

# POLITECNICO DI TORINO

*Department of Management and Production Engineering*

Master of Science Thesis

## **Business Accelerators: Review in literature**



*Supervisor:*

Prof. Elisa Ughetto

*Candidate:*

Sherzod Miryuldoshev

AA 2018-2019

## **Abstract**

Currently, there are several successful programs to develop nascent firms, helping them to grow from the idea itself to sustainable business entity by funding, mentoring and training. However, they all differ in one or another way from each other in the way they approach startups. Accelerators have proliferated in the United States and has been successfully introduced in other developed countries, despite the continuing debates on their real value to business ecosystem in general.

According to the findings in the Global Accelerator Report 2016 by GUST, total investments done by all 579 accelerators comprised to \$206,740,005 all around the world into 11,305 startups. This thesis work tries to draw a reliable portrait of accelerator programs all over the world, focusing to the current state and business model and upcoming trends in their model. The paper explains the way of activity of the programs, different aspects of the business model, differentiation trends of the programs. The main focus points of the study: structure and activities in the accelerators program, its differences from other startup support programs, different forms of accelerators by their stage involvement and industry focus, and by the collaboration with key partners such as government, university and corporations. Finally, the key performances of currently active different accelerator programs are analyzed.

## **Acknowledgements**

*With due respect, I would like to take opportunity of expressing my sincere gratitude to my supervisor Professor Elisa Ughetto, for her continuous support, patient guidance and motivation.*

*I also place on record my sincere thanks to my family and my friends here in Politecnico di Torino who has given me full co-operation through this master studies.*

*My great gratitude also goes to my family. For their support and believing in me in every situation.*

## Table of Contents

1. INTRODUCTION .....	6
2. ACCELERATORS .....	7
2.1. History of Accelerators .....	8
2.2. Comparing Accelerators to Incubators .....	9
2.3. Main Stages in Business Accelerators Model .....	14
2.3.1.Stage 1: Selection .....	15
2.3.2.Stage 2: Education, Mentorship and Network Development .....	16
2.3.3.Stage 3: Demo Day .....	19
2.3.4.Stage 4: Follow-on .....	20
3. OTHER START-UP DEVELOPMENT TOOLS .....	21
4. DIVERSIFICATION OF ACCELERATORS .....	25
4.1. Different Accelerator Models .....	25
4.1.1.Pre accelerators .....	25
4.1.2.Typical accelerators .....	27
4.1.3.Vertical accelerators .....	28
4.1.4.Virtual accelerators .....	29
4.2. Accelerators by the Key Partners .....	31
4.2.1.Government backed Accelerators .....	31
4.2.2.University linked accelerator programs .....	34
4.2.3.Corporate accelerators .....	37
5. ACCELERATOR VALUES .....	42
5.1. Vision, Mission and Values .....	42
5.2. Trends .....	43
5.2.1.Digital trends .....	45
6. CASE STUDIES .....	48
6.1. Techstars .....	48
6.2. Y Combinator .....	49
6.3. Stratupbootcamp .....	50
6.4. 500 Startups .....	51
7. CONCLUSION .....	52
8. REFERENCES .....	53

## **List of Figures**

1. Figure 1. An example of startup accelerator structure. ....	6
2. Figure 2. Overlying features between incubators and accelerators. ....	14
3. Figure 3. Bethnal Green Ventures selection processes. ....	16
4. Figure 4. Typology of some Startup Support programs ....	21
5. Figure 5. Growth of incubators and accelerators 1987 – 2016 in the UK. ....	30
6. Figure 6. Reasons for founding a public accelerator ....	33
7. Figure 7. Percentage of accelerators focusing on each sector which are fully university and public funded in the UK. ....	36
8. Figure 8. Share of corporately funded accelerators that launched in 2016, 2015, 2014, and pre-accelerator in 2014, in the UK. ....	38
9. Figure 9. Corporate Accelerators divided by Sector Orientations. ....	39
10. Figure 10. Major sectoral focus of Incubators and Accelerators. ....	43
11. Figure 11. Percentage of accelerator programs, that reported an interest in investing in these markets in the next 12 months. ....	44
12. Figure 12. Accelerator business activity summary for the 2016 year. ....	45
13. Figure 13. The main areas of Techstars investment. ....	48
14. Figure 14. The main areas of Y Combinator investment. ....	49
15. Figure 15. The main areas of Startupbootcamp investment. ....	50
16. Figure 16. The main areas of 500 Startups investment. ....	51

