

Innovation Accelerators: Defining Characteristics Among Startup Assistance Organizations

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Purpose

While accelerator programs have been around for almost a decade, their more recent successes have catalyzed a surge in their popularity among investors and entrepreneurs. Given the potential for these programs to grow scalable high-value startups quickly, different groups of policymakers are now starting to consider how to apply the accelerator model to meet public policy goals. However, accelerator programs are not guaranteed successes.

Many questions surround accelerators' application to broader arenas, and there is a shortage of robust sources of data or metrics to evaluate their efficiency and effectiveness. This report aims to help entrepreneurs and policymakers to start answering these questions by categorizing a variety of startup assistance programs to determine what factors distinguish accelerators from other programs. Using these distinguishing characteristics, the report provides a robust definition of accelerators as well as a starting point for developing meaningful metrics to determine the relevance of accelerators for policymakers.

Background

Building on recent work by Cohen and Hochberg,¹ this report defines accelerators as:

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.

Accelerators are an innovative startup funding mechanism leveraged heavily in the tech sector. These programs use a selective application process to target scalable, high-value, and high-growth startups. Accelerators help entrepreneurs commercialize sometimes underdeveloped business ideas, helping startups to go public, get acquired, or receive additional funding in a brief span of time. There is evidence that in some cases startups that graduate from an accelerator get funding faster than those using alternative funding mechanisms.² The accelerator does this through educational and mentorship programs which can be extremely useful to entrepreneurs. More significantly, accelerators can connect startups with networks of other entrepreneurs and potential investors giving program participants invaluable social capital contributions.³ These may be the biggest benefits of participating in an accelerator program, since they connect entrepreneurs with a sizeable pool of potential investors. Recently, investors have started to embrace the accelerator model as a way to distribute the inherent riskiness of investing in tech startups over a large startup pool.⁴

1. "Accelerating Startups: The Seed Accelerator Phenomenon," Susan Cohen and Yael Hochberg (March 30, 2014). Available at: <http://ssrn.com/abstract=2418000>.

2. "Accelerators and Crowd-Funding: Complementarity, Competition, or Convergence in the Earliest Stages of Financing New Ventures?" Sheryl Winston Smith, T.J. Hannigan, and Laura Gasiorowski (paper presented July 12-13, 2013.) Available at <http://ssrn.com/abstract=2298875>.

3. Ibid.

4. "How Famous Accelerators Y Combinator and Techstars Usher in a New Paradigm for VCs," Jeremy Quittner, *Inc.* magazine. Available at www.inc.com/jeremy-quittner/accelerator-change-venture-capital-dynamics.html?cid=sy01304.

Successful accelerator programs may not be representative of the model in general.

Y Combinator has been one of the most successful accelerators to execute this model.⁵ It has graduated multiple startups that have not only changed seemingly established industries but also in some cases received billion-dollar valuations. Notable startups that have participated in the Y Combinator accelerator include Reddit, Dropbox, and Airbnb. In response to these highly visible successes, accelerators, largely in the tech sector, have sprung up all over the world.⁶

The non-profit and public sectors have started to take notice of the success of accelerator participants and are hoping to utilize the accelerator model to work toward meeting public policy goals.⁷ This model is particularly attractive to non-profit and socially responsible startups who may find it difficult or inappropriate to receive funding from venture capitalists.⁸ Two examples of innovative “social accelerator” programs are the ARK Challenge in Northwest Arkansas and Conscious Ventures Labs, a benefit corporation located in Howard County, Maryland. Both of these accelerators support groups of non- and for-profit companies that have clear public welfare goals as part of their missions.

However, despite the prominence of a handful of success stories in the tech press, these exemplars are often the exception and not the rule. The idea of using accelerators as a policy tool to grow the next Facebook and jumpstart a local economy therefore relies on very low-probability events. Due to their abnormality, venture capitalist Aileen Lee lightheartedly calls startups with billion-dollar valuations “unicorns.” According to her calculations, as of November 2013 only one in every 1,538 startups (about .07 percent) founded within the last decade can be classified as a unicorn, and none were

founded in the last couple of years.⁹ Moreover, it took “unicorns” on average seven years to get to a liquidity event (filing an IPO or being acquired). So even if a startup is able to grow quickly, it may take many years to realize financial value from that growth.

Therefore, while accelerators have certainly been involved with startups that have become billion-dollar companies, policies and strategies that are built around “getting rich quick” can be risky. To fully understand the potential consequences of entering into an accelerator program or utilizing the accelerator model as a policy tool, there is an acute need for authoritative, robust data and metrics. Moreover, while any program can call itself an accelerator, it is important for entrepreneurs and policymakers to understand which programs actually accelerate startups and which ones do not. This distinction is especially important when comparing accelerators to incubator programs, which provide services similar to accelerators but are completely different entities.

