launch corporate accelerators?
5. In what kind of portfolio firms do corporate accelerators invest?
6. What does success look like for corporate accelerator programs?

Chapter 2 will review the existing literature from the perspective of the key questions described above. An important part of this discussion will be to define non-corporate accelerators and corporate venture capital, as this will help us to determine how far we can leverage the extensive research about these concepts for our purposes. It will also set the stage for a proposed definition of corporate accelerators.

Chapter 3 will detail my research methods. This thesis draws on two datasets that I collected to specifically answer our research questions. The first is a population of 847 largely capitalized European and U.S. firms that will help us to draw independent conclusions about the kind of firms that are more prone to sponsor corporate accelerators. The second comprises a list of 60 corporate accelerators that, to my knowledge, represent the majority of existing programs around the world as of summer 2015. However, consistent with the orientation of this thesis, this second list only encompasses programs that are sponsored exclusively by one company—the most common pattern in practice. While jointly operated programs are increasingly common, they were not included in this work because their additional layer of complexity might distract from our key objectives. The complete dataset is available and continuously updated on https://www.corporate-accelerators.net.

Based on this foundation, Chapter 4 will present my macro-level results, which focus on commonalities across the programs, their prevalence and growth rates, survival rates, and insights about the types of firms that are sponsoring such programs.

Chapter 5, in turn, will dive into my findings about the functional aspects of corporate accelerators. I will review the criteria that programs use to select their portfolio firms and analyze data on financial and strategic outcomes.

Chapter 6 will summarize my conclusions and contributions with respect to the key questions outlined above. The chapter concludes potential implications for the startup ecosystem as a whole, as well as for corporations interested in starting a corporate accelerator.

Chapter 2

Literature Review

2.1 Definitions

This section has two important roles: First, it establishes a common vocabulary for the following chapters. Second, it articulates the commonalities and differences between corporate accelerators, accelerators, and corporate venture capital. This comparison will allow us throughout the upcoming chapters to draw on academic results from these related concepts in cases where there is only limited research about corporate accelerators available.

2.1.1 Accelerators

It is just ten years ago that the first accelerator, Y Combinator, opened its doors in Cambridge, Massachusetts. The idea was straight-forward: Invest small amounts of money into a cohort of early-stage startups and support them strongly during a three-month period with the hope of long-term investment gains. After first successes[1] and two years later the second accelerator, Techstars, started its operations and was followed by 100s of similar programs around the world (Hochberg 2015).

Despite the rapid growth of accelerators, the basic principles have largely remained the same. Cohen and Hochberg's (2014) frequently cited paper summarized them as programs that "help ventures define and build their initial products, identify promising customer segments, and secure resources, including capital and employees." They found that accelerators typically support startups by means of mentors, networking sessions, and educational opportunities. In addition, startups often receive seed capital and office space. Several startups enter an accelerator together in groups called *cohorts* and the programs are limited to about three months after which participating ventures usually pitch their companies in front of investors during a

[1] Reddit, one of the first portfolio firms seemed to proof the validity of accelerators by being acquired by Condé Nast just a year later for a reported $10-20M (Nesta 2014; Lagorio-Chafkin 2012)

demo day. To achieve their investment goals accelerators are often highly selective with some programs accepting as little as 1 percent of all applicants.

The capital provided to startups ranges from $0 to $50K in addition to any non-monetary services such as mentorship. In return most accelerators take between 5 and 8 percent of equity, which is purposely below a controlling stake (Cohen and Hochberg 2014; Hoffman and Radojevich-Kelley 2012).

This also highlights another aspect of accelerators which is according to Dempwolf et al. (2014) often ignored in discussions about them: Accelerators are in almost all cases businesses themselves which aim to be self-sustaining. Hence, Dempwolf et al. are amending the above cited definition to "business entities that make seed-stage investments in promising companies in exchange for equity as part of a fixed-term, cohort-based program, including mentorship and educational components, that culminates in a public pitch event, or demo day." This definition helps to separate the accelerator's short-term goal to support a startup from the long-term goal of profiting from that partnership.

Considering these objectives, it is no surprise that most sources emphasized the importance for accelerators to establish connections between startups and investors. Demo days are a typical way of achieving this. Helping a startup to find their next-stage funding source can accelerate their growth and hence increase the returns for the accelerator (Dempwolf et al. 2014; Cohen 2013).

While Dempwolf et al.'s paper implies that an accelerator's profits are of monetary nature we should not restrict ourselves to this understanding. Research on accelerators supporting ventures with social aims showed that they were only partially interested in financial returns but had broader philanthropic goals that they aimed to achieve (Baird et al. 2013). This wider perspective on the objectives of an accelerator will also be critical when turn to corporate accelerators more specifically.

Almost all sources specified that the duration of an accelerator program should be limited in some way with one paper even considering it "the characteristic that most clearly defines accelerator programs" (Cohen and Hochberg 2014). A short timeframe avoids strong dependencies between the startup and the accelerator, encourages fast development cycles, and forces an early feedback from the market about the viability of an idea (Cohen 2013). It also may maximize the profits of an accelerator by allowing more startups to go through the program and by limiting the efforts spent on each startup (Dempwolf et al. 2014).

There was equal agreement across all sources that cohort-based intakes form an essential element of accelerators. These batches of startups are a way to encourage learning among peers at a similar stage (Cohen 2013), are likely to reduce the administrative burden on the programs, and make events such as demo days more impactful.

Accelerator as defined by	Cohen (2013)	Nesta (2014)	Hallen et al. (2014)	Dempwolf et al. (2014)	Hoffman and Radojevich-Kelley (2012)
Further evolved by	Hochberg (2015) and Cohen and Hochberg (2014)	Christiansen (2015)			
Definition	Strict	Typical accelerator	Strict	Strict	Strict
What is an accelerator?	Program	Program	Organization	Business model	Group of business people
Objective	Help ventures	N/D	Accelerate ventures	Help a startup to obtain next-stage funding *and* profit of accelerator	Help ventures
Offers to startup	At *least* mentorship and education	At *least* mentorship and events	At *least* connections to mentors and formal education	At *least* mentorship, education, and networking with investors	*If needed*: Services, guidance, mentorship, networking, expertise
Office space	Mentioned, but not necessary	N/D	N/D	Mentioned, but not necessary	Mentioned, but not necessary
Duration	Fixed-term, usually 3 months	Fixed-term, usually 3 to 6 months	Usually 3 months	Fixed-term, less than 12 months	N/D
Intake	Cohort-based	Cohort-based	Cohort-based	Cohort-based	Cohort-based
Demo day	Yes	N/D	N/D	Yes	N/D
Stipend	Mentioned, but not mandatory	Yes	N/D	Yes	Implied
Equity	Mentioned, but not mandatory	Mentioned, but not mandatory	N/D	Yes	Implied
Application process	N/D	Open to all and competitive	N/D	Competitive	Competitive
Focus area	N/D	No individual founders	N/D	Seed / Pre-seed stage	Early stage

Table 2.1: *Definitions of accelerators across various sources (N/D: Not defined)*

As studies showed, the majority of portfolio firms focuses on ideas centered around software. However, many accelerators see themselves as generalists or define themselves not through the underlying technology of the startup but the industry (such as healthcare) they are operating in (Hochberg 2015).

Considering the commonalities of the definitions across the literature as shown in Table 2.1 in addition to the discussion above, I define accelerators as *programs* which:

- ✓ Help early-stage startups through various means but at least mentorship and connections to potential investors
- ✓ Have management objectives which are often monetary
- ✓ Are fixed-term with durations of equal to or less than 12 months
- ✓ Have a cohort-based intake and process
- ✓ Have a selective application process
- ✓ Typically provide stipends
- ✓ Typically take a non-controlling amount of equity

Finally, it should be noted that this definition does not necessarily overlap with the self-description of the referred to entities. As there is no commonly accepted definition of accelerators, entities that would, for example, be closer to an incubator might describe themselves as an accelerator. Vice-versa, Y Combinator and RockHealth have both redefined themselves as seed funds rather than accelerators and have asked to be dropped from a recent ranking of accelerators (Hochberg et al. 2014). However, they would still fit the proposed definition of an accelerator and they will be considered as such for the purpose of this thesis.

2.1.2 Corporate Accelerators

Based on the proposed definition of accelerators, this section defines the more specific concept of corporate accelerators. According to our own research the first corporate accelerators emerged between 2010 and 2011. Citrix (USA), ImmobilienScout (Germany), Microsoft (USA), and Telefónica (Spain) were among the first companies to launch such programs. Academic papers about this phenomenon are still very limited, though.

Hochberg (2015) mentioned corporate accelerators in her very recent paper and described them as a certain type of accelerators which are "initiated" by corporations and are often similar to regular accelerators. However, she warned that some corporate accelerators would also exhibit untypical and evolving characteristics. Her paper also highlighted that the programs are driven by the corporation's desire to increase their innovation capability and to improve their visibility on upcoming technologies.

Dempwolf et al. (2014) defined corporate accelerators along several axes based on a not further specified literature review: first, they described the offers such an accelerator makes

reiterating the elements that we mentioned in the last section. Second, they argued that corporate accelerators "manage portfolios of *complementary* startups [emphasize ours]." Third, they wrote that corporate accelerators have a different business model than regular accelerators. Following Dempwolf et al.'s framework this implies that they saw the value proposition of these programs as the same, but saw differences in how such an accelerators operates and how it generates income. Specifically, they argued that corporate accelerators "advance certain goals of the corporate [...] parent" to "gain a competitive advantage." The idea that corporate accelerators have different objectives than their non-corporate equivalents is also reflected in the widely quoted blog post by former venture capitalist Crichton (2014). He wrote that corporate accelerators are bound by the objectives stipulated by the parent organization.

Apart from these more general observations, Hochberg was also able to identify several subtypes of corporate accelerators:

1. "Powered by" where core elements such as management, staffing, and back office services are outsourced to an experienced third party such as Techstars (An example would be Barclays' corporate accelerator)
2. In-house managed accelerators (such as Telefónica's)
3. Joint-accelerators that are run by a consortium of companies
4. In-house accelerators which only focus on internal projects

Summarizing the discussion from above, I propose the following definition: corporate accelerators are *accelerator programs*, as defined in Section 2.1.1, which exhibit the following characteristics:

- ✓ They are owned to more than 50 percent by either one or several corporate entities which primary business is not the work with startups
- ✓ The program's objectives are derived from the parent entity's objectives

This as a working definition and it will be an outcome of this thesis to validate it and potentially evolve it. Thus, the first two hypotheses are:

- **Hypothesis 1a**: Corporate accelerators, as implemented in practice, fulfill the definition of non-corporate accelerators
- **Hypothesis 1b**: Our definition of corporate accelerators covers all self-attributed corporate accelerators and does not include any other self-attributed types of accelerators

2.1.3 Corporate Venture Capital

Corporate venture capital is defined as the direct investment of funds from established firms into not publicly traded startups to meet the goals of the investing corporation, such as knowledge acquisition. Investments by third parties—even if on behalf of the corporation—would

generally not be considered as corporate venture capital. The investments are typically minority stakes and should hence not be confused with mergers or acquisitions. Also, the startup has to be external to the corporation and should not already legally belong to the investing firm (Chesbrough 2002; Dushnitsky and Lenox 2005; Dushnitsky and Shaver 2009).

Next to the above mentioned knowledge inflow, the objectives of the investing corporations can be manifold. Both, Chesbrough (2002) and Hochberg (2015), distinguished between financial and strategic goals. The former can include hedging objectives as well as simple financial returns while the latter can range from fostering the current strategy (e.g. investing into firms that want to use the corporation's products) to supporting firms with complementary products. Finally, corporate venture capital can be a way for a firm to gain insights into emerging market trends (Dushnitsky and Lenox 2006).

Startups, on the other hand, do not only potentially benefit from the financial support provided, but can also leverage the strength of the investing brand to acquire customers or to win further investment rounds. Additional support through access to the corporation's resources are mentioned by some sources but are considered secondary compared to the financial support (Dushnitsky and Lenox 2006; Dushnitsky and Shaver 2009).

	Corporate venture capital	**Corporate accelerator**
Owned by	Established corporations	Established corporations
Objectives	Financial and/or strategic, scouting, knowledge acquisition	No clear definition yet. Scouting, "gain[ing] competitive advantage"
Source of objectives	Derived from parent	Derived from parent
Portfolio firms	Mid/late-stage startups	Early-stage startups
Offers to startups	Primarily monetary	Primarily resources, networks, and expertise
Fixed-term	No	Yes (max. 12 months)
Intake	Continious	Cohort-based
Acceptance	Competitive	Competitive
Funding	Yes	Typically
Funding amount	Avg. of $24M	<$100K[2]
Taking equity	Yes	Typically
Amount of equity	Minority stake	Minority stake
Emergence	1960s	2010s

Table 2.2: *Comparing the definition of corporate venture capital and corporate accelerators*

[2]See Section 4.1.1

Corporate venture capital is said to follow a wave pattern of expansion and contraction since the first funds emerged in the 1960s. Before the internet boom in the late 1990s corporate investments increased rapidly but dropped after the crash around 2000. Over the last few years growth has picked up again together with independent venture capital and has reached the highest levels since 2000. In 2014 corporate investments made up around 10 percent of total venture capital and the average deal size in the U.S. was $24M—even higher than the investments of independent funds (Dushnitsky and Lenox 2006; NVCA 2015; CB Insights 2015).

Overall, as Table 2.2 shows, corporate venture capital and corporate accelerators have many elements in common such as their ownership, target audience, and—to a certain extent—their objectives. Differences are primarily the amount of funding provided, the strong focus of corporate accelerators on non-monetary support, and the cohort-based, fixed-term structure of accelerator programs. In case of both concepts companies are generally looking for startups at a later stage compared to the priorities of managers of the independent equivalents. Comparing only corporate accelerators and corporate venture capital with each other, corporate accelerators generally target earlier startups (Ernst & Young 2013, p. 17; Ernst & Young 2014, p. 12; Hochberg 2015, p. 9).

2.2 Macro Perspective on Corporate Accelerators

With the basic definitions established, this section reviews previous literature about macro-level trends in the corporate accelerator space. This includes a description of the available research about the earliest programs, the current growth rates, and the regional distribution of the programs. In addition, this section looks at data about the industrial sectors of companies engaged with corporate accelerators. On this basis several hypothesis are articulated.

2.2.1 Historical Emergence

While the exact reasons for the emergence of corporate accelerators remain unclear, several sources drew parallels to the cyclical patterns of corporate and non-corporate venture capital funds. After the internet crisis in 2000 and the financial crisis in 2008, venture capitalists did not only reduce their investments but also moved up to later-stage startups leaving a funding gap for startups. This gap was partially filled by the newly emerging non-corporate accelerator programs (Hoffman and Radojevich-Kelley 2012; Bliemel et al. 2013).[3] In addition, the fact that accelerators aggregated and filtered early-stage startups (Hochberg 2015) was arguably especially valuable during a period of low venture capital spending. However, rather than disappearing with the recovery of venture capital investments after each crisis, accelerators survived and established themselves as a new fixture in the funding ecosystem (Ernst & Young 2013,

[3]The quote of Hoffman and Radojevich-Kelley (2012) is a secondary reference as the original source was not available anymore

p. 17). This was further helped by advances in information technology, which reduced the cost to launch new businesses and made the comparatively low investments of accelerators more attractive than in the past (Kerr et al. 2014, pp. 13-14).

During the most recent upturn of corporate and independent venture capital around 2010, corporate accelerators appeared as a new phenomenon alongside their non-corporate peers. Hochberg (2015) and Crichton (2014) speculated that this was triggered by companies that were more eager than in the past to be close to entrepreneurs to increase their own innovation potential.

Another potential trigger might have been the record-level corporate cash reserves in the U.S. especially when considering that studies showed that high cash reserves correlate with corporate acquisitions (Sánchez and Yurdagul 2013; Harford 1999). Acknowledging that the current levels of cash are unprecedented, corporate accelerators may be a way for firms to diversify their spending on external businesses. Techstars' Bradford (2014) seemed to imply as much by describing corporate accelerators as just another outlet for companies to fund early-stage firms caused by the recent rise in corporate venture capital.

This would also fit well with the historic sequence of events. The first non-corporate accelerator appeared in 2005 but the concept only gained widespread acceptance a couple of years later during a time when corporate venture capital dried up again due to the global financial crisis around 2008. Considering that companies pulled their money even from their established venture funds, it would be no surprise if they may not have wanted to experiment with the so far unproven concept of accelerators. The recent economic recovery may have lessened these concerns.

Finally, several sources saw strong ties between accelerators and venture capital funds where the former are providing a funnel for the latter (Dempwolf et al. 2014). If companies were to understand the corporate equivalents as similarly integrated one would expect that the rise of corporate venture capital would make a strong internal case for a company to also launch a corporate accelerator.

2.2.2 Prevalence and Saturation

As with accelerator programs in general, there is a lack of verified data about the number of corporate accelerator programs (Dempwolf et al. 2014, p. 29). Seed-DB tracks some of them but without specifically differentiating corporate-sponsored programs from regular accelerators. As of May 2015, Seed-DB listed 22 corporate accelerators when discounting for duplicate entries of programs that operate in several locations. However, the data was clearly incomplete with programs such as the one from Wells Fargo missing (Christiansen 2015; Crichton 2014). Over-

all, though, the reviewed literature indicated a growth of corporate accelerators with Crichton (2014) calling them "in vogue" and Hochberg (2015) writing that they are "on the rise."

Combined, corporate and non-corporate accelerators have seen rapid growth over the last years (Nesta 2014, p. 4; Hallen et al. 2014; Hochberg 2015) with conservative estimates hovering around 300 programs (Cohen and Hochberg 2014; Christiansen 2015) and others citing numbers in a range between 2000 and 3000 (Siegele 2014, p. 5; Hochberg 2015). This has led several sources to argue that there is a potentially dangerous bubble of accelerators (Siegele 2014, p. 5; Wauters 2013; Roush 2011).

Indeed, mapping out the number of non-corporate accelerator programs according to the years they have been established (see Figure 2-1) a pattern seems to emerge: After the rapid expansion of programs between 2005 and 2012, growth has slowed down considerably. It should be noted, though, that Seed-DB's data is of limited quality. Even though it keeps track of closed programs and hence avoids selection bias, a third of all programs have no information on the date of establishment. However, combining this data with the literature review, there is a first indication that growth has lost its momentum.

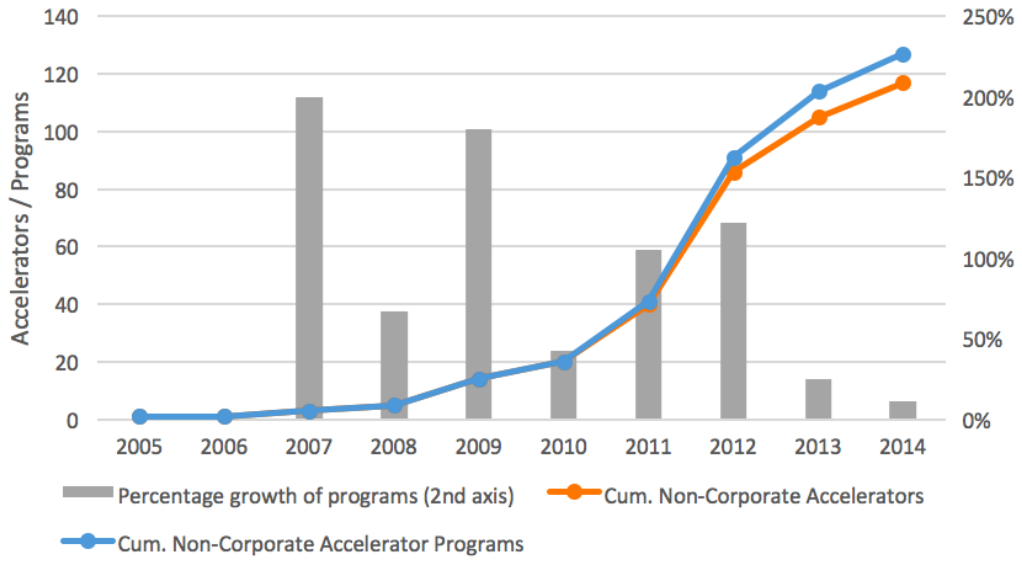

Figure 2-1: *Cumulative growth of non-corporate accelerator programs. Data based on Seed-DB (Christiansen 2015)*

A second phenomenon becomes visible in Figure 2-1: some accelerators have started to offer their services in several locations explaining the increasingly visible difference on the chart between accelerators (such as Techstars) and programs (such as Techstars Boston).