## **List of Tables**

1. Table 1. Summary of the Differences between Accelerators and Incubators .....	10
1. Table 2. Examples of Corporate Accelerators. ....	41
2. Table 3. Overview of Techstars. ....	48
3. Table 4. Overview of Y Combinator .....	49
4. Table 5. Overview of Startupbootcamp .....	50
5. Table 6. Overview of 500 Startups .....	51

# 1. INTRODUCTION

According to the studies of S. Blank (2013) around 75% of all startups are failing, many have difficulties to attract investments and necessary connections to grow their ideas into business unit stage. Business accelerators as a comparatively new model of startup support program are designed to meet these in the business ecosystem both locally and globally. Accelerators are quite extensive concept, containing number of overlapping features with other startup support programs and it has not been systematically well defined yet, due to the newness of the paradigm.

However, startup accelerator programs have emerged as a new competitive type of business entity in the US, Europe and is expanding over other countries progressively. They are playing an important role in creating and developing local and international ecosystems in specific industries. The model functions as a typical for profit company with its shareholders and managers. The distinctive feature of the company they work as a training program with number of qualified mentors and coaches to accelerate startups market reaching process and to increase their chances to survive the real life competition. They mainly function as for profit organization with their beneficiary, they invest in early stage ventures in different amounts varying from one accelerator to another in exchange to the stake in the company. Besides, they providing working space, networking, mentoring, laboratory facilities in some specialized cases.



**Figure 1.** An example of startup accelerator structure.

*Source: Adapted from [www.catalyzer.co](http://www.catalyzer.co)*

## 2. ACCELERATORS

Accelerators in startup ecosystem are one of the key players. In this section we will define accelerator business model and analyze its main steps. Accelerators are quite new phenomenon emerged from incubator programs and angel investor groups in the beginning of 2000th. They are basically a new method of guiding startups specialized in high technology businesses, supported by outstanding tech entrepreneurs and investors. However, nowadays various accelerator programs are being created focusing in very different industry sectors, not necessarily related to innovation and information technological sphere. Accelerator programs also differ in business models as for profit and not for profit business accelerators. In general, these programs support nascent firms with the development of their initial products, enhance their business plans, figure out lucrative niche in the market, to acquire capital and human resources. Usually lasts three months, accepting cohort of startups where the process of applying is open to all, and highly competitive. They offer excessive amount of networking opportunities with the invited mentor entrepreneurs and also among the peer ventures who may become fortunate business entities in the future, with venture capitalists and angel investors. At the end of the program participant startups pitch to a large number of qualified investors, which is called “demo day”.

All the accelerator programs share five main characters, which differs it from other business incubation models, such as incubators and angel investment groups. These features are:

- Open application process, which gives equal opportunities to all applicants, still very competitive.
- Existing of pre-seed investment, normally bartered for equity in the startup. Commonly, the amount of money invested varies from \$20,000 to \$50,000 in the US and GBP 10,000 to GBP 50,000 in Europe. (Barrehag, 2012)
- Targeting to 2 to 5 individual member teams rather than individual founders.
- Limited duration: including scheduled events and mentoring by experts and mainly in summer time, because the focus group was mainly university students.
- Funding cohorts or “classes” of startup firms instead of individual companies, since founders wanted to learn quickly about angel investing.

According to Susan G. Cohen accelerators can be defined as: “A *fixed-term, cohort-based* program, including *mentorship and educational components*, that culminates in a public pitch event or *demo-day*” (Cohen & Hochberg, 2014).

## **2.1. History of Accelerators**

The first accelerator in the context we defined as the firms supporting newly created firms in the fields of innovation and Information technologies is Y Combinator was founded in Boston, 2005. Now it is considered as one of the reputable and well-known accelerators, with very high competition among startups to get accepted into the program, currently based in Silicon Valley. One of the four founders of YC Paul Graham, English entrepreneur, venture capitalist said “funding start-ups synchronously” was a crucial point that lead to the creation of accelerators (YC, 2015). Graham realized that existing venture capital models were "broken" and that "investors should be making more, smaller investments, they should be funding hackers instead of suits, they should be willing to fund younger founders" (YC, 2015).