Some current accelerator data sources lack reliability and authority.

Currently, there are multiple data sources for accelerator information but many are lacking in reliability and authority. Seed-DB is the best-known and most widely used database for information on accelerators. Seed-DB provides entrepreneurs, researchers, and accelerator programs with recent data on accelerator demographic and portfolio information. These data include information on the location of accelerators, their industries of focus, the number of companies in their portfolio, and the value of their portfolios.

Seed-DB relies on monthly data updates from Crunchbase, a database of startup investment

5. “These Are The 15 Best Accelerators In The U.S. Jonathan Shieber, TechCrunch.” Available at <http://techcrunch.com/2014/03/10/these-are-the-15-best-accelerators-in-the-u-s>.

6. “What’s Fueling the Explosion in Start-Up Accelerators?” Chris Morris, CNBC. Available at <http://www.cnbc.com/id/101167626>.

7. “A Startup Accelerator for Social Entrepreneurs with a ‘Stakeholder Mindset.’” Anne Field, *Forbes*. Available at www.forbes.com/sites/annefield/2014/09/14/this-social-enterprise-accelerator-has-a-stakeholder-mindset.

8. “Why Venture Capital Wasn’t Right for Me and 15 Alternative Funding Sources,” Laurie Peterson, Fast Company. Available at www.fastcompany.com/3036130/hit-the-ground-running/why-venture-capital-wasnt-right-for-me-and-15-alternative-funding-sou.

9. “Welcome to the Unicorn Club: Learning from Billion-Dollar Startups,” Aileen Lee, TechCrunch. Available at <http://techcrunch.com/2013/11/02/welcome-to-the-unicorn-club>.

Websites for More Information

ARK Challenge. <http://arkchallenge.org>

Benefit corporations. www.newyorker.com/magazine/2014/08/04/companies-benefits

Conscious Ventures Labs. www.consciousventurelab.com

Crunchbase. <http://crunchbase.com>

Seed D-B. www.seed-db.com

information that relies on voluntary or “crowd-sourced” input.¹⁰ While data sources are forthcoming about the biases and gaps implicit in this type of data collection, it does not nullify potential threats to validity.¹¹ For example, Seed-DB is missing many key data fields for accelerators. As Figure 1 shows, almost 40 percent of the accelerator entries on Seed-DB lack information on either the number of startups in their portfolio or the financial value of their portfolios.

In some cases, as with the substantial number of startups missing exit funding data, data are missing because of the natural time lag when collecting information on startups since they are so young. However these missing data have an effect on the utility of the database and as a result bias many of the inferences that a researcher might be able to make. These biases heavily contribute to threats to validity in research using popular accelerator databases because they contain so many outliers. Given that the databases list vastly different programs side by side—accelerators that have relatively massive portfolios and are investing in companies that may have valuations in the millions of dollars alongside small accelerators with only a few small startups—many of the statistical measures generated from these databases can be expected to have a high variance. Similarly, depending on how these data are treated, estimates based

on these data may be varying and unreliable.¹² The uncertainty concerning accelerator programs and their effectiveness combined with this lack of data has generated a pressing need for robust and authoritative data and metrics on them.

Overall Findings

The key findings of this report provide a clearer framework for moving forward in investigating the effectiveness and relevance of the accelerator model to entrepreneurs and policymakers. By focusing on distinguishing factors of accelerators, researchers can better target their data collection efforts and policymakers’ metrics can be tailored to measure accelerator-specific outcomes. This report finds that while many startup assistance organizations and programs may provide services similar to accelerators, there are key factors that distinguish accelerators. Moreover, this report found that “business incubators” which provide services analogous to accelerators are often confused with accelerators and blur the lines of evaluation and research projects.¹³ For

10. Ibid.

11. See <http://info.crunchbase.com/about/faqs/>

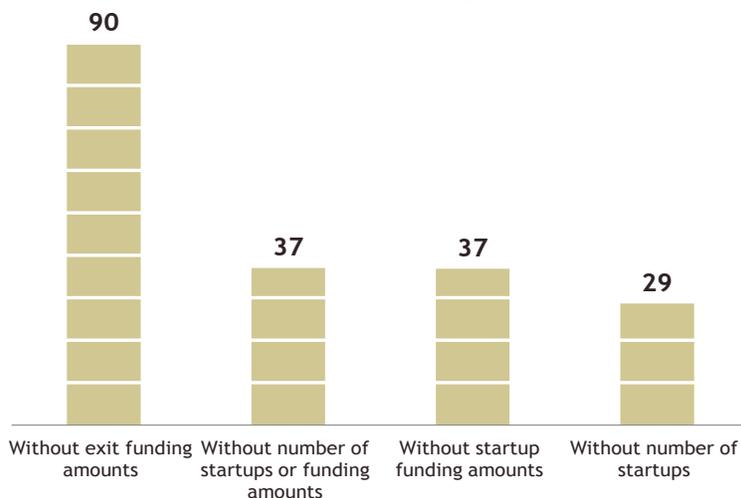
12. For a discussion of these biases as well as further threats to validity inherent in using popular accelerator databases see www.forbes.com/sites/kauffman/2012/08/08/evaluating-the-effects-of-accelerators-not-so-fast.