It is interesting to note that the pattern in Figure 2-1 closely resembles the S-curves that are said to describe the evolution of new technology. According to this theory, new technologies first go through rapid, exponential improvements before reaching a stage of diminishing re-

turns (Foster 1986, pp. 97-99). It stands to argue that non-corporate accelerators might as well have benefitted from further and further standardization and improvement of their processes—which would explain the initial growth—before new programs reached limits such as the lack of talented mentors and appropriate startups (Clark 2013; Ingham 2014).

This raises the question if corporate accelerators might go through the same growth trajectory. As the corporate programs closely follow the approach of non-corporate accelerators (see our definition), it would be reasonable to assume that they followed a similar pattern of growth: after some companies pioneered the new concept, others followed and the approach spread. However, it would also be no surprise to see the expansion stalling even earlier as the corporate programs would compete with the already established non-corporate accelerators. This leads to the following three hypotheses:

- **Hypothesis 2a**: The number of corporate accelerators has been growing in the same S-shaped pattern as accelerators in general—just 5 years later
- **Hypothesis 2b**: Corporate accelerators have found ways to avoid the growth obstacles of regular accelerators and hence continued to grow rapidly
- **Hypothesis 2c**: Corporate accelerators have *not* found ways to avoid the growth obstacles faced by regular accelerators and hence stopped spreading due to the competition with established accelerators

2.2.3 Worldwide Locations

While there is—again—no data about the regional distribution of corporate accelerators specifically, Seed-DB's database provides sufficient data to map out the locations of most non-corporate accelerators (see Figure 2-2). Similar to what Bliemel et al. (2013) highlighted in their paper, it is easily visible that the overwhelming majority of programs is located in the United States. The U.S. is followed by other developed regions especially Europe, Australia, and Canada. Some first programs have also opened up in India and China. On a more detailed level, several authors argued that accelerators tend to locate themselves outside traditional innovation hubs such as Silicon Valley. A possible explanation could be that new accelerators want to avoid direct competition with the most established accelerator, Y Combinator (Christiansen 2011; Hochberg 2015).

Corporate accelerators are, however, not only defined by the location of the program itself but also by the location of the firm sponsoring it. From data about corporate venture capital investments in the U.S. it can be deduced that half of these investments were coming from firms outside of the U.S. These foreign investors were comprised of companies from the European Union (50 percent), Japan (20 percent), and a wide range of other countries (CB Insights 2015). Based on this it can be hypothesized that corporate accelerators may follow a similar pattern

with some companies launching programs in their own countries but a similar fraction investing in startups abroad:

- **Hypothesis 3a**: Corporate accelerators are similarly to non-corporate accelerators primarily a U.S.-based phenomenon with additional clusters in other developed countries
- **Hypothesis 3b**: Firms launch corporate accelerators to roughly similar fractions in the countries of their headquarter and abroad

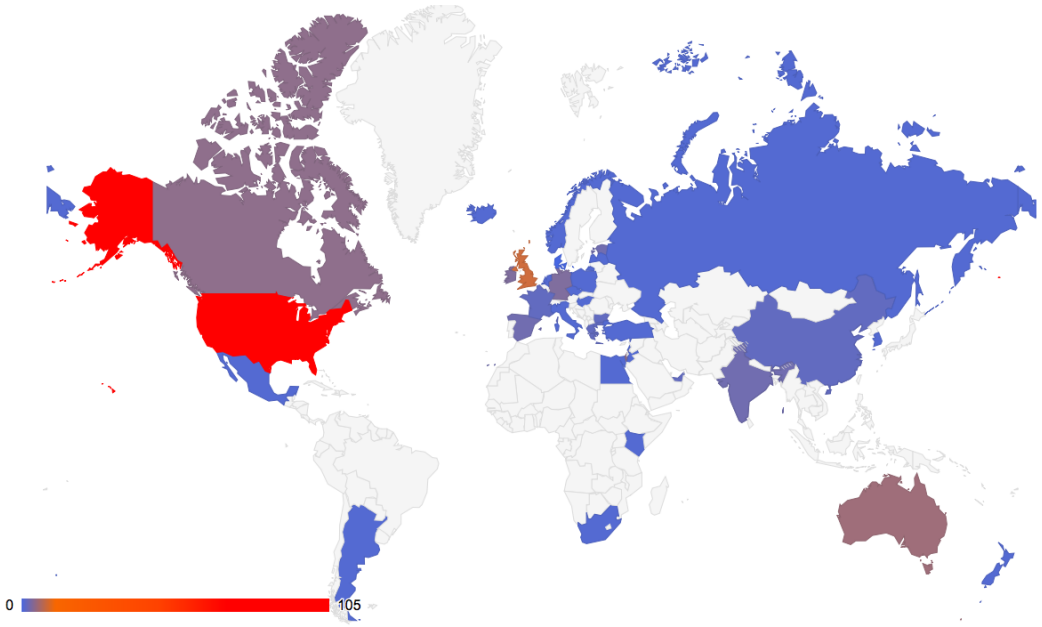

Figure 2-2: *Number of non-corporate accelerators per country. Data based on Seed-DB (Christiansen 2015)*

2.2.4 Industrial Sectors of Sponsoring Firms

As the literature review revealed no insights about the kind of firms that are particularly prone to sponsor corporate accelerators, I searched for acceptable proxies. Non-corporate accelerators are not suitable as they are largely self-sustained and hence have no sponsoring organization. Corporate venture capital funds, though, are not only relatively similar in objectives to corporate accelerators (see Section 2.1.3), but their activities are also reasonably well tracked by several databases.

A recent report by CB Insights (2015) listed all corporate venture capital funds that were active in the U.S. in 2014. I matched these 104 funds with their respective parent company including an indicator of its industrial sector (NAICS) based on data from Reuters Fundamentals and manual assignments where necessary (see Table A.1). Clustering this information by industry (see Figure 2-3), it became apparent that it were predominantly manufacturing, information, finance, insurance, and services firms that were actively engaged in corporate venture capital.

It should be noted that 18 out of the 45 manufacturing firms were pharmaceutical companies (NAICS code 3254) which formed the biggest individual sub-cluster inside manufacturing.

I came to similar conclusions when I approached the same data from a population of largely capitalized firms in the U.S. and Europe (S&P 500 and S&P 350 Europe): given a certain industrial sector it was again the same industries that had overall the highest likelihood of launching a corporate venture capital fund.

An older study by Dushnitsky and Lenox, that analyzed U.S. corporate venture capital investments throughout the 1990s, had almost the same results: information technology (computers, telecommunications, and semiconductors) and pharmaceutical represented more than 75 percent of all firms that were active in corporate venture capital (Dushnitsky and Lenox 2005, p. 953).

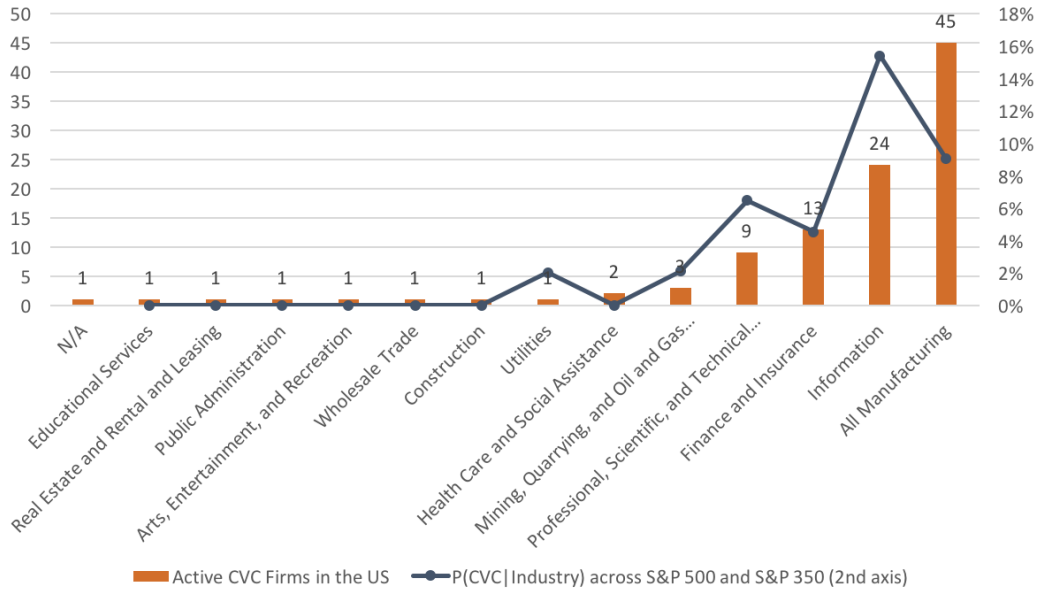

Figure 2-3: *Number of firms per NAICS industry cluster which had an active corporate venture capital arm in the U.S. in 2014. Also shown is the likelihood of a firm having a venture fund given a certain industry across a population of all S&P 500 and S&P 350 Europe firms. The data is based on CB Insight for the list of funds and Reuters Fundamentals for industry information where available (CB Insights 2015).*

This leads me to the following hypothesis:

- **Hypothesis 4**: Corporate accelerators are predominantly launched by firms in the following industrial sectors: manufacturing, information, pharmaceutical, finance, insurance, and services

2.3 Portfolio Firms

Most non-corporate accelerators describe themselves as open to startups from all sectors. However, in practice they are often primarily engaged in the technology sector—particularly in software, mobile applications, and social networks (Hoffman and Radojevich-Kelley 2012; Hochberg 2015). Over the last years, though, the growth of accelerators has led to more programs being active in specialized areas outside of the technology industry. Some programs were found to invest in sectors such as healthcare, finance, energy, education, food, and the life sciences (Nesta 2014, p. 16; Hochberg 2015).

Despite this widening scope, Hochberg (2015) observed that many of the specialized programs were still focusing on software—just targeted towards a particular sector. She also highlighted the challenge of sustaining an accelerator outside of the software industry considering that startups in these sectors often require more capital. Bliemel et al. (2013) came to a similar conclusion but argued on the basis that the limited timeframe of accelerators would bias them towards software startups as those would be able to make the most meaningful progress in the given time.

Turning once more to corporate venture capital as a proxy for the potential behavior of corporate accelerators, it turned out that the National Venture Capital Association had published a study about corporate investments into US-based companies in 2014 and reported a distinct pattern across industries. Again, software was the largest sector with $2.5B of investments. Biotechnology companies received $810M in corporate funds, followed by media and entertainment startups which together received $681M. Medical, hardware, and energy firms were other significant investment targets (NVCA 2015).

Dushnitsky and Lenox analyzed similar data but for a timeframe throughout the 1990s concluding that information technology (computers, telecommunications, and semiconductors) and pharmaceutical were the target of corporate venture capital funds to more than 80 percent of all investments (Dushnitsky and Lenox 2005, p. 953).

Comparing the information about the industrial focus of non-corporate accelerators from the beginning of this section with the discussion about corporate venture capital funds, it is interesting to observe that certain parallels become visible. This leads to the following hypothesis:

- **Hypothesis 5**: Corporate accelerators invest into similar industries as non-corporate accelerators and corporate venture capital funds with a strong focus on software technology and biotechnology

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Chapter 3

Research Methods

3.1 General Approach

As suggested by Edmondson and McManus a body of research should have the highest possible methodological fit, which they defined as the coherence between the various parts of the research (2007, p. 1155). In particular, they emphasized that a researcher should let the research question and the quality of prior work drive the selection of the method used to collect data from the field.

Using Edmondson and McManus's approach I categorized the topic as *nascent* implying that it has not yet benefitted from broad research. This reflects the earlier discussions which highlighted the lack of reliable data and literature about accelerators and even more so about corporate accelerators (Dempwolf et al. 2014, p. 29; Hochberg 2015). Any higher categorization would already require prior work that would at least offer some explanation for the phenomena at hand or even provide testable hypotheses (Edmondson and McManus 2007, p. 1165). In this particular case the categorization as nascent is of little surprise considering the newness of the topic.

Edmondson and McManus recommended in such situations to focus on more open-ended research questions which are—over the course of the project—becoming more precise as the author is collecting more information about the subject. Specifically, they cautioned to already propose relationships between observations as a starting point of the research and instead to let the research focus on the clarification of relevant variables. The most appropriate research methods are hence of more exploratory and qualitative nature including observations, interviews, and the collection of field material about the topic in question. These could then, in a second step, inform the development of a preliminary theory that could then be tested by future research (2007, pp. 1159-1162). More so, they specifically warned from relying too strongly on quantitative research methods as it is likely that many important variables have not yet been

identified and any results might hence look much more promising as they really are. Even statistically seemingly significant outcomes could in such environment very well be the result of chance omitting important causations (Edmondson and McManus 2007, p. 1171).

As a first step I hence collected a comprehensive list of corporate accelerator programs which forms the backbone of this thesis. I further enhanced the data with information retrieved from the programs as described in the following two sections.

With this foundation in place, I undertook a mostly descriptive approach to target my first hypotheses and highlighted where I felt confident to allow further quantitative studies. At several places the insights I gained encouraged me to analyze some aspects in greater depth as it was, for example, the case for the portfolio firms of corporate accelerators.

3.2 Building up the Corporate Accelerator Database

As stated above one of my approaches to better understand corporate accelerators was to collect a list of all such programs, both current and closed. To ensure the best possible level of completeness I undertook the following steps:

First, I searched broadly for academic papers and literature about corporate and non-corporate accelerators which resulted in some first data especially about the earliest corporate programs. Second, I evaluated all entries in Christiansen's Seed-DB (2015) for possible corporate ownership. Similarly, I checked all entries of F6S[1], an online platform that allows accelerators to announce their next intake, for potential matches.

Afterwards, I queried several online sources for the term "corporate AND accelerator" allowing both words to be placed in different places of the document. The sources were:

1. Factiva, for its comprehensive archive on business news
2. Google News, focusing on more recent but broader news sources
3. Techcrunch, a news blog primarily about technology startups
4. New York Times archives, primarily for their US coverage
5. Financial Times archives, primarily for their European coverage
6. Google search, to find general web articles and blogs

Often, the results cited other news articles, papers, blog sites, and databases which I followed recursively wherever I deemed it meaningful.

Finally, I downloaded the list of all constituents of the S&P 500—an index of largely capitalized, public U.S. companies—and of the S&P 350 which is the European equivalent. For these 847 companies I queried Google automatically for the term "[Company] 'corporate accelerator'"

[1] http://www.f6s.com

using web scrapping software. The resulting list was first cleaned of all firms where Google returned either no results or was not able to return results without omitting words such as the company name from the query. Next, the shortened list was sorted by the number of results ranging from 1 to 996 hits. The top 200 firms were afterwards checked manually after which new hits became increasingly rare.

There are several downsides to this approach. First, there is a bias towards American and European firms. This might partially be balanced by the efforts to deeply follow news articles which resulted in hits from Russia, Hong Kong, India, and Korea among others. Second, there is a bias towards English speaking countries due to the search terms that were utilized. Again, this might be counterbalanced by the efforts to follow secondary sources and to use Google Translate wherever possible to explore more results. Finally, there may be programs out there that do not call themselves corporate accelerators but would fit my definition. While this is difficult to disproof, I noticed throughout my search that the results were often too broad with many results being returned for incubators and hackathons.[2] I believe this is due to Google's search mechanism which returns results that do not necessarily contain the exact words as specified but are considered close enough in concept by the algorithms.

All searches were conducted several times between April 15th and June 5th, 2015. Several programs were launched during the last weeks of my research. Still, as each query returned fewer and fewer novel results it is likely that at least a local maximum was reached as of summer 2015. Further research could, for example, not only update the list with the most recent programs but also search for broader terms, use other languages, or utilize crowdsourcing methods to investigate a global maximum.

In total the search revealed programs from 60 different companies, many of which offered their accelerators at several locations. While the search also identified many joint-programs, they are are not the focus of this thesis and were hence excluded.

3.3 Enriching the Database with Details

With the list of corporate accelerator programs in place, I collected more details about each program. Next to the accelerator's website I leveraged news articles and the Internet Archive[3] to complete the data where needed.

Primarily, I looked for information that would allow me to advance or reject my hypotheses. This included data helpful to validate my definition of corporate accelerators such as the length of programs, the support they offered to startups, any equity taken, and references to the pro-

[2] Few day sessions, often sponsored by companies, where people meet to solve together challenges brought forward by the participants or organizers in a hope to learn and/or win prizes

[3] https://archive.org/web/ - A broad but incomplete mirror of the internet with archival function that allows to browse switched off or overwritten website content

gram's management objectives. Each company was also tagged with its NAICS code based on data from Reuters Fundamentals or manually for privately held companies.

Google Translate was used whenever sources were not in English, French, or German. Interestingly, accelerators were frequently holding back on information on their websites that might be considered fundamental for startups picking the right program. For example, some programs published that they would "invest" certain amounts into a startup, but would neither confirm nor deny if they would take any equity and if so, how much. I highlighted such cases clearly in my dataset. All data can be found in Appendix Table A.7.

3.4 Building up the Population

To draw some conclusions about the kind of firms that were launching corporate accelerators, I required a population of firms that was uninformed by the fact whether a particular firm did or did not sponsor a corporate accelerator program. I picked the constituents of the S&P 500 index and the S&P 350 Europe index which offer a good cross-section of large corporations in the U.S. and Europe. According to Standard & Poor's they cover about 80 and 70 percent of the total regional market capitalization in the U.S. and Europe, respectively.

This data was then enriched with NAICS industry codes, market capitalization (in USD), and the number of employees based on data from Reuters Fundamentals. In addition, I pulled yearly data about research and development spending, revenues, operating profits, and cash reserves for the years 2009 to 2014 from the same source. All data was retrieved on May 19th, 2015.

Comparing this data with the whole database of corporate accelerators, I found that the population was covering 35 of the 60 firms that had such programs.

Chapter 4

Corporate Accelerators: A Macro Perspective

4.1 What are Corporate Accelerators?

This chapter covers the first half of the results of this thesis by providing a macro-level perspective on corporate accelerators. This section in particular gathers insights with regards to the first two hypotheses which target the definition of corporate accelerators (see Section 2.1.2). First, the database of corporate accelerators is leveraged to validate whether all of the programs are indeed fulfilling the definition of non-corporate accelerators. If confirmed, it would establish some broad commonalities across all programs and it would also make research results from non-corporate accelerators even more applicable to corporate programs. The second part of this section then looks at the more specific definition of corporate accelerators and checks it for validity.

4.1.1 Corporate Accelerators Are Accelerators

Analysis of the Data: The Seven Criteria of Accelerators

Hypothesis 1a stated that the proposed definition of non-corporate accelerators covers all of the collected corporate programs. Or asking differently: Are corporate accelerators really subtypes of accelerators? Broadly speaking I was able to confirm this hypothesis. To understand how I came to this conclusion I will go through each criterion of the definition separately and cross-validate it with the collected data:

Support offered to the startups: The definition asks for programs to support their portfolio companies through various means but at least mentorship and connections to potential investors. Indeed, all programs (except one where information was lacking) claimed to provide mentorship in one form or the other. Information about connections to potential investors was often more ambiguous but 65 percent of the programs organized demo days where the startups

could showcase their work to either internal or external investors. Only three out of the 60 programs specifically wrote that they would not offer any demo days. All other programs were not explicit about it.

Many corporate accelerators offered additional support including help with legal, human resources, or finances. Some companies leveraged their unique resources to provide benefits. For example, Modern Times Group, a television broadcaster, offered their portfolio firms the licenses they held for various media content. Ernst & Young promised contacts to their clients and Qualcomm provided hardware reference designs.

While not specifically being part of the definition, it is worth mentioning that almost 80 percent of all firms offered office space to their startups with only 5 percent explicitly stating that they would not.

Management objectives: Almost no program listed its objectives publicly. One of the exceptions, Allianz's accelerator, claimed to "better serve and build value for our customers" with the help of the participating startups. AT&T specified that they want to "foster the Education Technology ecosystem" and Bonnier, a Swedish publisher, wrote that they "always need new ideas." However, even if companies did not state their objectives on their websites, it is likely that the majority of the programs had some sort of goals. It is difficult to imagine that a corporate entity is established and funded without any desired outcome. This is supported by public statements of managers from firms such as Coca Cola and Microsoft who emphasized the reciprocal value corporations receive from their accelerator programs (Butler 2015; Goldenberg 2015).