The notable graduates from Y Combinator program are AirBnB, Reddit, Dropbox, Scribd, Heroku and others. As the end of 2017 financial year AirBnB became a company with \$ 2.6 billion revenue and number of employees 3,100.

In 2007, David Cohen and Brad Feld founded TechStars in Boulder, Colorado, and due to the increasing demand to the program it has created three other three cities in US and played a role in creation of other similar project all over the world eventually. Today TechStars franchises its accelerator model to other locations and companies. It also created a new field of Corporate Sponsored accelerators as a result of cooperation with corporations to unleash their accelerator potentials.

From the date of establishment TechStars has funded several successful startups which have become multibillion companies or could gather extensive amount of capital in selling process. For example, SendGrid which offers customer communication that drives engagement and growth became the first company among all the established accelerator programs in the world to go public, which later were purchased by Twilio for \$3 billion in



2019. The second graduate company worth noting is PillPack, which is a full-service pharmacy that sorts your medication by the dose and delivers to your door. It was acquired by Amazon for \$1 billion in 2018. Other notable alumni are Vanilla Forums, DigitalOcean, DataRobot and so on.

The first accelerator program launched in Europe was Seedcamp founded in 2007 by Saul Klein and Reshma Sohoni in London. The founders had broader goal as to make Europe as good place to establish technology firms as US than just to support early stage companies to sustain. Also SeedCamp had considerably different model from US accelerators, where the latter put huge amount of investments into participant firms. They realized the difficulty of raising large amounts of money in such a short period in Europe so they focus more hosting regular Seedcamp events, where selected companies pitch their businesses and be mentored by other investors from the Seedcamp network.

Seedcamp now has pervasive network of branches all over the Europe and SeedSummit network of angel investors to hold annual events, including also Singapore and Cape Town. Notable graduates of the program are UiPath with \$3+ billion valuation according September 2018, Revolut with the valuation of \$1 billion according to March 2018 and others.

Accelerator programs expanded significantly from their initiation, that is almost 15 years and during the last years, accelerators have gained the role of the main traditional investment source for startups and currently, according to the common data source, "Seed-DB" there exists 190 programs world-wide, with 8075 companies participated to 2019. The graduates could attract over \$ 52 billion funding for this period, with 1112 successfully exited companies (Seed-DB).

## **2.2. Comparing Accelerators to Incubators**

In general, accelerators can be seen as symbiosis of other assistance models for nascent firms, which joins several different features which were provided independently previously. Below we will consider main differences and similarities between accelerators and incubators way of functioning. There are many overlapping features between incubators and accelerators, meanwhile there are also several elements that distinguish them. Basically,

these two organizations help companies to develop and grow, but they have different motives for doing so.

Incubators tend to nurture nascent firms in their very early stage, securing them from the real world by giving them separate place to grow and mentoring. Incubator programs can last from 1 to 5 year, which means they have flexible time constraints. On the other hand, accelerator programs try to speed up the process of market realization and building the network companies set. Accelerators usually continue from 3 to 6-month period.

The differences in operation of these two main startup support programs are believed to have crucial impact in the success rate of their firms in the future. Below, there is the summary of main aspects in these entrepreneur assistance models, i.e. accelerators and incubators which will be discussed further in details.

	<b>Accelerators</b>	<b>Incubators</b>
<b>Duration</b>	3 months	1-5 years
<b>Cohorts</b>	Yes	No
<b>Business model</b>	Investment; non-profit	Rent; non-profit
<b>Selection frequency</b>	Competitive; cyclical	Non competitive
<b>Stage of the company</b>	Early-stage	Early-stage; or late-stage
<b>Offered education</b>	Seminars	Ad hoc; hr/legal
<b>Location of companies</b>	Generally on-site	On-site
<b>Mentorship</b>	Intense, by self and others	Minimal, tactical

**Table 1.** Summary of the Differences between Accelerators and Incubators  
*Source: Adapted from "Accelerating Startups: The Seed Accelerator Phenomenon" Cohen S. (2014)*

S. Cohen (2013) identified four main areas where incubators and accelerators differ: Duration, cohorts, business model, education mentorship and network development.