13. According to National Business Incubation Association, business incubation is a business-support process that helps launch startup and fledgling companies by providing entrepreneurs with an array of needed resources and services. Further information can be found at www.nbia.org/resource_library/what_is/index.php.

Figure 1.

Almost four out of every ten accelerators in Seed-DB are missing key data points.

Percent of U.S.-based accelerator entries in Seed-DB that are missing data points.



example, just like accelerators, incubators provide mentorship, some seed funding, and technical assistance to startups. However, as illustrated in Figure 2, the way that these programs provide parallel services underscores critical factors that distinguish accelerators from other organizations.

Specifically, this report finds seven key factors that distinguish accelerators from incubators and other startup assistance organizations:

1. Accelerators have a competitive selection process based on finding startups that best fit the specific accelerator’s business model and area of expertise.
2. Accelerators focus on a specific area of expertise in its staff, programs, and startups.
3. Accelerators predominantly invest in the seed and pre-seed stages of a company.
4. Accelerators invest for an equity stake in participating startups.
5. Accelerator programs are designed around specific cohorts of startups.
6. Accelerators are short fixed-term programs.
7. Accelerators treat social capital contributions and social networking as a primary part of their business model.

These characteristics manifest themselves through the structural aspects of accelerator programs. Figure 3 illustrates how these characteristics are part of the accelerator structure and notes the differences between accelerator program structures and those of similar incubator programs.

Using these distinguishing characteristics, this report is able to build off of the previous literature to develop a more robust definition for accelerator programs based on their value-added characteristics.¹⁴ These features allow researchers and policymakers to tailor data collection efforts and performance metrics to more accurately convey the relevance of accelerator programs to entrepreneurs and the public sector. Specifically, this report found two key points which should be appreciated when researching and evaluating accelerators, namely:

1. The founder’s motivation or objective in starting the organization, because different profit and public motivations shape the business model developed and the services offered; and
2. The extent to which the organization is focused on specific technologies and development stages, which allows the organization to provide specialized technical assistance that increases its value to startups.

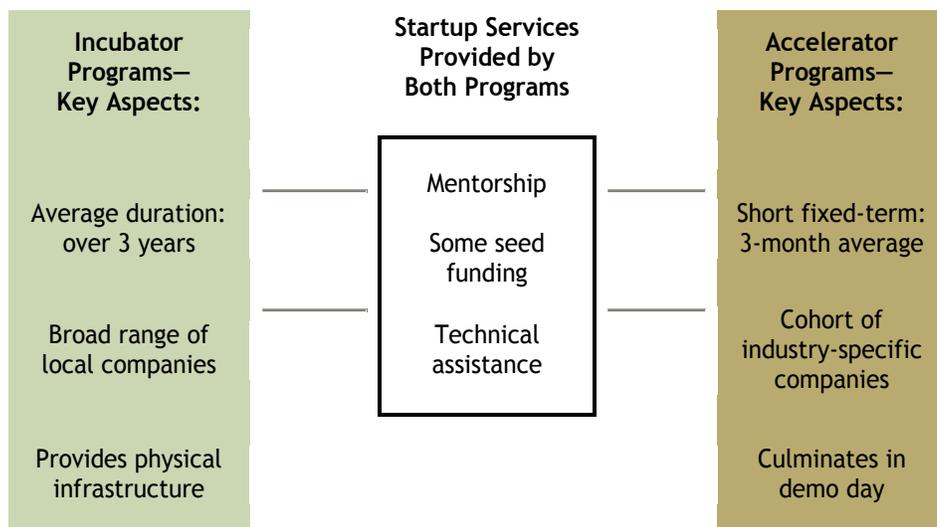
Policy Implications

This report examined multiple accelerators to determine what factors distinguish and differentiate accelerators from other organizations to provide analogous services and perform a similar role. Based

¹⁴. See page 1 for this report’s full definition of accelerator programs.

Figure 2.

While accelerators and incubators provide similar services, their modes of delivery underscore vast differences in their business models and ultimate missions.



on these distinguishing factors, this report identifies four relevant policy implications:

1. Appreciate the different goals and methods of different types of accelerators when measuring and evaluating performance.