Fixed-term: More than 80 percent of all programs had a fixed-length process (see Figure 4-1) with most programs lasting between two and six months. All programs were shorter than a year. The remaining programs were mostly fulfilling the definition as well but exhibited interesting particularities:

Deutsche Telekom's eight-day program was the only one shorter than two months. However, all other elements of the program were still aligned with the proposed definition of an accelerator. In addition, it is important to note that Deutsche Telekom's program was embedded into an organization with several other offers to startups; some of which were of longer duration. Deutsche Telekom seemed to be aware about the untypical nature of their program stating on their website that the short duration would allow startups to "raise money sooner."

Telenet's Idealab program was of four months' length but offered participants to pitch a second time at the end of the accelerator to stay for another four month and to participate at a final demo day. Similarly, La Poste split its program into two distinct parts of three and nine months with the first focusing on the validation of the idea and the latter on the actual implementation. Mondelez followed the same logic but had two sections of three months each.

Samsung's program was the only one in the database that was called an accelerator by its management but had no fixed duration. Considering other data points that will be discussed below I argue that Samsung's program is not an accelerator in the sense of the proposed definition.

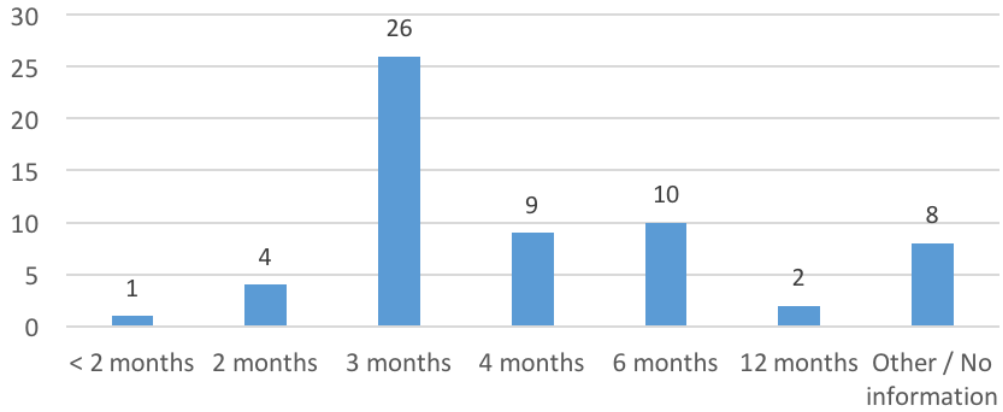

Figure 4-1: *Duration of corporate accelerators*

Cohort-based: In line with the definition, more than 90 percent of all programs accepted startups in cohorts rather than on a rolling basis. The exceptions were—again—Samsung and five companies for which the way they accepted participants could not be determined.

In many cases companies did not share the frequency of their intakes and only announced the date of their upcoming class—if at all. Presumably this allowed them to remain flexible in their intake depending on the outcome of the earlier cohorts and to react to a potentially changing context. A third of all programs, though, accepted startups on a yearly basis. Another 20 percent had two, three, or four intakes per year.

Application process: The definition asks for a selective application process which could be confirmed in all cases: All programs asked for an application of the prospective participants which implies that startups may be rejected. While I could not determine the average acceptance rate of corporate accelerators on a broad basis, Telefónica's wayra and ProSiebenSat.1 publicized their admission rates of 1.6 and <2 percent, respectively.[1]

Stipends: While stipends are not a mandatory criterion of the proposed definition it listed them as *typical* for an accelerator. This seemed to be true for corporate programs as well with 63 percent of them providing stipends of varying amounts. That ranged from the reimbursement of travel expenses (Yandex and Pearson), to flexible stipends (e.g. Wells Fargo), to fixed stipends (e.g. Telstra). A quarter of all companies explicitly offered no stipends.

[1] http://wayra.co/dashboard, https://www.p7s1accelerator.com/en/program/

Equity: Similar to stipends the definition considers equity investments as optional. However, about 40 percent of all corporate programs took equity. While some programs had varying percentages depending on individual negotiations, others had fixed terms. In all cases, though, the equity amount was less than or equal to 10 percent fulfilling the non-controlling criterion of the definition. All programs that asked for equity also provided stipends but there were several programs, among them ImmobilienScout24's and Telenet's, that offered financial support without taking any equity (10 percent of all programs on the list).

Summary of the Results

Overall, 37 out of 60 (62 percent) corporate accelerators fulfilled all criteria of the proposed definition of accelerators if the requirement for management objectives is taken aside (considering the weakness of the data as discussed above). A third of all programs were meeting all criteria in addition to the optional characteristics of a stipend and an equity investment. When interpreting the data less restrictively and considering the lack of information on the program's website as confirmation of the criteria, all programs except Samsung's would meet the definition.

While not absolutely conclusive, the data provides good evidence towards a confirmation of Hypothesis 1a: Corporate accelerators, as implemented in practice, fulfill the definition of non-corporate accelerators.

This result has several implications: It increases the confidence when applying the more prevalent research results and best practices about accelerators to corporate programs. This includes benchmarks about the performance of accelerators providing managers of corporate accelerators with a larger reference base when assessing their own results and setting their goals. In addition, this conclusion allows the same managers to utilize the database of corporate accelerators to the fullest extent knowing that the majority of programs are similarly structured and are hence suitable for direct comparison.

4.1.2 A Definition of Corporate Accelerators

Analysis of the Data: The Two Criteria of Corporate Accelerators

The proposed definition of corporate accelerators amends the definition of accelerators in two important aspects: First, the program has to be owned to more than 50 percent by one or several corporate entities which are not primarily engaged in the work with startups. Second, the accelerator's objectives should be directly derived from the parent organization's objectives (see Section 2.1.2).

Ownership: Across the database of corporate accelerators there was little evidence for programs being owned by something else than a corporate, for-profit organization. An exception

was the program of the Bank of Ireland which had been purposely structured into a non-profit organization which in turn was contracted by the Bank of Ireland.

The fact that a firm owned the accelerator did not necessarily imply that they were also the ones who were providing the seed funding to their portfolio firms. Barclays, for example, specifically stated that all investments were undertaken by its partner, Techstars. Even within those programs jointly offered with Techstars there is a wide range of contractual structures such as Kaplan's where both Techstars and Kaplan offered separate investments to their startups.

An interesting observation was that many programs, such as Metro's and Warner Bros', deemphasized their corporate ownership by bringing in external mentors or by explicitly allowing their portfolio firms to have third-party customers.

The definition also asks that the owning firm does not primarily engage in the work with startups. This proved to be a challenging criterion. While some programs such as Coca Cola's, Microsoft's, or Airbus' were clearly managed by firms that were engaged in industries outside of the startup ecosystem, others were run in partnership with regular accelerators (Techstars), Incubators (Nest), or firms specialized in running accelerators for other firms (L Marks). This was true for a third of all programs. The exact contractual relationship between the firm in which name the program was run and the partner was often difficult to determine. However, in most cases it was the supporting partner (such as Techstars) that hired the managers of the accelerator hinting at an ownership bias towards the partner. In cases such as Axel Springer's a dedicated joint venture was created that was owned to equal parts by Axel Springer and the accelerator Plug and Play.[2]

Source of the objectives: As mentioned above few accelerators were transparent about their objectives. This, in turn, also created challenges in determining the source of these objectives. However, in some cases a connection between the strategy of the owning entity and the objectives of the corporate accelerator could be identified as shown below.

Barclays mentioned their corporate accelerator in 2014's annual shareholder report as one of the element of their strategy to become the "bank of choice" for small and medium-sized businesses (Barclays 2014) and Barclays' Chief Design Officer stated that one of the reasons for them to launch the program was to "deliver on [their] strategic agenda."[3]

Another bank, DBS, wrote in a press release that their accelerator "embodies [their] long-term vision and commitment to digital innovation."[4] This sentiment was reflected in their report to shareholders where they emphasized that they were "pursuing a strong innovation agenda"

[2]http://www.axelspringer.de/en/presse/Application-phase-for-the-first-accelerator-program-of-Axel-Springer-Plug-and-Play-is-starting_17795661.html

[3]https://vimeo.com/90328790

[4]https://www.dbs.com.hk/en/aboutus/pdf/DBS_Press%20Release_Nest_Eng.pdf

due to "rising smart device and social media usage" and that they planed to invest 200M SGD into digital technologies over the course of the next three years (DBS Group 2014).

Axel Springer, a media company, created their corporate accelerator with the aim to broaden their "current investment horizon in the context of [their] digitization offensive."[5] This matched well with publicly available material about their corporate strategy that emphasized the fact that Axel Springer wants to actively manage their portfolio of subsidiaries to shift from print media to digital offers such as online classified services and online news sites (Döpfner 2015).

While these examples highlight how corporations can strategically integrate their corporate accelerators, the data was not sufficient enough to prove this point widely. Hence, it can only be argued that *some* of the sponsoring firms see their corporate accelerators as an extension of their corporate objectives, but this statement cannot be generalized yet.

Summary of the Results

Hypothesis 1b articulated that the proposed definition of corporate accelerators would cover all such programs without including programs that do not define themselves as corporate.

On the basis of the discussion above this hypothesis *cannot* be confirmed. First, I realized that the constraint that the owning entity's business should not be about the work with startups, conflicted with those programs jointly run with a partner. The fact that these programs still defined themselves as corporate accelerators hints at a weakness of the definition.

Second, while there is some evidence for programs linking their objectives to the ones of their parent there is not enough data to claim this on a broader basis. However, this is not necessarily a critical issue with the definition but can be seen as a call for future research to further complete the dataset.

Accounting for these results I suggest amending the proposed definition of corporate accelerators as an improved baseline for future studies: Corporate accelerators are *accelerator programs*, as defined in Section 2.1.1, which exhibit the following characteristics:

- ✓ The program's objectives are derived from the objectives of one or several for-profit businesses whose primary business is not the work with startups ("the parent entities")
- ✓ The program is either (1) directly owned by the parent entities or (2) is owned by an entity that specializes in managing accelerators and that is in turn directly contracted by the parent entities to manage the program on their behalf

In line with Hochberg (2015) I suggest calling those corporate accelerators that are managed (no matter the ownership structure) by an entity that is specialized in doing so "powered by."

[5] http://www.axelspringer.de/en/presse/From-Silicon-Valley-to-Berlin-Axel-Springer-and-Plug-and-Play-Tech-Center-launch-joint-accelerator_16682864.html

4.2 Corporate Accelerators Are Still Few but Spreading

Section 2.2.2 reviewed the existing literature about the growth of corporate accelerators. This section complements this research by presenting results from the collected list of corporate accelerators. First, we will look at the growth of the phenomena in general before then turning to the survival rates of programs and a more in-depth look at the prevalence of corporate accelerators within a population of 847 largely capitalized firms.

4.2.1 Worldwide Growth

The data shows the considerable growth of corporate accelerator programs as can be seen in Figure 4-2. If we were to account for the fact that 20 percent of all programs had launched accelerators in more than one location, the growth would be even more pronounced. However, due to the lack of public data about these spawned-off locations I restricted the research to the number of sponsoring companies rather than the individual locations.

With this limitation in mind, the data reveals growth rates of about 200 and 158 percent in 2012 and 2013, respectively. Throughout 2014 the increase slowed down while still reaching roughly 55 percent year-on-year. 2015 will likely see a similar rate if the launch of new programs till June 5th, 2015 proves to be a reliable predictor.

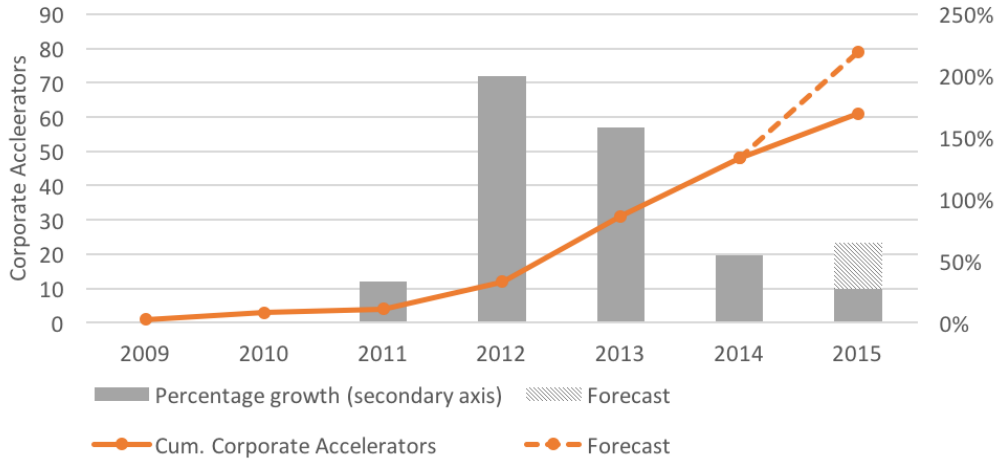

Figure 4-2: *The (forecasted) growth of corporate accelerators. This data does not reflect that some programs were closed down throughout the years. Latest update on June 5th, 2015.*

Comparing the cumulative number of launched corporate accelerators with the growth of non-corporate accelerators (see Figure 4-3), it becomes visible that both growth patterns are similar—just shifted by several years. When both curves are overlaid the best possible match can be found by shifting one of the curves by three years. While the accuracy of the match is surprising, the delay between both curves was smaller than anticipated. I hypothesized (Hypothesis 2a) that we should find a delay of around five years considering that the first corporate

program was launched five years after the first non-corporate accelerator (Y Combinator). Two factors may play a role in explaining this deviation from the expectation: First, as mentioned in Section 2.2.2, Seed-DB's quality of data is limited and only two-thirds of programs have a launch date listed. If the data were more comprehensive, we would observe a larger difference between both curves. Second, as argued in Section 2.2.1, the sequencing of events might play a role. With corporate accelerators emerging later they likely benefited from the experience of non-corporate programs potentially resulting in faster growth as more companies felt informed enough to launch their own programs.

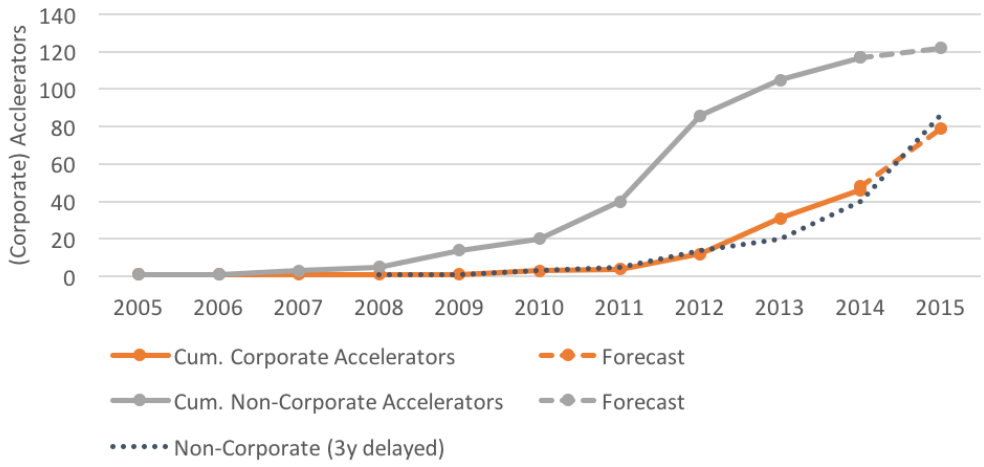

Figure 4-3: *Comparing the growth of non-corporate accelerators with the one of corporate accelerators*

Apart from the exact delay between both curves, there are first indications that corporate accelerators may follow a similarly S-shaped pattern: The first years saw strong growth which slowed down over the last two years. This hints towards a partial, careful confirmation of Hypothesis 2a, which argues that the number of corporate accelerators has been growing in a the same S-shaped pattern as accelerators in general—just 5 years later.

4.2.2 Survival of Corporate Accelerators

About 75 percent of all corporate accelerator in the database of programs were still active (see Figure 4-4). At time of writing 19 out of 60 programs were running in a sense that they had at a cohort in-house. All of the first three programs and half of those that launched in 2012 were still accepting new cohorts. The more recent years had unsurprisingly[6] even better survival rates. This implies that the majority of programs already accepted at least two cohorts which points towards an at least neutral or positive attitude of the companies towards their programs.

Despite the fact that the majority of corporate accelerators is still alive, several of them changed their strategy throughout the last years. For example, Microsoft started off by part-

[6]Considering that they were active for a shorter time

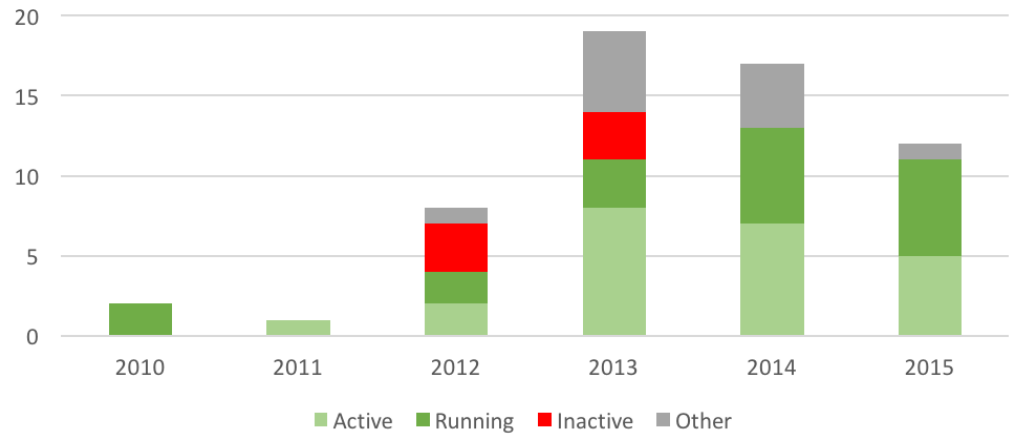

Figure 4-4: *Corporate accelerators that are still active, currently running with a cohort, inactive, or in unclear status. Programs are clustered by the year of their launch. Data based on my own research.*

nering with Techstars but later switched to a self-managed approach. Telefónica was at time of writing reorganizing their various innovation initiatives into one umbrella organization and there were first indications that this would also have implications for their corporate accelerator.

4.2.3 Penetration of the Population

When restricting the analysis to the population of the 847 constituents of the S&P 500 and S&P 350 Europe, a similar picture emerges compared to the global analysis (see Figure 4-5). There had been substantial growth between 2012 and 2013 which slowed down during 2014 and may reach about 40 percent in 2015. Even though the relative growth had been slowing down, this still results in ten programs that were launched within the set of largely capitalized firms in 2014—roughly equal to the number in 2013.

In terms of penetration, about 5.1 percent of all firms in the population will have had experience with a corporate accelerator at some point in their history by the end of 2015. Taking into account that so far every year about 10 percent of all programs were closing, a total penetration of 4.6 percent by the end of 2015 is a likely outcome (see Figure 4-6). To put this into perspective, this compares to the roughly 5.9 percent of all firms in the same population that were actively investing corporate venture capital in the U.S. in 2014.

The fact that it is still only a minority of companies that sponsored such programs makes it clear that corporate accelerators have not yet reached the mainstream across large firms. However, the share of companies owning these programs is still growing. Also, there is little indication that there is an immediate upper bound in terms of interest from companies to launch such programs: A study by KPMG (2014) revealed that 88 percent of all surveyed large firms in the Netherlands believed that they had to collaborate with startups to continue innovating. At the same time they found it mostly difficult to find suitable ventures, which is something a

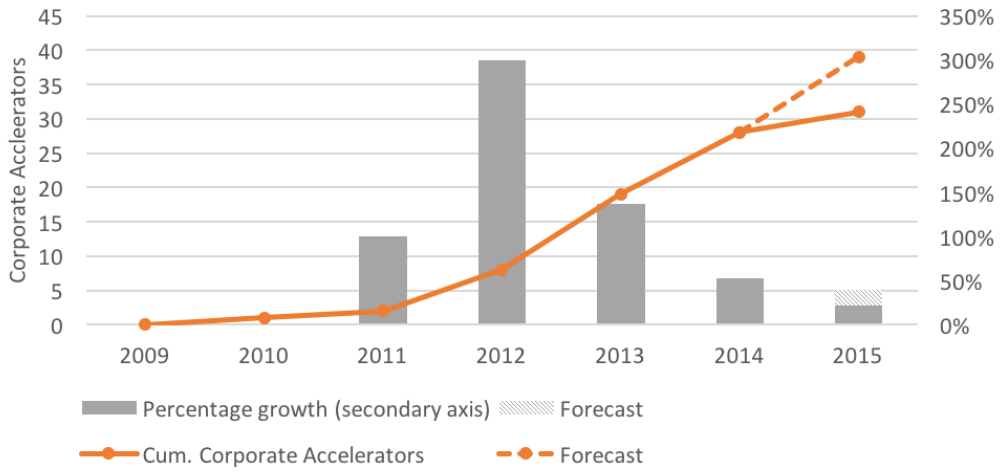

Figure 4-5: *The (forecasted) growth of corporate accelerators within our population of S&P 500 / S&P 350 Europe firms. Closed down programs are accounted for until the year of their last class. Latest update on June 5th, 2015.*

well-structured corporate accelerator may ease. All of this lends support to Hypothesis 2b—that corporate accelerators have found ways to avoid the growth obstacles that normal accelerators currently face.

However, the recent slowdown in addition to first hints towards a S-shaped growth pattern also gives credibility to an impending realization of the opposing Hypothesis 2c: Corporate accelerators have *not* found ways to avoid the growth obstacles faced by regular accelerators and hence stopped spreading due to the competition with the already established accelerators. In this case one would expect that both corporate and non-corporate programs would split the market by roughly half all else being equal. Indeed, a recent study of Mocker et al. (2015) showed that this is indeed becoming a possibility with a third of all accelerators in Europe now being supported by a corporate entity.

Overall, the penetration rate we can observe in combination with the high survival rate is significant enough to reasonably assume that corporate accelerators are a strategic choice that will become a permanent fixture across largely capitalized businesses. It is, however, at this early stage difficult to predict whether corporate accelerators will further spread across all firms or whether they will remain a niche choice comparable to the concept of corporate venture capital. Considering that the penetration rate of corporate venture capital and corporate accelerators is relatively close, it is also reasonable to assume that corporate accelerators may survive a potential future contraction of corporate investments into new ventures. As I detailed in Section 2.1.3 and Section 2.2.1, corporate venture capital funds are assumed to fluctuate along economic cycles and there are good reasons to believe that corporate accelerators follow the same pattern. Similar to the consistent revival of corporate venture capital with each economic

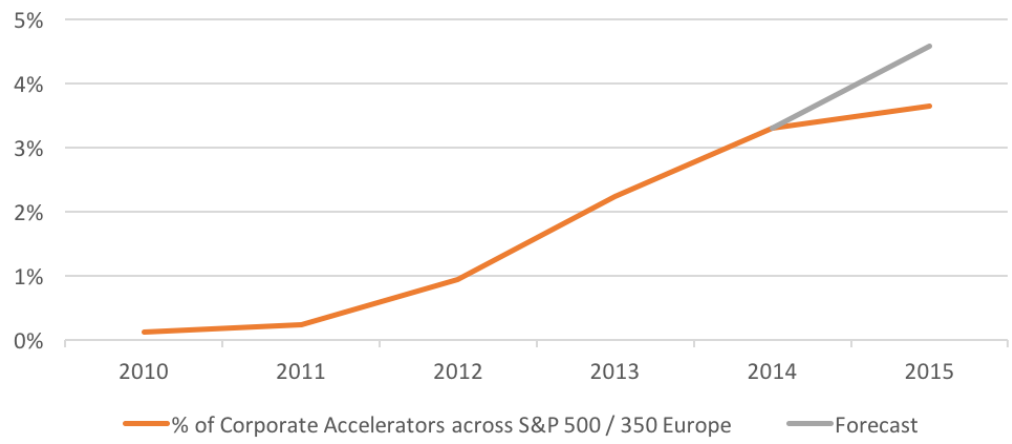

Figure 4-6: *Corporate accelerators as a percentage of all constituents of the S&P 500 and S&P 350 Europe index. The data takes into account that several programs closed down throughout the years.*

upturn, there is good indication that corporate accelerators are now accepted broadly enough to allow for similar revivals.

4.3 Sponsoring Firms Share Certain Properties

This section details my results about the characteristics of firms that are sponsoring corporate accelerators. First, I look at the country of origin of the sponsoring firms and the location of the actual programs. This is followed by a discussion about the industries of the sponsoring corporations and the potential overlap with existing corporate venture capital funds. The last part of this section brings all these factors together into one linear regression model.

4.3.1 Country of Origin and Deployment

In my literature review I speculated that corporate accelerators would primarily be a U.S.-based phenomenon (Hypothesis 3a) and that companies would in equal numbers open up locations in their home country and abroad (Hypothesis 3b).

The collected data reveals that corporate accelerators were more evenly spread across the globe than non-corporate programs (see Figure 4-7). While the U.S. was still the country that hosted the highest number of programs (25 percent), it did not dominate as strongly as for regular accelerators (59 percent). In turn, all European countries combined had a relatively strong presence of corporate accelerators (55 percent) with a loose correlation to the different countries' economic strength. Noteworthy is the number of programs in South America primarily due to the various locations of Telefónica. Asia also had a good share of programs with more than one corporate accelerator each in India, China, Hong Kong, Singapore, and Malaysia. The French telecommunication firm Orange had a presence at the Ivory Coast.

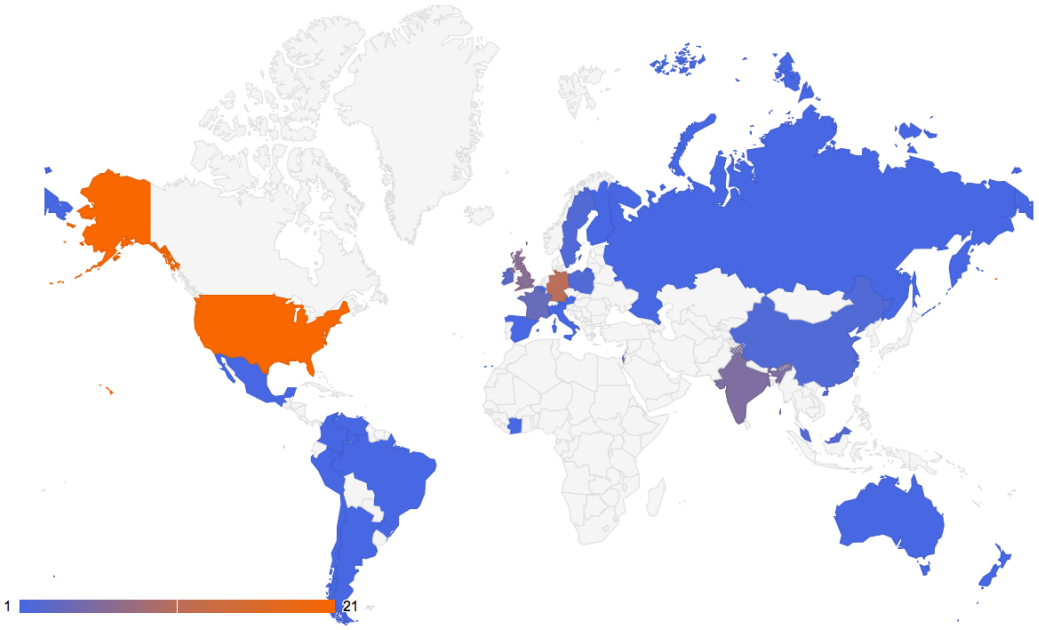

Figure 4-7: *Worldwide locations of corporate accelerators. Not visible are the programs in Hong Kong (3) and Singapore (2).*

Considering these results, there is sufficient evidence to reject Hypothesis 3a: Corporate accelerators are clearly not concentrated solely in the U.S. While the majority of programs is deployed in developed nations, there is also a good share of programs in emerging economies.

However, the countries of origin of the companies behind the corporate accelerators were much more concentrated than the programs itself (see Figure 4-8). Almost all companies were based in developed countries with half of them either in the U.S. (22) or Germany (10). From that it can be deduced that several companies must have decided to deploy programs outside of their country of origin. Indeed, while the majority of companies (62 percent) had a corporate accelerator only at home, the remaining 38 percent were more exploratory in their approach. 22 percent of firms even opened up a program outside their country of origin but had no location at home. Overall, the data does roughly confirm Hypothesis 3b: Corporate accelerators are approximately split between remote and local locations relative to their sponsoring firm's headquarter.

Of those countries that attracted external firms, India (6), the U.S. (6), and Israel (5) had the highest number of programs from companies headquartered elsewhere. It can be noted that all of these countries are known for their strong information-related industrial sectors.

Many of the companies that took a more exploratory approach when launching their corporate accelerator already had a major local presence before launching their remote program. This is, for example, the case for Orange, Microsoft, and Deutsche Telekom. Pitney Bowes and Target, which both launched corporate accelerators in India, opened them adjacent to their al-

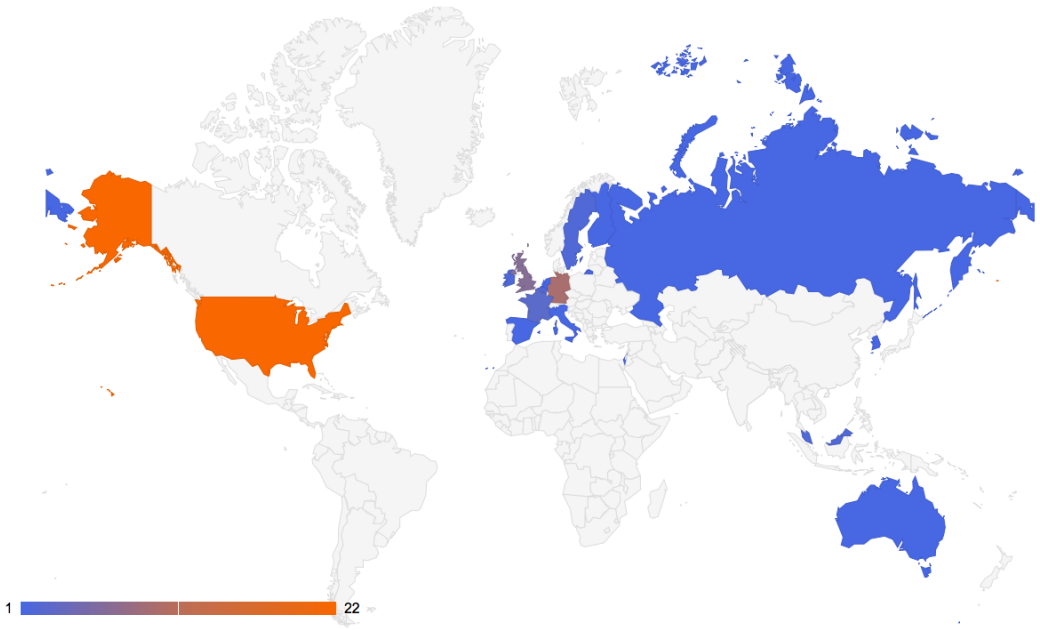

Figure 4-8: *Locations of companies sponsoring corporate accelerators. Not visible are the firms in Hong Kong (2) and Singapore (2).*

ready existing research and development centers. There was no company in the dataset of this study that entered a market with a corporate accelerator without any prior corporate presence.

4.3.2 Industrial Sectors

As part of the literature review, I reasoned that the sponsorship of corporate accelerators is biased towards certain industries. To validate this claim I looked at all 35 companies across the population of S&P 500 and S&P 350 Europe companies that had sponsored or did still sponsor a corporate accelerator. Overall, firms in the manufacturing sector (12 firms) and information sector (11) represented the largest share of sponsoring companies.

However, taking into account the different share of industries across the population of 847 firms, a different picture emerges (see Table 4.2). The overall probability of a corporate accelerator in the population is $P(A) = P(\text{Accelerator}_{S\&P}) = 4.12\%$. On the basis of the collected data from Reuters Fundamentals the share of each industry $P(I_k) = P(Industry_k)$ can also be determined. $P(I_k|A)$ is then the ratio of a certain industry within the subset of firms with a corporate accelerator. With these figures given, the probability $P(A|I_k)$ that a firm sponsors an accelerator—given a certain industry—can be calculated using Bayes' theorem:

$$P(A|I_k) = \frac{P(I_k|A)P(A)}{P(I_k)}$$

No programs	Some programs (<8% of firms)	Significant number
Other Services... (81)	Professional [...] Services (54)	Information (51) ***
Arts, Entertainment, and... (71)	Retail Traide (44-45)	
Health Care and Social... (62)	Finance and Insurance (52)	
Construction (23)	Manufacturing (31-33)	
Accommodation and Food... (72)	Utilities (22)	
Wholesale Trade (42)		
Real Estate and Rental... (53)		
Transportation and... (48-49)		
Administrative and Support... (56)		
Mining, Quarrying, and O&G... (21)		
Agriculture, Forestry,... (11) +		
Management of Companies... (55) +		
Educational Services (61) +		
Public Administration (92) +		

Table 4.1: *Overview of industrial sectors (with their respective NAICS code) in which there were no, some, or a significant number of corporate accelerators across our population of the constituents of the S&P 500 and S&P 350 Europe. (***) signifies that the attribution is significant. (+) marks all industrial sectors that are not represented in the population.*

Further, the null hypothesis H_0 can be defined as the situation in which the industry of a sponsoring firm has no influence on the launch of a corporate accelerator. With this the significance $p_{P(A|I_k)}$ of the actual number of corporate accelerators in each industry can be established by contrasting it against the pre-defined significance level of $p_s = 0.05$. Significant results should be interpreted as the rejection of H_0 but not necessarily as the acceptance of our hypothesis. Other, unconsidered factors, such as the size of the company, could indirectly influence the results if correlated to the industry (Howell 2013, p. 90).

To calculate $p_{P(A|I_k)}$ a two-sided binomial test is utilized for each industry. For this particular case the binomial test sums up all probabilities of all possible counts of corporate accelerators given the number of tries (count of all firms) and the likelihood of an industry $P(I_k)$. To find any significant (positive or negative) deviations from the expected number of accelerators in an industry $E[A_k] = P(A) * P(I_k) * \sum$firms, I sum up all values to the left and right of $E[A_k]$ that are at least as extreme as the number of accelerators that I found in my research (Howell 2013, p. 129). The results are shown in Table 4.2.

Given a certain industrial sector, firms in the information sector were by far the most active in launching corporate accelerators (16.92 percent), followed by services (6.45 percent), and retail trade (6.00 percent) when aggregating across NAICS sub-sectors (see Figure 4-9).

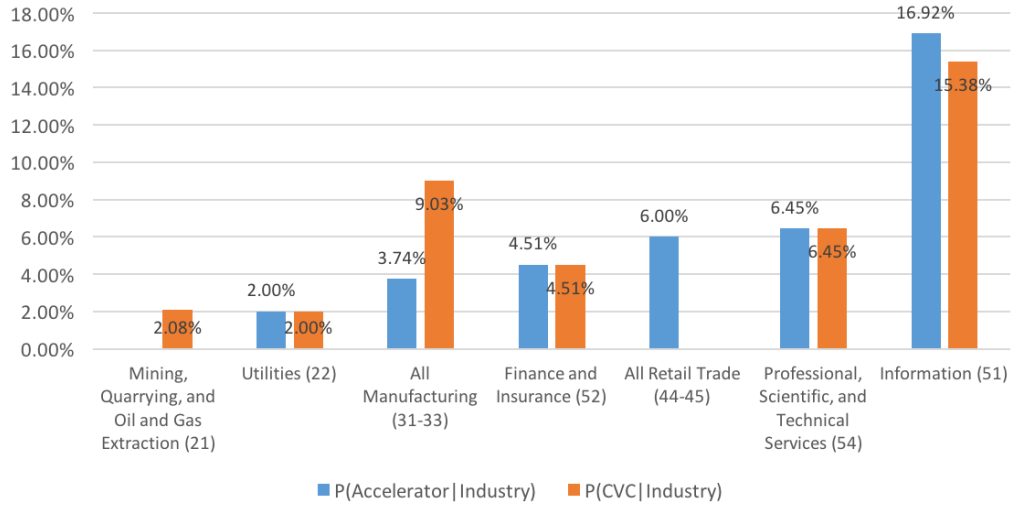

Figure 4-9: *Likelihood that a firm in a certain NAICS sector had a corporate accelerator or a corporate venture capital fund across all S&P 500 and S&P 350 Europe companies*

Pharmaceutical manufacturing firms (NAICS code 3254), which represented a large share of corporate venture capital, were comparatively unlikely to launch corporate accelerators (3.23 percent). In terms of significance, though, only the information sector has a p-value below the significance threshold indicating that the null hypothesis, that industry has no impact on the launch of a corporate accelerator, can be rejected. However, it also highlights that beyond the information sector industry might play less of a role in determining whether a firm launches an accelerator. Thus, there is only limited evidence that points towards a confirmation of Hypothesis 4 which claimed that corporate accelerators are predominantly launched by firms in manufacturing, information, pharmaceutical, finance, insurance, and services.

It should also be noted that the information sector had such a significantly high share of corporate accelerators that the sector has started to reach a threshold that can be considered common practice—something that was rejected for the overall population in Section 4.2.3. Within the information sector it is clearly a phenomenon that reaches beyond the software sector (25 percent of information-related sponsoring firms) with a strong representation of telecommunications (41 percent) and motion picture production / television broadcasting (25 percent).

NAICS	Descriptor	S&P 500	S&P 350	CAs	$P(I_k)$	$P(I_k\|A)$	$P(A\|I_k)$	$p_{P(A\|I_k)}$
	Total companies:	501	348	35		$P(A) = 4.12\%$		
11	Agriculture, Forestry,...	0	0	0	0.00%	0.00%	N/A	
21	Mining, Quarrying, and O&G...	34	14	0	5.65%	0.00%	0.00%	0.276
22	Utilities	31	19	1	5.89%	2.86%	2.00%	0.7293
23	Construction	6	7	0	1.53%	0.00%	0.00%	1.000
31	Manufacturing	34	20	4	6.36%	11.43%	7.41%	0.293
32	Manufacturing	49	53	2	12.01%	5.71%	1.96%	0.456
3254	Pharmaceutical...	19	12	1	3.65%	2.86%	3.23%	1.000
33	Manufacturing	100	65	6	19.43%	17.14%	3.64%	1.000
31-33	Sum: Manufacturing	183	138	12	37.81%	34.29%	3.74%	0.889
42	Wholesale Trade	12	6	0	2.12%	0.00%	0.00%	1.000
44	Retail Trade	20	16	2	4.24%	5.71%	5.56%	0.663
45	Retail Trade	12	2	1	1.65%	2.86%	7.14%	0.439
44-45	Sum: Retail Traide	32	18	3	5.89%	8.57%	6.00%	0.467
48	Transportation and Ware...	13	13	0	3.06%	0.00%	0.00%	0.633
49	Transportation and Ware...	2	3	0	0.59%	0.00%	0.00%	1.000
48-49	Sum: Transportation and...	15	16	0	3.65%	0.00%	0.00%	0.644
51	Information	37	28	11	7.66%	31.43%	16.92%***	0.0001
52	Finance and Insurance	70	63	6	15.67%	17.14%	4.51%	0.828
53	Real Estate and Rental...	20	7	0	3.18%	0.00%	0.00%	0.634
54	Professional [...] Services	18	13	2	3.65%	5.71%	6.45%	0.365
55	Management of Companies...	0	0	0	0.00%	0.00%	N/A	
56	Administrative and Support...	21	10	0	3.65%	0.00%	0.00%	0.644
61	Educational Services	0	0	0	0.00%	0.00%	N/A	
62	Health Care and Social...	8	2	0	1.18%	0.00%	0.00%	1.000
71	Arts, Entertainment, and...	0	2	0	0.24%	0.00%	0.00%	1.000
72	Accommodation and Food...	9	5	0	1.65%	0.00%	0.00%	1.000
81	Other Services...	1	0	0	0.12%	0.00%	0.00%	1.000
92	Public Administration	0	0	0	0.00%	0.00%	N/A	
	Others	4	0	0	0%	0%	N/A	

Table 4.2: *Industries of companies sponsoring corporate accelerators (CAs) across the S&P 500 and S&P 350 Europe. $P(A)$ is the overall likelihood of a firm in the population having an accelerator. $P(I_k)$ is the fraction of an industry among all sampled firms. $P(A|I_k)$ is the likelihood of a corporate accelerator given a certain industry.*

4.3.3 Corporate Venture Capital

The collected data also reveals that those firms in the population that sponsored a corporate accelerator were also often engaged in corporate venture capital in the United States in 2014 (see Figure 4-10). But is this overlap significant? If we were to assume that both initiatives are independent from each other (H_0) we would expect that only $E[P(A \cap CVC)] = P(A) * P(CVC) = 0.24\%$ of firms are active in both domains. However, the data suggests a value of $P(A \cap CVC) = \frac{10}{849} = 1.18\%$, which is, using a similar binomial test as above, highly significant ($p < 0.05$).