Accelerator metrics should address participation, process, and performance for four distinct constituencies: startups, accelerators, investors, and follow-on investors. Potentially, policy outcomes can be considered as a spillover effect of successful accelerators. While accelerators (as for-profit entities) often judge their performance on their profitability, this may conflict with broader public policy goals. Especially given that accelerators work with such young companies, it may not be relevant to use conventional economic policy metrics such as job creation immediately after a startup exits from a program. Metrics tailored more specifically to accelerators would allow for meaningful comparisons across various types of accelerators. For example, social accelerators should be treated differently because their missions are often different from more conventional accelerators. Tailored metrics may also prove useful in helping to differentiate and understand new accelerator models, as the market and demand for accelerators continues to grow.

2. Consider reports of accelerators' impact with caution until more robust data becomes available.

As this report's data landscape survey suggests, the available data upon which new metrics might be developed is limited. Open source data are not validated, and validated data may be costly, restricted, or both. Moreover, important attributes of accelerators, such as their investor networks and ability to turn social capital into vital business assets, are particularly amenable to social network analysis metrics. Such metrics may require the ability to easily connect different data sources at the organizational level, or even the individual level.

While sources such as CrunchBase and SeedDB seek to fill a data gap with open source data models, they do not do so for the purposes of informing public policy or academic research. The Seed Accelerator Ranking Project moves in the direction of academic research. However, it is currently unclear whether those data would be available for public research, under what conditions, or at what cost. Specific data needs will arise out of the development of a clear set of metrics. Government administrators may work in partnership with current data collection efforts to further the reliable use of these data for academic and policy research.

Figure 3.

Accelerators' distinguishing characteristics are essential parts of their program structure.

Distinguishing characteristic	Accelerator programs	Incubator programs
Startup selection process	Competitive—essential to business model	Competitive—based on available space and resources
Technology focus	Narrow	Broad
Stage of technology	Seed and pre-seed	Seed and broad range of stages
Cohort structure	Yes—essential to business model	No
Program duration	Average of 3 months	Average of over 3 years

3. Incorporate areas of public policy interest into future research goals.

Accelerators represent a broad-based market response to the real and perceived need and opportunity associated with providing early-stage startups with a well-defined set of services and network opportunities. They reduce the costs an entrepreneur faces—in time and resources—during the commercialization process. Nonetheless, many factors affect the viability of a startup, which causes innovation accelerators (and possibly others) to select startups with the best chance of high-growth success. There is still much that remains unknown about accelerators in terms of potential market failures in startup assistance, which some variants are positioned to address. For example, much could still be learned about who participates in accelerators and why; whether the geographic distribution of accelerators provides adequate access to potential participants; and how the acceleration process differs across industries, particularly in national priority industries like advanced manufacturing. Rigorous empirical research into this emergent phenomenon is scant, and several topics could provide valuable information to help local and federal governments determine their role in innovation acceleration.

4. Consider aspects of the accelerator model as potential policy tools now.

While there is a need for more research, this obstacle is not one that needs to prevent governments from engaging in targeted pilot projects that support innovation acceleration in key industries, for example, advanced manufacturing. Well-designed pilot projects could help determine appropriate levels of support and mechanisms for delivering such support equitably to accelerator programs across the range of business models. Such policies will require evidence of what works outside of the early business models of innovation accelerators. Conversely, government support of a limited expansion of participants (and data collection) in a well-functioning innovation accelerator may provide another useful pilot project. Targeted accelerator pilot projects could develop evidence while researchers continue to develop new datasets, metrics, and empirical research on the broader impacts of accelerators.

Scope and Methodology

This report develops an inventory of accelerators to determine what characteristics distinguish accelerators from other startup assistance organizations. Consequently, this report relies on the past work of prior inventories. Several organizations and media groups have published inventories of accelerators in the form of rankings, working lists, websites for centralized advertising to startups, and more.

This report utilized five well-respected inventories:¹⁵

1. Seed-DB's online database of accelerators;
2. The top 62 accelerators by country, produced by Emergent By Design blogger Venessa Miemis;
3. Tech Cocktail's guide to choosing the best accelerators;
4. Webbmedia Group's list, which includes accelerator and incubator programs that have invested in startups in the past 12 months; and
5. A working list of U.S. and non-U.S. accelerators compiled by NESTA, Great Britain's National Endowment for Science Technology and the Arts.

This report was peer reviewed consistent with Advocacy's data quality guidelines. More information on this process can be obtained by contacting the director of economic research by email at advocacy@sba.gov or by phone at (202) 205-6533.

Additional Information

This report is available on the Office of Advocacy's research webpage at www.sba.gov/advocacy. To be informed of Advocacy's future research, visit the office's email subscription webpage at www.sba.gov/content/connect-us-0. By subscribing to the Small Business Regulation & Research category, you can choose to receive email notices of new Advocacy research, news releases, regulatory communications, publications, or the latest issue of *The Small Business Advocate* newsletter.

15. The authors also sought out accelerator websites and information directly, to augment available data and reconcile conflicts among sources.