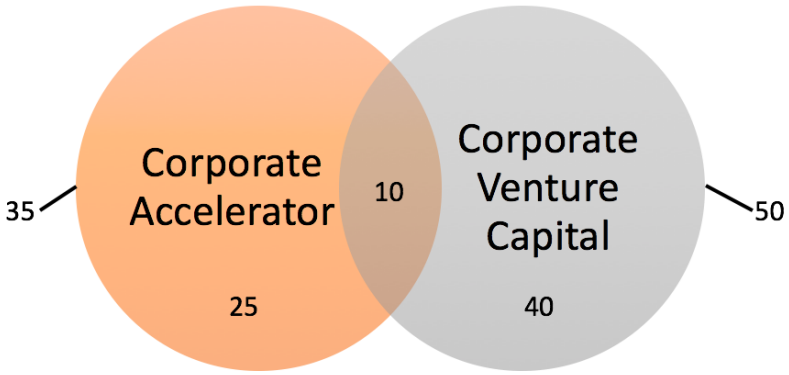

Figure 4-10: *Overlap of S&P 500 / S&P 350 Europe firms that have corporate accelerator programs and were engaged in corporate venture capital in the U.S. in 2014*

This result fits well to the claim in Section 2.2.1, where I argued, based on the literature review, that corporate accelerators may be seen as a funnel for corporate venture capital investments. I further reasoned that the sponsorship of one of the concepts in a company would encourage the deployment of the other. Looking at the external communication of the collected corporate accelerators, there were indeed some companies, among them R/GA and Time Warner, which hinted at the possibility of follow-on investments after graduation from the program. However, the majority of the firms in the list which had both, an accelerator and a venture capital fund, kept both initiatives separated in their outwards communication. There can be several potential causes for this: First, in many cases the corporate venture capital funds were already well established. The corporate accelerator programs, on the other hand, were usually more recent and might be seen as more experimental by some of the managers. This could have led the firms to a more careful communication about them. Also, and in light of what was discussed in Section 2.1.3, firms might target very different companies with both concepts (e.g. at different maturities) and hence see few opportunities for portfolio firms to transition from one to the other. Lastly, the firms may have chosen to avoid raising too high expectations on the side of the portfolio firms by keeping information about potential follow-on investments reserved to one-on-one discussions with the startups.

4.3.4 Other Factors and Regression Analysis

This section aims to summarize and discuss the characteristics that may contribute to a firm's decision to launch a corporate accelerator. Above I already highlighted how the industry of the sponsoring firm, an existing corporate venture capital fund, and the location of the firm's headquarter are relevant in this respect. In this section I will bring in some additional factors and combine them into one linear regression model applied to all firms in the selected population of 847 largely capitalized firms across the U.S. and Europe (see Section 3.4).

	Dependent variable: HasAccelerator			
	R1-1 Research-intensity only	**R1-2** Market capitalization only	**R1-3** Full model (Germany)	**R1-4, Preferred** Full model (Europe vs U.S.)
AvgRndPRev	0.156			
	(0.237)			
MarketCapBUsd		0.001	0.001	0.001
		(0.000)	(0.000)	(0.000)
IsInformation			0.123	0.122
			(0.000)	(0.000)
HasCVC2014US			0.093	0.100
			(0.002)	(0.001)
IsEurope				0.011
				(0.400)
IsGermany			0.138	
			(0.000)	
R-Squared	0.0049	0.0481	0.1100	0.0899
Adjusted R-Squared	0.0014	0.0470	0.1060	0.0856
Observations	289	847	847	847

Table 4.3: *Several regression models that show the relation between various predictors and the fact that a company launched a corporate accelerator. The population are all firms in the S&P 500 and S&P 350 Europe indices. The variables are described in Appendix Table A.2.*

One additional characteristic that was brought to my attention during the literature review, was the link between the **size of an organization** and its innovation capability. Damanpour, for example, observed through a meta-analysis of 20 studies that there is a positive correlation between these two factors. Interestingly, he reasoned that this might partially be explained by the fact that corporations had generally started to decrease the size of their individual divisions. This, he argued, may lead to more autonomous units which may enable large firms to be more innovative (Damanpour 1992, p. 395). This leads me to hypothesize that firms are driven by a similar logic when launching corporate accelerators: faced with a growing organization they decide to bring in small ventures to test new approaches which may otherwise be difficult to realize due to the inherent complexity of large firms. To measure the size of an organization I chose market capitalization due to the high quality of the available data. However, almost identical results were obtained when utilizing the number of employees as proxy for organizational size.[7]

[7] As can be seen in the pairwise correlation both, market capitalization and the number of employees, correlate with the fact that an organization has a corporate accelerator (see Appendix Table A.3). I refrained from including them together in the regression model due to their strong covariance.

Next to the organizational size I also wanted to understand if existing **investments into research and development (R&D)** would be correlated to the existence of a corporate accelerator. While R&D investments indeed correlated, it became clear that they had a strong covariance with the size of an organization (as measured in market capitalization). Research intensity, defined as R&D investments over revenue, largely corrected this bias and had no predictive power anymore.[8] As there was strong covariance between an existing corporate venture capital fund and the R&D spending of a firm, I decided to drop R&D spending and research intensity from the final model to improve its overall quality (see Appendix Table A.3 for all pairwise correlations.)

To summarize the discussion from above, Table 4.3 shows isolated regression models for research intensity (R1-1) and market capitalization (R1-2). Also shown are two full regression models (R1-3 and R1-4) which include market capitalization and all factors that were analyzed in earlier sections—namely industry, corporate venture capital, and location (see Appendix Table A.2 for a full explanation of all variables). As discussed in Section 4.3.1, the majority of corporate accelerators were located in Europe (55 percent). However, this can largely be contributed to the large number of programs in Germany. Hence, two regression models were developed, one that contrasts European firms with U.S.-based firms and another one that compares German firms to the rest of the world. While the latter model had a higher coefficient of determination (R^2), I believe that the low number of observations, when restricted to one country alone, makes a stronger case for the Europe vs. U.S. model (R-4) despite the weaker R^2.

The preferred model (R1-4) allows us to draw several conclusions: First, it highlights once more the linkage between a firm's industrial sector and its ownership of a corporate accelerator. While no industry outside the information sector shows any significant correlation, firms that are information-related have a 0.12 higher mean[9] to sponsor a corporate accelerator compared to all other firms (on a scale from 0 to 1). Similarly, the existence of a corporate venture capital fund has a significant correlation to the presence of a corporate accelerator with an increased mean of 0.10. It should be noted, though, that this result does not allow us to conclude that the fund preceded the accelerator or vice-versa. Determining this order may be an interesting research subject in itself as it would shed further light on the internal decision making processes of corporations with regards to their innovation measures. Thirdly, it can be seen that the fact that a corporation is headquartered in Europe has no significant correlation to the firm sponsoring a corporate accelerator. While the descriptive analysis in Section 4.3.1 showed that

[8] It should be noted that there was a smaller number of observations for RD spending and research intensity compared to the other variables due to a lack of data especially for Europe. This may play a role in explaining the lack of significance

[9] This is based on a scale from 0 to 1 where 0 implies that a firm has no corporate accelerator and 1 means that is has such a program. When applied to a selection of 100 firms with 10 of them sponsoring a corporate accelerator, this result implies that if all of them were suddenly information-related we would expect that we had 22 firms with a corporate accelerator

Europe has a comparatively large share of programs, the data does not give any indication that this would be beyond what one would expect from a random distribution. Finally, the model provides a significant indication that a firm's size as measured in market capitalization is linked to the firm's decision to launch a corporate accelerator. With each increase of $100B in market capitalization the mean of firms having such a program increases by around 0.06.

In summary the preferred model makes the case that large, information-related firms that are engaged with corporate venture capital are particularly prone to sponsor a corporate accelerator. The R^2 of the model is still relatively low indicating that there may be several other unknown variables that impact a firm's decision to launch a corporate accelerator. Also, it is important to realize that the overall sample size is still small with only 35 out of 847 firms in the population sponsoring a corporate accelerator.

Chapter 5

Corporate Accelerators Are Exploratory in Their Function

5.1 Portfolio Selection

As part of the literature review I argued that corporate accelerators are looking for startups from similar industries as non-corporate accelerators and corporate venture capital funds. To better understand the relation between corporate accelerators and their portfolio firms, I analyzed the publicly available material of all 60 firms that sponsored such programs. With two exceptions all firms listed key topics that they prioritized when selecting startups. The Bank of Ireland mentioned no topics but explicitly stated that any startup would be welcome to apply. Telstra only wrote that they were looking for "digital startups"[1] which was insufficient to allow keyword-based clustering.

Carrot2, an open-source text analysis software, was used to establish first commonalities across all the keywords that companies used to describe the types of startups they were interested in. The target number of keyword clusters was fine-tuned in such a way that the number of non-relevant keywords (such as "startups") was reduced while at the same time ensuring that words such as "supply chain" were not split into two different clusters. The resulting 31 clusters can be seen in Appendix Figure B-1. The data was further cleaned up to account for synonyms and implicitly mentioned topics. Afterwards, all companies were assigned to one or several of the clusters. The final 39 keyword clusters are shown in Figure 5-1.

The most frequently mentioned keywords were "Technology" (25 programs), "Apps and Mobile" (22), and "Analytics and Big Data" (21). More than half of all programs asked for software-related topics which partially confirms Hypothesis 5. Surprisingly, considering the data from corporate venture capital funds, biotechnology turned out to be no explicit theme and

[1] https://muru-d.com/accelerator/fine-print/global/#subnav-1

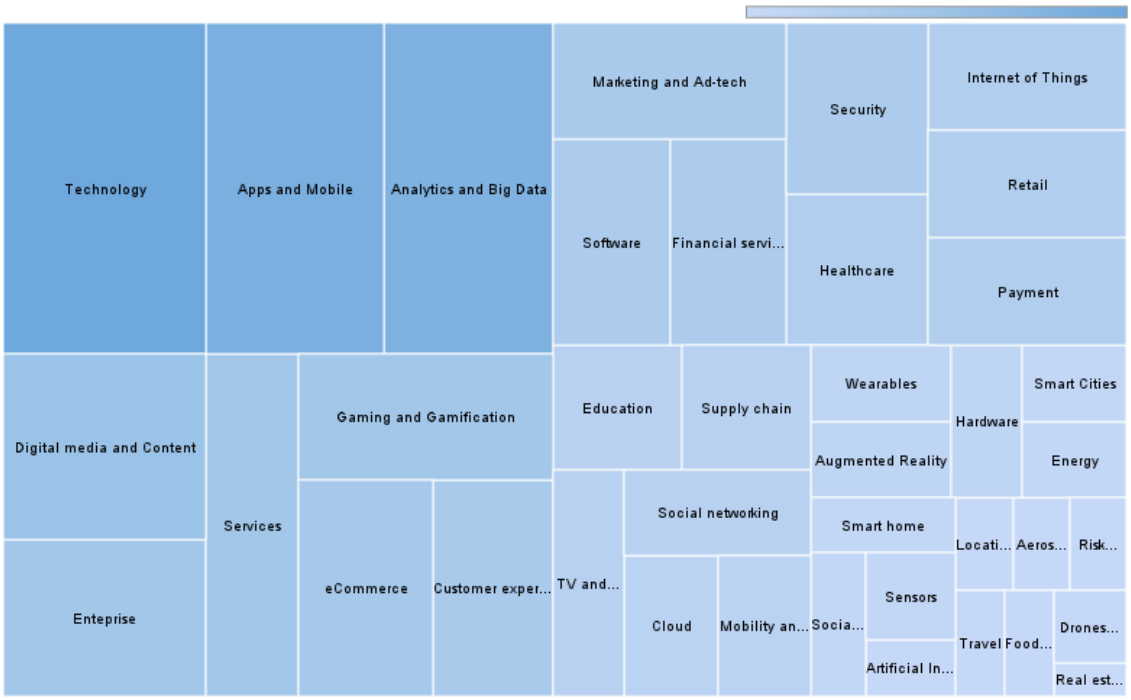

Figure 5-1: *Clusters of topics corporate accelerators look for in their portfolio firms. Companies were categorized into one or several clusters. The area of each rectangle is proportional to the frequency of mentions.*

only eight firms were interested in the related healthcare field. A closer analysis of these eight firms revealed that even those healthcare topics were primarily software-technology driven. For example, Bayer, the only biotechnology company on the list, was interested in "mobile apps, digital services, wearables, medical devices, software, hardware."[2] This matches Hochberg's (2015) observation that even specialized, non-corporate accelerators tended to accept primarily software-driven startups which just happen to apply their technology to a specific industry. Could it be that there is a general divide between the *target industry* corporate accelerators are interested in and the *target technology* they are looking for?

To get a better handle on this question, I went back to the data and checked if corporate accelerators would explicitly prefer certain industries when selecting ventures. As it turned out more than 70 percent did. Singapore Press Holdings, for example, wrote that applicants should "address challenges of the media industry"[3] before then outlining several software-related technologies that they believed were key for this objective. A number of companies opened their intake to several target industries. For example, ImmobilienScout24[4], an online classified service, specialized in startups from the real estate business and the mobility business. Table 5.1 shows an overview of all mappings between the industries of the sponsoring corporations and the desired client sectors of their portfolio firms.

[2]https://www.grants4apps.com/accelerator/#/who-we-are-looking-for
[3]http://www.sphplugandplay.com/faq
[4]http://www.youisnow.com/accelerator/

Sponsoring firm (NAICS)		Utilities (22)	Manufacturing (31-33)	Retail Trade (44-45)	Transportation and Ware... (48-49)	Information (51)	Finance and Insurance (52)	Real Estate and Rental... (53)	Professional [...] Services (54)	Administrative and Support... (56)	Educational Services (61)	Health Care and Social... (62)	Arts, Entertainment, and... (71)	Accommodation and Food... (72)	*No information or open to all*
		Target industry of the portfolio firms													
Utilities	22	**1**	0	0	0	0	0	0	0	0	0	0	0	0	0
Manufacturing	31-33	0	**3**	3	3	3	0	0	2	0	1	2	1	0	3
Retail Trade	44-45	0	0	**2**	2	1	1	0	1	0	0	0	0	1	0
Transportation and Ware...	48-49	0	0	1	**1**	0	0	0	0	0	0	0	0	0	1
Information	51	0	1	1	2	**11**	0	1	1	1	2	1	0	1	9
Finance and Insurance	52	0	0	0	0	0	**5**	0	0	0	0	1	0	0	2
Real Estate and Rental...	53	0	0	0	0	0	0	**0**	0	0	0	0	0	0	1
Professional [...] Services	54	0	1	0	0	1	0	0	**2**	0	0	0	0	0	1
Educational Services	61	0	0	0	0	0	0	0	0	0	**1**	0	0	0	0
Total		1	5	7	8	16	6	1	6	1	4	4	1	2	17
Total non-core		0	2	5	7	5	1	1	4	1	3	4	1	2	17

Table 5.1: *The industry (NAICS) of the sponsoring firms mapped to one or several industries they are selecting for when deciding which startups to accept to their program. Importantly, the target industry defines the area of application (e.g.* ***health care****) rather than the underlying technology used (e.g.* ***big data software*** *for health care). In bold are the identity elements that match the same industry (core). Total non-core counts the number of times an industry is the target of a sponsoring firm from another industry.*

This table allows us to draw several conclusions. First, across almost all industries companies were primarily looking for startups that aimed towards their own industrial sector. This is in contrast to the earlier, more simplistic analysis, which argued that technology-driven topics were of highest relevance to the firms. While technology was indeed a focus-area of many corporate accelerators, this data shows that this is not just for the sake of supporting new technologies, but to indirectly advance their own domains. For example, Bonnier, a publisher, accepted mostly internet startups, but all of these had a strong focus on the media industry.

Second, in absolute terms the information sector was still the sector that most corporate accelerators (16 programs) were interested in. This is no surprise considering the earlier discussions and also the fact that information-related corporations sponsored the second highest number of programs. However, outside of the information sector there is a much more balanced distribution: transportation (8 programs) and retail trade (7) attracted only a slightly higher number of corporate accelerators than industries such as finance (6), services (6), and manufacturing (5). This wide range of interests is surprising and will be further discussed below.

Third, it is notable that several industries attracted a high number of corporate accelerators that are sponsored by firms external to this particular sector (we called them *non-core accelerators*). For example, the education sector attracted Intel, a firm clearly positioned in the manufacturing industry. Looking at the number of non-core accelerators across all industries, the transportation sector becomes even more pronounced with seven corporate accelerators sponsored by firms from outside this industry. From this perspective, retail trade is suddenly of the same interests to firms as the information sector (5 non-core accelerators each).

Why is it that sectors such as transportation and retail are of interest to so many corporate accelerators and their sponsoring firms? One theory is that firms are not only looking for innovations in their own area of added value but are strategically exploring their supply chains, customers, and sales channels. For example, Anheuser Busch Inbev looked specifically for startups that could improve the customer experience at the place of retail. The insurance company AIA tried to attract firms in the healthcare sector to improve remote medicine and workflows between healthcare providers—presumably to drive down AIA's costs. Intel, on the other hand, can hope that some of their educational startups further the trend of the education sector towards digitalization and hence indirectly increases the demand for Intel's products. For many corporate accelerators there was good evidence that companies indeed took such a strategic approach when selecting their portfolio firms. However, for other firms such strategic objectives were less obvious and it could be that those companies were emphasizing other outcomes for their programs (such as financial ones). This was particularly true for most telecommunications firms which often had little or no restrictions when selecting portfolio firms. The next two sections will explore these observations in more depth.

Overall, this discussion reveals that Hypothesis 5, which stated that corporate accelerators focus on similar domains as non-corporate accelerators and corporate venture capital, was too simplistic. Yes, technology was a frequently mentioned area of interest, but it should be more clearly distinguished between *target technologies* and *target industries*. While the technologies the portfolio firms were supposed to utilize were roughly in line with what we saw from non-corporate accelerators, many corporations were taking a more strategic approach when selecting their startups. Transportation, retail trade, and information were the sectors that attracted the highest number of corporate accelerators from firms that are external to these sectors.

5.2 Financial Explorations

As was highlighted in Section 2.1.1, most non-corporate accelerators aim to be financially self-sustaining by generating income of their investments. This section explores whether corporate accelerators behave similarly.

To better understand in how far corporate accelerators are able to extract investment returns from their startups, I will first turn to the typical outcomes of the startups that are going

through such programs. While the majority of programs did not publish financial details about their former or current portfolio firms, Techstars made a comprehensive list of all their portfolio firms available online. This included data of those corporate accelerators that were jointly operated by Techstars. According to this dataset, almost all of the 114 startups that went through such a program were still alive and only a minority of 2.6 percent were considered a failure (neither acquired nor active). More than 30 percent of all startups had received investments of at least $1M and more than 5 percent had received investments of more than $5M.[5] None of these ventures had gone public but six of them had been acquired (five were part of Microsoft's accelerator and one participated at Walt Disney's.) Unfortunately, the acquisition values were not disclosed. However, in case of the five acquired ventures that were part of Microsoft's accelerator a direct financial gain for Microsoft is unlikely as the agreement between Techstars and Microsoft saw only Techstars taking any equity. Microsoft had also not invested into these startups outside of their accelerator process. Based on this information it can be assumed that so far none of the Techstars-supported corporate accelerators was able to post a direct profit from their investments. A total follow-on investment volume of around $130M and the high survival rate of the participating startups may, however, point towards potential future returns.

Further diving into the programs supported by Techstars, Walt Disney's accelerator is particularly notable as their most recent ten startups managed to receive a total follow-on investment of $104M according to CrunchBase.[6] Out of this amount the electronic toy venture Sphero collected a total of $92M. Walt Disney participated at some of the later investment rounds hence further increasing their stake in the company. No acquisition or public offering had been posted until time of writing.

Apart from the Techstars-related corporate accelerators, Telstra ($2.3M for the first nine startups[7]), Axel Springer (80 percent of firms received follow-on investments[8]), and Telefónica ($74M for 438 startups[9]) reported successful investment rounds for their startups.

However, follow-on investments do not necessarily translate into profits for the sponsoring company. This became very visible when Telefónica shut down one of their accelerators in Ireland. Telefónica's program supported 30 startups and was considered one of their highest performing locations. Still, the location reported an operating loss of €2.3M during their last full year of operation in 2014. Considering that Telefónica valued their own investments into their best performing portfolio firm, Trustev, at €1.15M it is difficult to imagine any scenario in which their accelerator would have generated any long-term financial gains—assuming fair evaluation. This case also highlights the inherent risks of investing in early-stage startups as

[5] Techstars' data is available at http://www.techstars.com/companies/stats/

[6] https://www.crunchbase.com/organization/disney-accelerator

[7] http://www.telstra.com.au/aboutus/media/media-releases/telstra-launches-startup-accelerator-muru-d-in-singapore.xml

[8] http://www.axelspringer.de/en/presse/Axel-Springer-Plug-and-Play-starts-fourth-round-with-international-participants_21675169.html

[9] http://wayra.co/dashboard

the firm had to write off six of their investments with a loss of €632,000 for Telefónica in 2014 (The Sunday Times 2015; Novoa 2015). It is noteworthy that Telefónica is one of the most experienced firms to run a corporate accelerator (they launched in 2011).

Considering everything above, I feel confident to express the hypothesis that the overwhelming majority of corporate accelerators is not able to generate operating profits. Future research may be able to substantiate this claim with a broad analysis of all portfolio firms across all corporate programs.

5.3 Strategic Explorations

As I already highlighted at the beginning of this chapter, many corporate accelerators pursued strategic interests when selecting their portfolio firms. This section will further analyze the strategic approaches and outcomes of the sponsoring firms. For this purpose, I will utilize Chesbrough's (2002) framework of corporate venture capital strategies which lends itself well to this question. Chesbrough distinguishes between *driving* and *enabling* strategic investments. An investment is *driving* when it is tightly linked with the current corporate strategy. For example, Chesbrough looked at Microsoft and how they invested into firms that leveraged their .NET technology to ensure .NET was becoming a widely accepted standard. *Enabling* investments, in turn, are generally outside of the firm's primary business but still help to advance the company's goals. For example, this includes ventures with complementary products.

Across the all corporate accelerator programs firms displayed a wide variety of selection strategies. Microsoft offered, again, a good example of a driving strategy, but this time applied to corporate accelerators. Across their seven accelerator locations, Microsoft had accepted more than 300 startups. They did neither take equity nor did they support the startup through direct financial means. Microsoft described their own objectives as "a way of helping us engage deeply with developers, help expose them to our cloud services, developer tools and market expertise."[10] Hence, with relatively small financial exposure, Microsoft's strategy aimed at binding growing firms at Microsoft's ecosystem. As of summer 2015, Microsoft had attracted several successful ventures: the portfolio firms of their Chinese program alone were valued at $1.6B as of 2015 with one firm even having gone public[11] (Microsoft 2015). Worldwide, Microsoft counted 21 exits and claimed that their portfolio firms had raised $1B (Goldenberg 2015). We can understand Microsoft's acquisition of one of their portfolio firms, MetricsHub, in similar strategic terms: MetricsHub's technology allowed customers of Microsoft's cloud services to better manage their computing power. After the acquisition, Microsoft made the software freely available to their own cloud customers and thus increased the attractiveness of their services (Lardinois 2013).

[10] https://www.microsoftventures.com/locations/seattle/FAQ
[11] The IPO was conducted after Microsoft's separation from Techstars

Telecom Italia's and Telefónica's approach to add some of their portfolio firms to their list of certified suppliers can be considered as a driving strategy as well.[12] The success of this approach is difficult to gauge but Telefónica claimed they were still working with 18 percent of their portfolio firms as of 2015. On the flip-side it can be noted that many of the accepted startups had only very limited obvious links to the corporate strategy of these firms.

A more direct approach, that was in its level of integration unprecedented in our sample of corporate accelerators, was PCH's strategy of tying entrepreneurs to its services. PCH sells support in manufacturing engineering and supply chain management to product-driven firms. Their accelerator, Highway1, offered startups money and mentorship to reach a physical prototype. After graduation the participating startups had the choice of joining PCH Access, a paid-for service that, according to PCH, combined many of their services to help the startups achieve a final product. Afterwards, the entrepreneurs were free to continue working together with PCH on a regular basis.[13] Drop, a startup that combined an online recipe platform with a connected kitchen scale, went through the whole process and had collected $3.6M in external funding as of 2015.[14] Across the database of corporate accelerators I argue that PCH is one of the best showcases for a corporate accelerator pursuing a driving investment strategy due its close and obvious links to its corporate strategy.

An interesting subcategory of a driving strategy are corporate accelerators that select for each cohort a new set of internal challenges that they would like their portfolio firms to solve. Food conglomerate Mondelez chose this approach and had startups pitch in front of their brand managers. Afterwards the winning startups were matched with one brand each and asked to developed a specific solution for the brand based on the startup's technology. The World Economic Forum (2015) called such kind of collaborations between startups and established firms *Smart Procurement* declaring it a leading practice due to the ease of such collaborations. Mondelez's example also highlights the flexibility of such accelerators: The recent cohort was asked to focus on an entirely new set of challenges.

Examples of firms pursuing an enabling strategy when selecting their portfolio firms were not as frequent but existed as well. Barclays, for instance, aimed to become the "go-to" bank across the globe.[15] They filtered for startups in the field of financial technology. One of their portfolio firms, DoPay, offered payroll software to firms in the developing world to help them shift from paying employees in cash to digital payments. While they piggybacked on Barclays' credit card infrastructure for the actual payment (a driving strategy!), the true value for Barclays was likely somewhere else considering the very low transaction fees Barclays earns on such payments: With 90 percent of people in one of DoPay's target markets, Egypt, possessing no bank account due to people's reliance on cash, it can be assumed that Barclays sees DoPay as an opportunity

[12] http://www.wcap.tim.it/en/program and http://wayra.co/dashboard
[13] http://highway1.io/pchaccess/
[14] https://www.crunchbase.com/organization/drop-2
[15] http://www.newsroom.barclays.com/releases/ReleaseDetailPage.aspx?releaseId=3185

to break into this market thanks to a product (payroll management) that is far outside their primary business. This would make it an example of an enabling strategy. At time of writing, Barclays had continued to invest into DoPay.[16]

Walt Disney's Sphero had not only managed to collect substantial follow-on investment, but also offers another good example of an enabling strategy. The mentor of Sphero happened to be Walt Disney's CEO Robert Iger, who realized that Sphero's toys had close resemblance to a robot his filmmakers had envisioned for the upcoming Star Wars movie. The filmmakers' robot, that seemed to defy physical laws, had already achieved broad interest of fans and the media thanks to the first trailer of the movie. This was further fostered when Walt Disney convinced Sphero to showcase one of their robots—painted the same way as the filmmakers' version—during a Star Wars press conference. Even though robotics was not of primary strategic relevance to Walt Disney they continued to invest into Sphero and it is likely that Sphero's robot will help Walt Disney to gain even more momentum for their movie and to earn higher merchandise revenues than without Sphero's support.[17]

5.4 Summary

Overall, there is little evidence that corporate accelerators are able to create substantial direct financial returns. More so, it is likely that most programs are accruing operational losses. This has to be seen in contrast to many non-corporate accelerators that are often dependent on the financial returns of their investments to survive.[18] On the other hand, corporate accelerators displayed a wide variety of strategic explorations. Many corporate accelerators did not only select their portfolio firms according to strategic guiding principles, but there were also several instances were these selections resulted in strategic gains for the sponsoring company. A collection of these case studies can be found in Table 5.2.

[16] https://techstars.wistia.com/medias/hygevyp7je

[17] http://techcrunch.com/2015/06/02/star-wars-bb-8-designer-sphero-raises-another-45m-from-mercato-disney-and-more/

[18] It is an interesting observation that several non-corporate accelerators have started to offer support to firms who want to launch a corporate accelerator. This seems a relatively easy way for accelerators to earn a reliable, regular income.

Accelerator	Achieved objective	Example
R/GA[19]	Strategic, Enabling	R/GA reported that one of their portfolio firms, Lisnr, won an industry price for innovation in the advertising sector. The startup combined mobile technology and hidden sounds in broadcasted advertisements to make typically one-way broadcasts more interactive. Lisnr is not a product R/GA would have develop themselves but it enabled their primary services strategy.
Walt Disney	Financial	Walt Disney's first ten portfolio firms which participated at their corporate accelerator in mid 2014 managed to collect $104M of follow-on investments. Sphero alone received $92M through Disney and external investors. Likely not yet a success in terms of operating profits, this example highlights that corporate accelerators are capable of winning startups that are capable of attracting substantial external funding.
Microsoft	Strategic, Driving	Microsoft Ventures attracted so far more than 300 startups across seven locations. Their primary aim is to bring themselves closer to potential future customers and to promote their developer tools and cloud services. Microsoft does not take equity which reduces costs and focusses them on strategic objectives. The portfolio firms have reached substantial growth with 21 exits, more than $1B funding, and an valuation of their Beijing firms alone of $1.6B.
PCH	Strategic, Driving	PCH is a manufacturing engineering and supply chain service company that is helping product firms to physically develop, manufacture, and ship products. Their accelerator, Highway1, allows startups to develop a first prototype and then offers them (for a fee) to acquire their regular services to deliver the real product to customers. An intermediate program, PCH Access, eases the transition. This way PCH has already gained several customers.

[19] http://rgaaccelerator.com/connecteddevices/press/lisnr-brings-home-gold-from-cannes/

Accelerator	Achieved objective	Example
Barclays	Strategic, Enabling	Barclays backs startups across the financial technology sector. One of their portfolio firms, DoPay, indirectly helps people in the developing world to make the transition from cash-based salaries and payments to regular banking services. DoPay achieves this through a combination of payroll software for employers and a debit card. They have already attracted several large clients in Egypt. Payroll management is not of primary strategic concern to Barclays but DoPay allows them to tap into a market where 90 percent of people still have no bank accounts making it an enabling strategy.

Table 5.2: *A collection of examples which demonstrate the potential positive outcomes of corporate accelerators. Based on press releases and internet research as highlighted in this section. Classification of objectives according to Chesbrough (2002).*

Chapter 6

Conclusions and Contributions

6.1 Corporate Accelerators Are Here to Stay

When I started this thesis I assumed corporate accelerators to be a niche phenomenon. The most commonly used database of accelerator programs, Seed-DB, listed only 22 corporate programs—not even 10 percent of all accelerators (Christiansen 2015). However, my research found that since 2010 more than 60 companies had launched corporate accelerators, with almost 100 local programs around the globe. According to a recent study, a third of all accelerators in Europe were sponsored by a corporate entity as of 2015 (Mocker et al. 2015). And while growth has been slowing, in all likelihood we will still see a significant growth rate of 40 percent in 2015. This is exemplified by the fact that after the cut-off date of my data collection Ingram Content Group, William Hill (in partnership with L Marks), Nordea Bank (with Nestholma), and ING Group all decided to launch new programs.

I came to similar conclusions when I focused my attention on a population of 847 largely capitalized firms in the U.S. and Europe.[1] About 5.1 percent of all firms in this group already had experience with a corporate accelerator at some point in their history. Accounting for the closure of some programs, this translates into a penetration rate of roughly 4.6 percent at the end of 2015. While this is still a small fraction of all firms, it approaches the levels of corporate venture capital funds[2], which have been around for a substantially longer time (see Section 4.2.3).

Looking at the data, I have little doubt that corporate accelerators have reached a level of broad visibility in the startup ecosystem. But, are they here to stay?

The slowdown of relative growth and the partially negative press about them (e.g. Crichton 2014) would make it reasonable to argue that corporate accelerators are a short-lived fad. The

[1] See Section 3.4 for the definition of the population

[2] About 5.9 percent of firms in our population were actively investing Corporate Venture Capital in the U.S. in 2014

fact that most programs are likely running at an operating loss (see Section 5.2) would also give this argument credibility. Indeed, there are first indications that corporate accelerators are following the same S-shaped growth pattern that regular accelerators followed, implying that a stall of further growth may be imminent (see Section 4.2.1).

However, I believe the likeliest outcome is a market split between corporate and non-corporate programs. Accelerators of both kinds have taken a critical place in the startup ecosystem, closing the gap between pre-seed investments and later-stage venture capital (see Section 2.2.1). More so, accelerators such as Y Combinator are a lighthouse for the ecosystem, encouraging potential entrepreneurs while offering them a financial cushion throughout their earliest stages. But the success of accelerators is unevenly distributed—some few programs are strongly beneficial, while the rest have, at best, no influence on the success of their startups (Hallen et al. 2014). The reliance of most accelerators on their investment returns also implies financial losses for most programs (Roush 2011). In addition, there are already warnings of a bubble of accelerators, further escalated by an apparent shortage of qualified mentors and startups (Siegele 2014, p. 5; Wauters 2013; Roush 2011). The likely consequence is that the least effective programs will be culled (see also Ingham 2014), which may result in fewer but better programs.

Corporate accelerators are in a good position to replace those programs that are closing. The high survival rate of corporate accelerators (75 percent, see Section 4.2.2) indicates that companies are willing to sponsor their programs over the long run. In addition, their programs are more resilient due to their minimal reliance on direct profits. Supported by the financial backing of a large company, the typical corporate accelerator is free to define success in other than purely monetary terms. For example, I showed evidence that companies exhibit a wide range of strategic approaches: When PCH attracts future customers by means of their accelerator, they are likely willing to accept costs similar to the expense of a regular salesforce. Microsoft is able to compare the impact of their seven accelerators with conventional means for reaching out to their target customer group; it has continued running and growing the program since 2012 (see Section 5.3).

Both the World Economic Forum (2015) and Nesta (Mocker et al. 2015) recently made the case for the continued and expanded collaboration between startups and established corporations, arguing that it may lead to win-win situations. A survey by KPMG (2014) showed that the large majority of companies on both sides of these collaborations deemed them important, but critiqued the bureaucracy of large firms and the difficulty of approaching startups, respectively. Corporate accelerators are one way to bridge this gap.

So far, corporate accelerators are still limited to a small fraction of the universe of markets and industries (see Section 4.3.1 and Section 4.3.2). I believe this creates good upside potential for such programs if companies continue to innovate on their approaches.

6.2 Accelerators vs. Corporate Accelerators

Table 6.1 highlights the key differences between accelerators and corporate accelerators with references to the relevant sections in this thesis.

	Indicator	Accelerators		Corporate accelerators	Details
		Macro-level			
	Emerged in	2005	$>$	2010	Section 2.2.1
	Programs	300	$>$	60	Section 2.2.2
	Growth	Slow / Stalled	$<$	Strong, but slowing down	Section 4.2.1
	Locations	Worldwide, but predominantly in the U.S.	$\neq$	Developed world, some emerging countries	Section 4.3.1
	Headquarters	Not relevant	$\neq$	Mostly Europe and the U.S.	Section 4.3.1
		Program-level			
	Objectives	Mostly financial	$\neq$	Mostly strategic	Section 2.1.2
	Source of objectives	Accelerator	$\neq$	Sponsoring company	Section 4.1.2
	Ownership	Mostly private (e.g. partnerships)	$\neq$	Corporations. Bias towards large, information firms	Section 4.1.2
	Areas of interest	Mostly technology, but also healthcare, finance, energy, education, and life sciences	$\approx$	Mostly technology, but also media, commerce, finance, healthcare, and education	Section 5.1
	Industry of interest	Most programs are generalists. Some specialized ones	$\neq$	Information, transport, retail, finance, services, healthcare, and others	Section 5.1
		Process-level			
	Acceptance	Selective (some below 2%)	$=$	Selective (some below 2%)	Section 4.1.1
	Startups	Seed stage	$\leq$	Seed / growth stage	Section 2.1.3
	Offers	Mentorship, workshops, and investor relations	$\leq$	Often add specialized, corporate resources	Section 4.1.1
	Fixed-term	Yes	$=$	Yes	Section 4.1.1
	Cohort-based	Yes	$=$	Yes	Section 4.1.1
	Stipends	All of the top ten[3] programs	$>$	63% of all programs	Section 4.1.1
	Equity	Critical part of business model for most programs	$>$	40% of all programs	Section 4.1.1
	Demo days	Yes	$\geq$	Sometimes internally only	Section 4.1.1

[3]Top ten determined according to Hochberg et al.'s (2014) Seed Accelerator ranking

	Indicator	Accelerators		Corporate accelerators	Details
		Outcomes			
	Financial	Mostly cash negative[4]	≈	Mostly cash negative	Section 5.2
	Strategic	Not relevant for most	<	Some strategic gains	Section 5.3
	Effectiveness	Some programs are	≈	First positive indications[5]	Section 6.1

Table 6.1: *A summary of the differences between corporate and non-corporate accelerators. Icons are licensed under Creative Commons–Credit goes to Max Hancock, Mourad Mokrane, Nick Abrams, and Uri Kelman.*

As I have already shown in Section 4.1.1, corporate accelerators generally fulfill the definition of accelerators. However, as Table 6.1 highlights, the opposite is not necessarily true. The difference emerges from the program level: Due to the different ownership structures, the two concepts follow a different set of objectives. Generally speaking, accelerators finance themselves through the returns of their investments, which incentivizes them to achieve positive outcomes for their portfolio firms. This is the case even without accounting for those accelerators that are specifically sponsored by the government or a philanthropist supporting the startup ecosystem. Corporate accelerators are, on the other hand, first and foremost accountable to and financed by the corporation sponsoring them (Crichton 2014).

There are several implications of these different objectives. First, corporate accelerators are in less need to take equity, and in fact 60 percent of them do not take any, while still providing stipends in many cases. Second, we see a wider set of interests due to the diversity of firms sponsoring such programs. As a result, we see firms opening up programs in unusual places (see Section 4.3.1) or aiming for portfolio firms in niche markets. For example, William Hill is looking for startups in the gambling industry. Regular programs, on the other hand, naturally tend towards domains and locations that promise the fastest and highest returns. Last, the different objectives encourage different outcomes. Many corporate accelerators show creative (if not always successful) approaches to achieving strategic results for both sides, while non-corporate programs usually emphasize high follow-on investments as their primary measure of success (see Section 5.3). It is unclear whether this also translates into different long-term results for the startups. Acceptance rates at the best programs of both kinds are very similar, indicating that startups value the benefits similarly. As I have discussed above, the few studies available about the effectiveness of accelerators indicate that only some are beneficial (Hallen et al. 2014). During my research I found no evidence that corporate accelerators systematically deliver better or worse results. The high survival rates of the portfolio firms of some corporate

[4]Informal feedback from Shani Shoham from a global accelerator gathering in 2012: https://shanishoham.wordpress.com/2012/07/18/why-many-accelerators-fail-globally/

[5]While reliable studies about the effectiveness of corporate accelerators are missing our analysis of the existing pieces of data—such as the survival rate of programs powered by Techstars and outcomes such as the ones from Microsoft—provide indication that corporate accelerators may be effective in some cases

programs and the substantial follow-on investments achieved by programs such as Microsoft's (see Section 5.2) give a good indication that some corporate accelerators, at the very least, *do not inhibit success*.

6.3 Practical Implications for Corporations

For corporations this is a good time to consider the launch of a corporate accelerator as part of their innovation strategy, while penetration rates are still relatively low overall (see Section 4.2.3). However, in some areas, especially information-related spaces such as telecommunications, media, and software, the competition is already intense and it is questionable whether the ecosystem can support further (corporate) accelerators in these fields—especially in the developed world. Other industries and countries may, however, still have growth potential (see Section 4.3.2).

Managers considering a corporate accelerator should be aware that direct financial returns are unlikely—short-term returns in particular—and that the raison d'être should be sought in the strategic domain (see Section 5.4). The examples in Section 5.3 are split between companies seeking portfolio firms that support the current corporate strategy and those looking for ventures that complement it. The first group includes companies such as PCH, which leverages its corporate accelerator as a mutually beneficial sales channel. The second includes examples such as Barclays, whose accelerator supports ventures that indirectly increase the market for their core products. Life insurance company AIA is a good example of a firm supporting a corporate accelerator in a strategy that aims at the cost side of the business rather than the sales side. Firms that are seeking a more hands-on collaboration with startups may want to consider the approach of Mondelez and Unilever, which both limit their intake to startups that are able to tackle pre-defined corporate challenges, although the downside is that they may forego startups with unexpected ideas.

I see the selection of specific goals for the program and a strategy to achieve them as the most critical choice for managers who are leading corporate accelerators. This decision will drive all other elements of the program, including the selection of target technologies and industries (see Section 5.1) and potential partnerships with other programs. A report from the World Economic Forum (2015) made a similar argument and offered concrete guidance on this subject.

With the strong competition in mind, managers should invest in a sound strategy for attracting the right startups. Startups may be particularly cautious about corporate accelerators due to concerns about intellectual property rights, signaling issues for future investors, and the quality and bias of the support they will receive (Crichton 2014). In particular, the best startups will have a choice of accelerators and other early-stage options, so managers should see it as their task to find ways to attract these ventures. I found that many corporate accelerators were

opaque or fuzzy about their own goals (see Section 4.1.1), which could further harm the trust between both parties.

Managers should also decide on the extent to which they will allow startups to reach out to parties outside the accelerator. While managers might be tempted to "lock in" startups, they may be more successful in achieving their selected strategy by clearly emphasizing that they will bring in external mentors and third-party investors, and by actively encouraging startups to find relevant clients and partners outside of the program. As Section 4.1.2 showed, some firms already do that today. Collaborations between corporate accelerators, for example when organizing demo days, or jointly-operated programs can be a simple way to send signals of openness to startups and may be a viable option for managers, depending on their desired outcomes. Such collaborations may be further encouraged by the fact that most companies operating corporate accelerators are not themselves competitors (see Section 2.2.4).

The quality of the program is another concern managers will have to overcome when they want to attract the best startups. New programs in particular will have to convince startups that they are able to deliver support on par with non-corporate programs such as Y Combinator. Many companies in my sample decided to bring in an external party to manage the accelerator for them, one way to ensure a certain level of quality. Some companies leveraged an external partner for the first cohorts, as Microsoft did with Techstars, before operating the program on their own (see Section 4.2.2). I was surprised at how rarely corporate accelerators fully utilized their strongest differentiator to improve the quality of their support: the fact that they were corporate. While access to internal mentors and APIs was commonplace (see Section 4.1.1), I saw few firms that openly advertised systematic access to their own clients (Ernst & Young), expensive laboratory and test equipment (Volkswagen), or supplier relations (Bonnier). Such benefits might be easily offered by the manager of a corporate accelerator and could be a critical differentiator that attracts high-quality ventures.

Finally, I saw that many companies with corporate accelerators also had corporate venture capital funds (see Section 4.3.3). However, few firms communicated about the potential links between their initiatives. This is in stark contrast to regular accelerators, which aim to attract as many venture capitalists as possible and often operate as a funnel for the venture funds (see Section 2.2.1).

I can only encourage managers to learn from other corporate accelerators and compare their approaches to other programs. I hope that my database of programs on https://www.corporate-accelerators.net is a helpful contribution to that exchange going forward.

6.4 Contributions

Question / Objective	Contributions
What are corporate accelerators?	✓ A comprehensive database of corporate accelerators around the world (see https://www.corporate-accelerators.net) ✓ To my knowledge the first description of the historial emergence of corporate accelerators (see Section 2.2.1) ✓ **Hypothesis 1a**: Mostly confirmed; corporate accelerators are indeed in most cases accelerators (see Section 4.1.1) ✗ **Hypothesis 1b**: Baseline definition rejected and a new definition of corporate accelerators proposed (see Section 4.1.2)
How do they differ from regular accelerator programs?	✓ The distinct ownership structure implies different objectives which in turn have a number of implications (see Section 6.2) ✓ Summarized the similarities and differences in Section 6.2
Are they already or are they likely to become common practice?	✓ Established that 75% of all launched corporate accelerators are still active (see Section 4.2.2) ✓ Detailed the penetration rate of largely capitalized U.S. and European firms and forecasted it at 4.6% for the end of 2015 (see Section 4.2.3) ✓ Summary: "Corporate Accelerators Are Here to Stay" (see Section 6.1) ✓ **Hypothesis 2a**: First evidence towards a confirmation; corporate accelerators seem to follow a very similar, S-shaped growth pattern as non-corporate accelerators ✓ **Hypotheses 2b and 2c**: First evidence towards a mix of both hypotheses; corporate accelerators continue to grow but at a decreasing rate
What kinds of companies launch corporate accelerators?	✗ **Hypothesis 3a** Rejected; corporate accelerators are not concentrated in the U.S. but are spread across the developed world with some programs in emerging countries (see Section 4.3.1) ✓ **Hypothesis 3b** Confirmed; companies launch their programs to roughly equal parts at the place of their headquarter and abroad (see Section 4.3.1) ✓ **Hypothesis 4** Mostly confirmed; companies that are largely capitalized, are information-related, or own a corporate venture capital fund have a higher probability to sponsor a corporate accelerator (see Section 4.3.4)

Question / Objective	Contributions
In what kind of portfolio firms do corporate accelerators invest?	✓ Introduced the distinction between the *target technology* and the *target industry* when analyzing a corporate accelerator's selection criteria (see Section 5.1) ✓ **Hypothesis 5** Partially confirmed; firms select indeed many technology-driven firms, but are often equally concerned about the *target industry* of their portfolio firms (see Section 5.1)
What does success look like for corporate accelerator programs?	✓ Found first evidence that corporate accelerators are not generating operating profits (see Section 5.2) ✓ Listed examples of strategic gains companies were able to achieve with their programs (see Section 5.3)

Table 6.2: *Contributions*

6.5 Risks and Further Research

While greatest care was taken while collecting, analyzing, and interpreting the data of this study (see Chapter 3), there are several potential shortcomings:

- The database of corporate accelerators may not be complete. This is especially true for programs that are advertised in languages other than English, German, or French. Also, programs may use different terminology instead of "corporate accelerator" hence escaping the search
- There may be a bias towards recently established programs. While news archives were strongly utilized, more recent, still running programs had likely a better coverage across all sources
- The study relies strongly on publicly available material. This material may be biased, wrong, or incomplete
- Some data was only available in unstructured form creating the risk that information was wrongly classified. This is especially true for all data about desired industries and technologies of the portfolio firms

All of the limitations above provide opportunities for further studies. Future researchers may want to further expand on the database of program or complement the data with qualitative insights from interviews and surveys. Especially, there may be opportunities to explore the company-internal decision processes in more depth and to more systematically analyze the outcomes of ventures that participate at corporate accelerators in contrast to non-corporate programs. Corporate innovation strategies provide another opportunity for research highlighting the effectiveness of corporate accelerators in contrast to other means such as corporate venture

capital. Also, there are first indications that companies have different approaches to link their portfolio firms to their existing products. Future researchers may want to understand in more depth how existing product architectures are impacting the effectiveness of corporate accelerators. For example, companies with more modular product architectures may achieve different outcomes than those without.

Finally, I hope that this work provides a good foundation for further research. All my data is available, both in Appendix Table A.7 and, more up-to-date, on https://www.corporate-accelerators.net.

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Appendix A

Tables

The following table lists the 104 corporate venture capital funds that were active in the United States in 2014 according to CB Insights (CB Insights 2015). Through internet research I linked each funds to its corporate parent and assigned NAICS codes based on data from Reuters Fundamentals where available (otherwise I assigned them manually).

CVC Fund	Parent	Country	NAICS	Manual
Google Ventures	Google	USA	519130	
Pfizer Venture Investments	Pfizer	USA	325412	
Fletcher Spaght Ventures	Fletcher Spaght	USA	541611	Yes
Biogen Idec New Ventures	Biogen Idec	USA	325414	
Intel Capital	Intel	USA	334413	
Citi Ventures	Citigroup	USA	522110	
Wells Fargo Startup Accelerator	Wells Fargo	USA	522110	
Western Digital Capital	Western Digital	USA	334112	
Salesforce Ventures	Salesforce	USA	511210	
Dell Ventures	Dell	USA	334111	Yes
Chevron Technology Ventures	Chevron	USA	211111	
UPS Strategic Enterprise Fund	UPS	USA	211111	
Qualcomm Ventures	Qualcomm	USA	334220	
Hearst Ventures	Hearst	USA	5111	Yes
Steamboat Ventures	The Walt Disney Company	USA	512110	
Morgan Stanley Expansion Capital	Morgan Stanley	USA	523120	
Comcast Ventures	Comcast	USA	515210	
Novo Ventures	Novo	Denmark	325412	
Ascension Ventures	Ascension	USA	62	Yes
AbbVie Biotech Ventures	AbbVie	USA	325412	
Novartis Venture Funds	Novartis	Switzerland	325412	
UMC Capital	UMC	Taiwan	334413	
BP Ventures	BP	UK	32411	
Zaffre Investments	Blue Cross Blue Shield of MA	USA	524114	Yes
Samsung Ventures	Samsung	South Korea	335	Yes

CVC Fund	Parent	Country	NAICS	Manual
Shea Ventures	J.F. Shea	USA	23	Yes
Motorola Solutions Venture Capital	Motorola Solutions	UK	32411	
Takeda Ventures	Takeda	Japan	325412	
Cisco Investments	Cisco	USA	334290	
American Express Ventures	American Express	USA	522220	
Sanofi-Genzyme Ventures	Sanofi	France	325412	
MedImmune Ventures	AstraZeneca	UK	325412	
Siemens Venture Capital	Siemens	Germany	333611	
AOL Ventures	AOL	USA	514191	
MS Ventures	Merck KGaA	Germany	325412	
ABB Technology Ventures	ABB	Switzerland	335311	
SR One	GlaxoSmithKline	UK	325412	
Telstra Ventures	Telstra	Australia	513322	Yes
SingTel Innov8	SingTel	Singapore	513322	Yes
Castrol innoVentures	BP	UK	32411	
Bloomberg Beta	Bloomberg	USA	519110	Yes
Recruit Strategic Partners	Recruit	Japan	541810	Yes
BASF Venture Capital	BASF	Germany	325199	
GM Ventures	General Motors	USA	336211	
Fidelity Biosciences	Fidelity Investments	USA	525	Yes
Total Energy Ventures International	Total	France	32411	
TELUS Ventures	Telus	Canada	513322	Yes
Boulder Brands Investment Group	Boulder Brands	USA	311412	
Second Century Ventures	National Association of Realtors	USA	53	Yes
Reed Elsevier Ventures	Reed Elsevier	UK	51113	
Baxter Ventures	Baxer International	USA	339112	
Merck Research Ventures Fund	Merck	USA	325412	
GE Ventures	General Electric	USA	335312	
BlueCross BlueShield Venture Partners	Blue Cross Blue Shield Association	USA	524114	Yes
American Family Ventures	American Family Insurance	USA	5241	Yes
First Data Ventures	First Data	USA	522320	Yes
Mitsui & Co. Global Investment	Mitsui & Co.	Japan	211111	Yes
Roche Venture Fund	Roche	Switzerland	325412	
BMW i Ventures	BMW	Germany	336111	
Karlani Capital	N/A	N/A	N/A	N/A
Microsoft Ventures	Microsoft	USA	511210	
Liberty Global Ventures	Liberty Global	UK	51312	Yes
Brace Pharma	Brace Pharmaceuticals	Brazil	325412	Yes
Nissay Capital	Nippon Life	Japan	5241	Yes
In-Q-Tel	Cental Intelligence Agency	USA	928	Yes
Amgen Ventures	Amgen	USA	325414	
Evonik Ventures	Evonik Industries	Germany	325211	
CyberAgent Ventures	CyberAgent	Japan	54181	
Verizon Ventures	Verizon	USA	517410	
Presidio Ventures	Sumitomo	Japan	42272	
WPP Digital	WPP	UK	54181	
Astellas Venture Management	Astellas Pharma,	Japan	325412	

CVC Fund	Parent	Country	NAICS	Manual
Johnson & Johnson	Johnson & Johnson	USA	325412	
NTT DoCoMo Ventures	NTT DoCoMo	Japan	513322	Yes
Swisscom Ventures	Swisscom	Switzerland	51331	
Rakuten Ventures	Rakuten	Japan	514191	
Bertelsmann Digital Media Investments	Bertelsmann	Germany	51312	Yes
kbs+ Ventures	kbs+	USA	54181	Yes
T-Venture	Deutsche Telekom	Germany	513322	
GE Healthcare Financial Services	General Electric	USA	335312	
Merck Global Health Innovation Fund	Merck	USA	325412	
BBVA Ventures	Bbva Banco Bilbao Vizcaya	Spain	52211	
Kaplan Ventures	Kaplan	USA	611710	
Aster Capital	Alstom	France	333611	Yes
Kaiser Permanente Ventures	Kaiser Permanente	USA	62	Yes
KDDI Open Innovation Fund	KDDI	Japan	513322	
Liquidity Ventures	CME Group	USA	52321	
DSM Venturing	Koninklijke DSM	Netherlands	325199	
Constellation Technology Ventures	Exelon	USA	221113	
WuXi Corporate Venture Fund	WuXi AppTec	China	54171	
R/GA Ventures	Interpublic Group of Companies	USA	541810	
Xandex Investments	Xandex	USA	334413	Yes
Time Warner Investments	Time Warner Inc.	USA	512110	
Legend Capital	Legend Holdings	China	334111	Yes
Renren Lianhe Holdings	Renren	China	514191	Yes
SABIC Ventures	SABIC	Saudi Arabia	325199	Yes
Lilly Ventures	Eli Lilly and Company	USA	325412	
DG Incubation	Digital Garage	Japan	514191	Yes
Telefonica Ventures	Telefonica	Spain	51331	
dunnhumby Ventures	dunnhumby	UK	54181	Yes
CAA Ventures	Creative Artists Agency	USA	711410	Yes
Transamerica Ventures Fund	Transamerica	USA	5241	Yes
Robert Bosch Venture Capital	Robert Bosch	Germany	336111	Yes
Kiwi Venture Partners	Cooley	USA	5411	Yes

Table A.1: *Active corporate venture capital funds in the U.S. in 2014. The column Manual indicates that the NAICS codes were assigned by ourselves based on closest fit due to lacking data from Reuters Fundamentals.*

The variables as described below are used in Section 4.3.4 to build a regression with the aim to describe characteristics of firms that drive them to launch a corporate accelerator.

Variable	Full variable name	Definition	Source	Min	Median	Mean	Max	Std. Dev.	N
HasAccelerator	Lauched an accelerator	Company had an accelerator at any time before June 2015	Own research	0	N/A	4.13%	1	0.20	847
IsEurope	Headquarter in Europe	Company was headquartered in Europe in June 2015	Reuters Fundamentals	0	N/A	41.09%	1	0.49	847
IsUSA	Headquarter in the U.S.	Company was headquartered in the U.S. in June 2015	Reuters Fundamentals	0	N/A	58.91%	1	0.49	847
IsGermany	Headquarter in Germany	Company was headquartered in Germany in June 2015	Reuters Fundamentals	0	N/A	4.49%	1	0.21	847
IsInformation	Information-related firm	Company was considered to be primarily active in NAICS cluster 51 in June 2015	Reuters Fundamentals	0	N/A	7.44%	1	0.26	847
MarketCapBUsd	Market Capitalization	Market capitalization of the firm in billion USD as of June 2015	Reuters Fundamentals	0.82	17.21	36.01	741.80	55.42	847
Employees	Employees	Number of employees as of June 2015	Reuters Fundamentals	0	23390	56146	2200000	108214.42	844
HasCVC2014US	Active in corporate venture capital	Company invested corporate venture capital into a U.S.-based firm in 2014	(CB Insights 2015)	0	N/A	5.90%	1	0.24	847

Variable	Full variable name	Definition	Source	Min	Median	Mean	Max	Std. Dev.	N
AvgRevUSD	Average revenue	Average revenue in million USD between 2009 and 2014	Reuters Fundamentals	0.00	8356.31	20131.30	444277.60	39013.07	736
AvgRnDUSD	Average R&D investment	Average Research & Development investment in million USD between 2009 and 2014	Reuters Fundamentals	0.00	385.69	1040.33	9728.33	1714.45	290
AvgRndPRev	Average R&D intensity	Average Reseach & Development intensity in percent between 2009 and 2014. Calculated as AvgRnDUSD/AvgRevUSD	Virtual column	0.00%	3.99%	7.29%	88.41%	0.09	289

Table A.2: *Variables used in the regression to analyze factors that may drive a company to launch a corporate accelerator.*

This overview of pairwise correlations is used in Section 4.3.4 to drive the selection of relevant regression variables.

	HasAccelerator	IsEurope	IsUSA	IsGermany	IsInformation	MarketCapBUsd	Employees	HasCVC2014US	AvgRevUSD	AvgRnDUSD
IsEurope	0.020									
IsUSA	-0.020	-1.000*								
IsGermany	0.156*	0.260*	-0.260*							
IsInformation	0.190*	0.019	-0.019	0.004						
MarketCapBUsd	0.219*	-0.066	0.066	0.024	0.092*					
Employees	0.131*	0.061	-0.061	0.115*	-0.034	0.328*				
HasCVC2014US	0.200*	-0.006	0.006	0.067	0.120*	0.385*	0.109*			
AvgRevUSD	0.132*	0.043	-0.043	0.099*	-0.011	0.535*	0.564*	0.228*		
AvgRnDUSD	0.257*	-0.012	0.012	0.041	0.116*	0.656*	0.329*	0.633*	0.367*	
AvgRndPRev	0.070	-0.207*	0.207*	-0.085	0.193*	0.084	-0.181*	0.187*	-0.156*	0.283*

Table A.3: *Pairwise correlations of corporate accelerator data. * indicates a significance level of* $p < 0.05$.

The following four tables show the complete database of corporate accelerators that I specifically built for this thesis. The listed programs represent the state of data that I uitilized for this thesis. A more up-to-date version of the data can be found on https://www.corporate-accelerators.net

Company	Name	NAICS	Self-description	Term	Cohort-based
AIA	AIA Accelerator	5241	Accelerator	3 months	Yes, regularly?
Airbus Group SE	Airbus BizLab	336411	Accelerator	6 months	N/I
Allianz SE	Allianz Digital Accelerator	524126	Accelerator	N/I	N/I
Anheuser Busch Inbev SA	Budweiser Dream Brewery	31212	Accelerator	3 months	Yes, yearly
AT&T Inc	AT&T Aspire Accelerator	517210	Accelerator	6 months	Yes, yearly
Axel Springer	Axel Springer Plug and Play Accelerator	5111	Accelerator	3 months	Yes, three times a year
Bank of Ireland	Bank of Ireland Accelerator Programme	52211	Accelerator	3 months	Yes, regularly
Barclays PLC	Barclays Accelerator	52211	Accelerator	3 months	Yes, yearly
Bayer AG	Grants4Apps Accelerator	325412	Accelerator	3 months	Yes, yearly
BBC	BBC Worldwide Labs	5151	Business accelerator	6 months	Yes, twice a year
Bonnier	Bonnier Accelerator	5111	Accelerator	3 months	N/I
Cisco Systems Inc	Cisco Entrepreneurs in Residence	334290	Startup incubation program	6 months	Yes, regularly
Citigroup Inc	Citi Accelerator	522110	Accelerator	4 months	Yes, yearly
Citrix Systems Inc	Citrix Startup Accelerator	511210	Accelerator	3 months	Yes, regularly
Coca-Cola Co	The Bridge	312111	Commercialization program	6 months	Yes, regularly?
DBS Group Holdings Ltd	DBS Accelerator	52211	Accelerator	3 months	Yes, regularly?
Deutsche Telekom AG	hub:raum	513322	Turbo accelerator	8 days	Yes, yearly
dpa	next media accelerator	519110	Accelerator	6 months	Yes, regularly
DPD UK	DPD Last Mile labs	492110	Accelerator	2 months	Yes, yearly
E.ON SE	:agile accelerator	221111	Accelerator	3 months	Yes, quarterly
Ernst & Young	EY Startup Challenge	54161	Challenge	2 months	Yes, yearly
ImmobilienScout24	You Is Now	519130	Accelerator	3 months	Yes, twice a year
Intel Corp	Intel Education Accelerator	334413	Accelerator	4 months	Yes, irregularly

Company	Name	NAICS	Self-description	Term	Cohort-based
Interpublic Group of Companies, Inc	R/GA Accelerator	541810	Accelerator	4 months	Yes, yearly
John Lewis	JLAB	452111	Accelerator	2 months	Yes, yearly
Kaplan	Kaplan EdTech Accelerator	611710	Accelerator	3 months	Yes, yearly
L Brands Inc	Leading Entrepreneurial Accelerator Program	448120	Accelerator	N/I	Yes, regularly?
La Poste	Start'inPost	49211	Accelerator	12 months (3+9)	Yes, (yearly?)
MasterCard Inc	Start Path Europe	522320	Program	12 months (4+8)	Yes, regularly?
METRO AG	techstars Metro Accelerator	44511	Accelerator	3 months	Yes, yearly
Microsoft Corp	Microsoft Ventures Accelerators	511210	Accelerator	3-6 months	Yes, (yearly?)
Microsoft Corp	Microsoft Accelerator	511210	Accelerator	3 months	Yes, regularly
Modern Times Group	MTGx MediaFactory	51312	Accelerator	3 months	Yes, yearly
Mondelez International Inc	Mobile Futures Accelerator	311919	Collaboration	3-6 months	Yes, irregularly
Nike Inc	Nike Fuel Lab	316210	Accelerator	3 months	Yes, yearly
Orange SA	Orange Fab France	517110	Accelerator	3 months	Yes, yearly
PCH International	Highway 1	541420	Accelerator	4 months	Yes, twice a year
Pearson plc	Pearson Catalyst for Education	51113	Accelerator	3 months	Yes, yearly
Pitney Bowes Inc	Pitney Bowes Inc	333318	Accelerator	6 months	Yes, twice a year
ProSiebenSat.1 Media AG	ProSiebenSat.1 Accelerator	51312	Accelerator	3 months	Yes, regularly?
Qualcomm Inc	Qualcomm Robotics Accelerator	334220	Accelerator	4 months	Yes, regularly?
Samsung Electronics	Samsung Open Innovation Center	335	Accelerator	Not fixed	No, rolling
Singapore Press Holdings	SPH Plug and Play	51111	Accelerator	3 months	Yes, regularly?
Sprint	Sprint Mobile Health Accelerator	517110	Accelerator	3 months	Yes, yearly
Swire	blueprint accelerator	531	Accelerator	6 months	Yes, yearly
Target Corp	Target India Accelerator	452990	Accelerator	4 months	Yes, twice a year
Telecom Italia SpA	#Wcap Accelerator	51331	Accelerator	4 months	Yes, yearly
Telefonica SA	wayra	517110	Accelerator	6-12 months	Yes, regularly?
Telekom Malaysia	Digital Malaysia Corporate Accelerator Program	51331	Accelerator	3 months	Yes, irregularly

Company	Name	NAICS	Self-description	Term	Cohort-based
Telenet Group Holding NV	Telenet Idealabs	51331	Accelerator	4 or 8 months	Yes, regularly
Telstra	muru-D	51331	Accelerator	6 months	Yes, twice a year
Time Warner Inc	Media Camp	512110	Accelerator	3 months	Yes, yearly
Travelport	Travelport Labs Incubator	514191	Incubator	4 months	Yes, three times a year
Tune Group	Tune Labs	481111	Incubator	3 months	Yes, three times a year
Unilever plc	The Unilever Foundry, Pilot	32562	List of opportunities	N/I	Yes, regularly
Volkswagen AG	Volkswagen ERL Technology Accelerator	336111	N/I	N/I	Yes, regularly?
Walt Disney Co	Disney Accelerator	512110	Accelerator	4 months	Yes, yearly
Wells Fargo & Co	Wells Fargo Startup Accelerator	522110	Accelerator	6 months	Yes, twice a year
Yahoo! Inc	Yahoo Ad Tech Program	541512	Program	3 months	Yes, irregularly
Yandex	Tolstoy Summer Camp	519130	Workshop	2 months	Yes, twice a year
YLE	YLE Media Startup Accelerator Program	5151	Accelerator	3 months	Yes, irregularly

Table A.4: *Database of corporate accelerators 1/4. N/I = No information available*

Company	Funding	Equity	Mentorship	Office space	Demo day
AIA	No	No	Yes	Yes	Yes
Airbus Group SE	No	No	Yes	Yes	Yes
Allianz SE	N/I	N/I	N/I	N/I	N/I
Anheuser Busch Inbev SA	$20K	No	Yes	N/I	N/I
AT&T Inc	$50K + $25K for expenses	Up to 5%	Yes	No	Yes
Axel Springer	25K EUR	5%	Yes	Yes	Yes
Bank of Ireland	10K EUR	3% (owned by cohort)	Yes	Yes	Yes
Barclays PLC	$20K	6% to Techstars	Yes	Yes	Yes
Bayer AG	50K EUR	<10%	Yes	Yes	Yes
BBC	No	No	Yes	Yes	N/I
Bonnier	Flexible	Flexible	Yes	Yes	Yes
Cisco Systems Inc	Flexible	N/I	Yes	Yes	Yes
Citigroup Inc	N/I	N/I	Yes	N/I	N/I
Citrix Systems Inc	No	No	Yes	Yes	Yes
Coca-Cola Co	No	No	Yes	N/I	N/I
DBS Group Holdings Ltd	No	No	Yes	Yes	Yes
Deutsche Telekom AG	No	No	Yes	Yes	Yes
dpa	0-50K EUR	3-10%	Yes	Yes	N/I
DPD UK	12.5K GBP	Flexible	Yes	Yes	Yes
E.ON SE	10-20K EUR	N/I	Yes	Yes	Yes
Ernst & Young	No	No	Yes	Yes	No
ImmobilienScout24	15K EUR	No	Yes	Yes	Yes
Intel Corp	Up to $100K	6%	Yes	Yes	Yes
Interpublic Group of Companies, Inc	$20K from Techstars + $100K OCDN	6% to Techstars + OCDN to RG/A	Yes	Yes	Yes
John Lewis	20K GBP	Flexible	Yes	Yes	Yes
Kaplan	$20K from Techstars + $150K OCDN	6% to Techstars + OCDN to Kaplan	Yes	Yes	Yes

Company	Funding	Equity	Mentorship	Office space	Demo day
L Brands Inc	N/I	No	Yes	N/I	N/I
La Poste	N/I	Up to 5% (Option)	Yes	Yes (to be paid)	N/I
MasterCard Inc	No	No	Yes	Yes	N/I
METRO AG	N/I	N/I	Yes	Yes	Yes
Microsoft Corp	No	No	Yes	Yes	Yes
Microsoft Corp	$20K	6% to Techstars	Yes	Yes	Yes
Modern Times Group	$50K	Flexible	Yes	N/I	N/I
Mondelez International Inc	$40K	No	Workshops	No	No
Nike Inc	N/I	N/I	Yes	Yes	Yes
Orange SA	Up to $20K	OCDN	Yes	Yes	Yes
PCH International	$50K	4%-7%	Yes	Yes	Yes
Pearson plc	$15K for expenses	No	Yes	No	N/I
Pitney Bowes Inc	No	No	Yes	Yes	Yes
ProSiebenSat.1 Media AG	25K EUR	5%	Yes	Yes	Yes
Qualcomm Inc	$20K from Techstars + $100K OCDN	6% to Techstars + OCDN to Qualcomm	Yes	Yes	Yes
Samsung Electronics	Flexible	Flexible	Yes	Yes	No
Singapore Press Holdings	30K SGD	N/I	Yes	Yes	Yes
Sprint	$20K from Techstars + $100K OCDN	6% to Techstars + OCDN to Sprint	Yes	Yes	Yes
Swire	No	No	Yes	Yes	N/I
Target Corp	N/I	N/I	Yes	Yes	Yes
Telecom Italia SpA	25K EUR	No	Yes	Yes	N/I
Telefonica SA	Around $50K	N/I	Yes	Yes	Yes
Telekom Malaysia	No	No	Yes	N/I	N/I
Telenet Group Holding NV	At least 25K EUR	No	Yes	Yes	Yes
Telstra	$40K	6%	Yes	Yes	Yes
Time Warner Inc	$20K	Flexible	Yes	Yes	N/I

Company	Funding	Equity	Mentorship	Office space	Demo day
Travelport	Up to $50K	8%	Yes	Yes	N/I
Tune Group	No	No	Yes	Yes	Yes
Unilever plc	Up to $50K	N/I	Yes	N/I	N/I
Volkswagen AG	N/I	N/I	Yes	Yes	Yes
Walt Disney Co	$20K from Techstars + $100K OCDN	OCDN	Yes	Yes	Yes
Wells Fargo & Co	$50K-$500K	minority	Yes	N/I	N/I
Yahoo! Inc	No	No	Yes	Yes	N/I
Yandex	Travel reimbursement	No	Yes	N/I	Yes
YLE	At least 17K EUR	6%	Yes	Yes	Yes

Table A.5: *Database of corporate accelerators 2/4. N/I = No information available, OCDN = Optional convertible debt note*

Company	Target industry	Partner	Headquarter	Locations	Launched	Status
AIA	62	Nest	Hong Kong	Hong Kong	2014	Active
Airbus Group SE	33, 48	No	France	Toulouse, France / Hamburg, Germany / Bangalore, India	2015	Active
Allianz SE	52	N/I	Germany	Munich, Germany	2013	Unclear
Anheuser Busch Inbev SA	44, 45	No	Belgium	Shanghai, China	2015	Unclear
AT&T Inc	61	No	USA	Remote + San Francisco, USA	2015	Running
Axel Springer	N/I	PlugAndPlay	Germany	Berlin, Germany	2013	Running
Bank of Ireland	N/I	StartPlanet	Ireland	Cork, Ireland	2013	Inactive (2014)
Barclays PLC	52	Techstars	UK	London, UK / New York, USA	2014	Running
Bayer AG	62	No	Germany	Berlin, Germany	2014	Running
BBC	51	No	UK	London, UK / New York, USA	2012	Running
Bonnier	51	No	Sweden	Stockholm, Sweden	2013	Inactive
Cisco Systems Inc	N/I	No	USA	San Jose, USA / Vienna, Austria	2013	Running
Citigroup Inc	52	No	USA	Tel Aviv, Israel	2013	Unclear
Citrix Systems Inc	N/I	No	USA	Santa Clara, USA / Raleigh, USA / Bangalore, India	2010	Running
Coca-Cola Co	44, 45, 48, 62, 54	No	USA	Tel Aviv, Israel	2013	Active
DBS Group Holdings Ltd	52	Nest	Singapore	Hong Kong	2015	Running
Deutsche Telekom AG	N/I	Betahaus	Germany	Krakow, Poland	2012	Active
dpa	51	N/I	Germany	Hamburg, Germany	2015	Active

Company	Target industry	Partner	Headquarter	Locations	Launched	Status
DPD UK	49	Lmarks	UK	London, UK	2015	Running
E.ON SE	22	No	Germany	Berlin, Germany / Düsseldorf, Germany	2014	Active
Ernst & Young	51, 54	No	USA / London office	London, UK	2014	Active
ImmobilienScout24	53, 48	No	Germany	Munich, Germany	2010	Running
Intel Corp	61	No	USA	Redwood City, USA	2015	Running
Interpublic Group of Companies, Inc	N/I	Techstars	USA	New York, USA	2013	Active
John Lewis	44, 45	Lmarks	UK	London, UK	2014	Running
Kaplan	61	Techstars	USA	New York, USA	2013	Unclear
L Brands Inc	48, 51, 54, 48	Kyron	USA	N/I, India	2015	Active
La Poste	44, 45	No	France	Paris, France	2014	Active
MasterCard Inc	N/I	No	USA	Dublin, Ireland	2014	Unclear
METRO AG	72, 52, 48	Techstars	Germany	Berlin, Germany	2015	Active
Microsoft Corp	N/I	No	USA	Bangalore, India / Beijing, China / Berlin, Germany / London, UK / Paris, France / Seattle, USA / Tel Aviv, Israel	N/I	Running
Microsoft Corp	N/I	Techstars	USA	Seattle, USA	2012	Replaced
Modern Times Group	51	No	Sweden	Stockholm, Sweden	2014	Active
Mondelez International Inc	44, 45, 51	No	USA	Chicago, USA	2012	Unclear
Nike Inc	71	Techstars	USA	San Francisco, USA	2013	Inactive (2013)
Orange SA	N/I	No	France	France, Poland, Asia, Ivory Coast, Israel, USA	2012	Active
PCH International	33	No	Ireland	San Francisco, USA	2013	Active
Pearson plc	61	No	UK	Remote	2013	Active

Company	Target industry	Partner	Headquarter	Locations	Launched	Status
Pitney Bowes Inc	N/I	No	USA	Noida, India	2014	Running
ProSiebenSat.1 Media AG	N/I	No	Germany	Munich, Germany / Berlin, Germany	2013	Active
Qualcomm Inc	33, 51	Techstars	USA	San Diego, USA	2014	Running
Samsung Electronics	51, 54	No	South Korea	Palo Alto, USA / New York, USA	2013	Other model
Singapore Press Holdings	51	PlugAndPlay	Singapore	Singapore	2015	Active
Sprint	62	Techstars	USA	Kansas City, USA	2013	Active
Swire	N/I	No	Hong Kong	Hong Kong	2015	Running
Target Corp	44, 45	No	USA	Bangalore, India	2014	Active
Telecom Italia SpA	51	No	Italy	Catania, Italy / Rome, Italy / Milano, Italy / Bologna, Italy	2013	Active
Telefonica SA	N/I	No	Spain	Argentinia, Brazil, Chile, Colombia, Mexico, Peru, Venezuela, Central East Europe, Germany, Ireland, Spain, UK	2011	Active
Telekom Malaysia	48, 44, 45, 72, 31, 32, 33	Startup Malaysia	Malaysia	Kuala Lumpur, Malaysia	2012	Inactive
Telenet Group Holding NV	51	Idealabs	Belgium	Antwerp, Belgium	2014	Active
Telstra	51	No	Australia	Sydney, Australia / Singapore / Auckland, New Zealand	2013	Running
Time Warner Inc	51, 54	No	USA	Los Angeles, USA	2012	Inactive (2014)
Travelport	56	No	USA	Denver, USA	2015	Active
Tune Group	N/I	No	Malaysia	Kuala Lumpur, Malaysia	2015	Running
Unilever plc	N/I	No	Netherlands and UK	N/I	2013	Active

Company	Target industry	Partner	Headquarter	Locations	Launched	Status
Volkswagen AG	33, 48	PlugAndPlay	Germany	Belmont, USA	2012	Inactive (2014)
Walt Disney Co	51	Techstars	USA	Los Angeles, USA	2014	Running
Wells Fargo & Co	52	No	USA	N/I	2014	Active
Yahoo! Inc	54	No	USA / Israel office	Tel Aviv, Israel	2014	Unclear
Yandex	N/I	No	Russia	Moscow, Russia	2013	Unclear
YLE	51	Nestholma	Finland	Helsinki, Finland	2014	Unclear

Table A.6: *Database of corporate accelerators 3/4. N/I = No information available*

Company	URL
AIA	http://aia-accelerator.com
Airbus Group SE	http://www.airbus.com/innovation/bizlab/
Allianz SE	http://www.digital-accelerator.com
Anheuser Busch Inbev SA	https://www.f6s.com/budweiserdreambrewery/about
AT&T Inc	http://goo.gl/EKQjcn
Axel Springer	http://www.axelspringerplugandplay.com
Bank of Ireland	https://www.bankofireland.com/accelerator-programme/
Barclays PLC	http://www.barclaysaccelerator.com
Bayer AG	https://www.grants4apps.com/accelerator/
BBC	http://www.bbcwlabs.com
Bonnier	http://www.bonnieraccelerator.com
Cisco Systems Inc	https://eir.cisco.com
Citigroup Inc	http://www.citigroup.com/citi/news/2013/130802a.htm
Citrix Systems Inc	http://citrixstartupaccelerator.com
Coca-Cola Co	http://www.thebridgebycocacola.com
DBS Group Holdings Ltd	https://www.dbs-accelerator.com
Deutsche Telekom AG	https://www.hubraum.com/en/accelerator
dpa	http://www.nma.vc
DPD UK	http://www.lmarks.com/lastmilelabs
E.ON SE	http://eon-agile.com/
Ernst & Young	https://webforms.ey.com/UK/en/Services/Specialty-Services/EY-Startup-Challenge
ImmobilienScout24	http://www.youisnow.com
Intel Corp	https://goo.gl/0Hcg2D
Interpublic Group of Companies, Inc	http://rgaaccelerator.com/connecteddevices/
John Lewis	http://jlab.co.uk
Kaplan	http://kaplanedtechaccelerator.com
L Brands Inc	N/I
La Poste	http://legroupe.laposte.fr/Start-up/
MasterCard Inc	http://www.startpath.com
METRO AG	http://www.techstarsmetro.com
Microsoft Corp	https://www.microsoftventures.com
Microsoft Corp	http://www.microsoftaccelerator.com
Modern Times Group	http://www.mtgxmediafactory.com
Mondelez International Inc	http://www.shopperfutures.com
Nike Inc	http://www.nikefuellab.com
Orange SA	http://orangefab.com
PCH International	http://highway1.io
Pearson plc	https://catalyst.pearson.com
Pitney Bowes Inc	http://accelerator.pitneybowes.com

Company	URL
ProSiebenSat.1 Media AG	https://www.p7s1accelerator.com
Qualcomm Inc	http://qualcommaccelerator.com
Samsung Electronics	http://samsungaccelerator.com
Singapore Press Holdings	http://sphplugandplay.sph.com.sg
Sprint	http://www.sprintaccelerator.com
Swire	http://blueprint.swireproperties.com/en/
Target Corp	https://corporate.target.com/India/about/Target-Accelerator-Program
Telecom Italia SpA	http://www.wcap.tim.it
Telefonica SA	http://wayra.co
Telekom Malaysia	http://www.startupmalaysia.org/dmcapll/
Telenet Group Holding NV	http://telenetidealabs.be
Telstra	http://www.muru-d.com
Time Warner Inc	http://www.mediacamp.com
Travelport	http://www.travelport.com/labs/index.html
Tune Group	http://thetunelabs.com/incubator/
Unilever plc	https://foundry.unilever.com
Volkswagen AG	http://goo.gl/GBsVwv
Walt Disney Co	http://disneyaccelerator.com
Wells Fargo & Co	https://accelerator.wellsfargo.com
Yahoo! Inc	https://www.f6s.com/yahooadtechprogram1
Yandex	https://startups.yandex.ru
YLE	https://www.f6s.com/yle-media-startup-accelerator

Table A.7: *Database of corporate accelerators 4/4. N/I = No information available. Some URLs had to be shortened.*

Appendix B

Figures

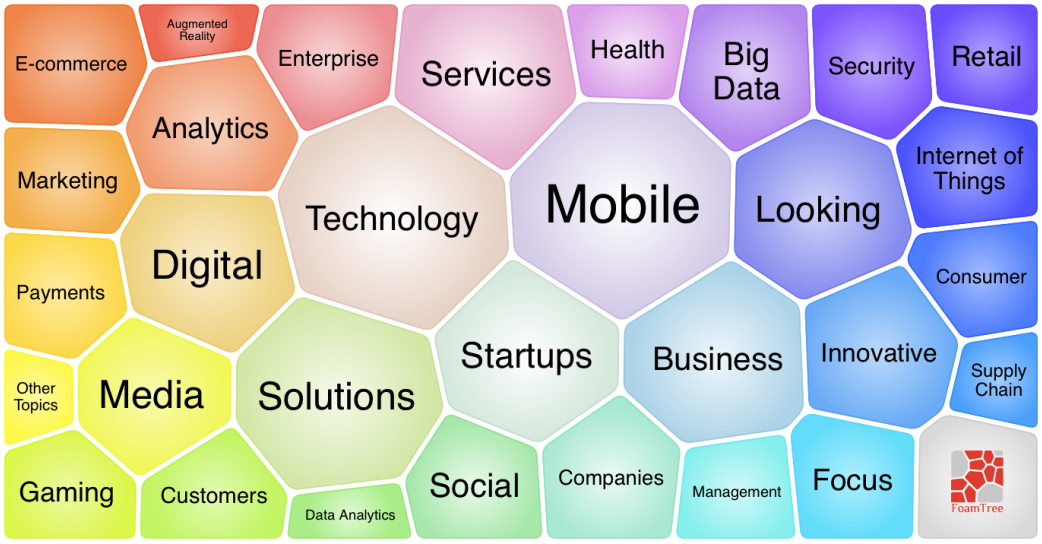

Figure B-1: *Raw keywords of topics corporate accelerators look for in their portfolio companies. Calculated by the open-source software Carrot2 based on publicly available data for each program*

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