## **Duration**

Standard acceleration program lasts for three months, and this is the main distinctive feature that characters accelerator program. While, according to the surveys firms graduate

from incubator program between one to five-year period (Amezcuca, 2011). And the duration of the programs set the fundamental distinction between them. Regulated graduation dates and short lasting periods in accelerator programs, grants for the firms to be tested under the existing real market mechanisms, and most importantly lowers codependency between them and accelerators. Even the founders of accelerator program confirm, that they help firms intensely in the very early stage and support continually their graduate companies in near ten-year period. If they make longer intense period they can develop codependency among firms, which will not be healthy for them in the future.

Increasing the cycle speed may lead firms to faster success or faster failure, not necessarily keeping the venture alive. However, quick fail also has positive sides, as the they can shift their focus to other opportunities faster. The fixed duration enables to the founders to concentrate on what they are developing. They usually work for seven days a week in the three-month period time, which is very distressing, and they probably would not be able to follow it if the program lasted longer.

Not surprisingly, fixed time period of accelerator programs provides them more control over the portfolio firms, in contrast to other early stage investors. Accelerators make investment in groups which leads them to spend more time with the participant firms. They work almost every day during three-month period with startup founders helping them in various fields, and then they move to the next batch. This approach formed structured and effective way of training with the young firms they guide, different from incubators.

The limited duration of accelerators eases commitment to participate for guest mentors and speakers in the program. It is comparatively easy to attract a set of high qualified mentors, since the program is short and cyclic where they can decide to take part again or not. Also, fixed time period of the program makes the firms to graduate at a pre-defined time. Another consequence of the limited period of the accelerator programs is that, they can gather group of potential international and domestic investors. Which is facilitated by marking graduations according to “demo days”, where the startup founders pitch to the group of investor their business plans.

## **Cohorts**

Another derivative of the fixed duration, organized accelerator is the firms are accepted and graduates the program in groups, so called cohorts or batches. They develop close relationships with the startups they started the program together, supporting and inspiring one another, which forms close bonds and integrity among the members. Meanwhile, in incubator programs firms have this kind of opportunity to form future relationship with other firm. Despite the fact incubator programs last longer, the crucial advantage in favor of accelerators they start the program together. Which is not always the case in incubator model, since the incubators accept and graduate companies all year around continuously. Open application process brings firms from very large background and places, and also highly rated accelerator programs takes very low percent of competitive applicants, only around 1-2% from the pool.

## **Business model**

The next significant difference between accelerators and incubators that the former are owned privately in general, and they acquire stakes in the companies, taking part in the program. Incubators, on the other hand are mainly owned publicly, run by managers and do not have their own investing funds (Hackett and Dilts, 2004). Moreover, many accelerator founders have previous experience as an angel investor or successful businessmen, which helps them to share and teach their experience in countless questions, starting from product development to attracting funds, hiring and so on. Accelerator founders have quite similar motivation for running the businesses aligning with the participants', such as fast growth. They help closely them also because they own percentage of shares in the firms under their guidance, while the professional managers of incubators focus more on their tenants' graduation rate which can come with slower time. Another point worth noticing, accelerator companies call their participants as portfolio companies, which demonstrates the fact that most of them take equity percentage in startup companies, at the same time for incubators the participating companies are tenant firms only.

Moreover, accelerator model allows investors to select companies into their final investment basket by gathering stakes of several startups, which spreads the risk across

more portfolio ventures. Hence, accelerator format allows to test the group of firms initially and knowing about them before investing in them. Furthermore, accelerator owners are able to increase their initial investment in the firms in the post acceleration stage, which they often do.

### **Educational program**

Ventures decide to participate in accelerator programs as they offer intensive mentoring and teaching. Tenants in incubators do not always take advantage of all services available, since many of these services are offered on the fee based terms, such as accountants and lawyer services (Hackett and Dilts, 2004). Education process in accelerators usually include seminars on broad areas of business topics and some specific topics often held by the guest speakers or the directors of the program. Seminars and lectures help to enrich limited knowledge of the participants in plenty of commercial topics, and forms connection with the lecturers who are experts in their fields.

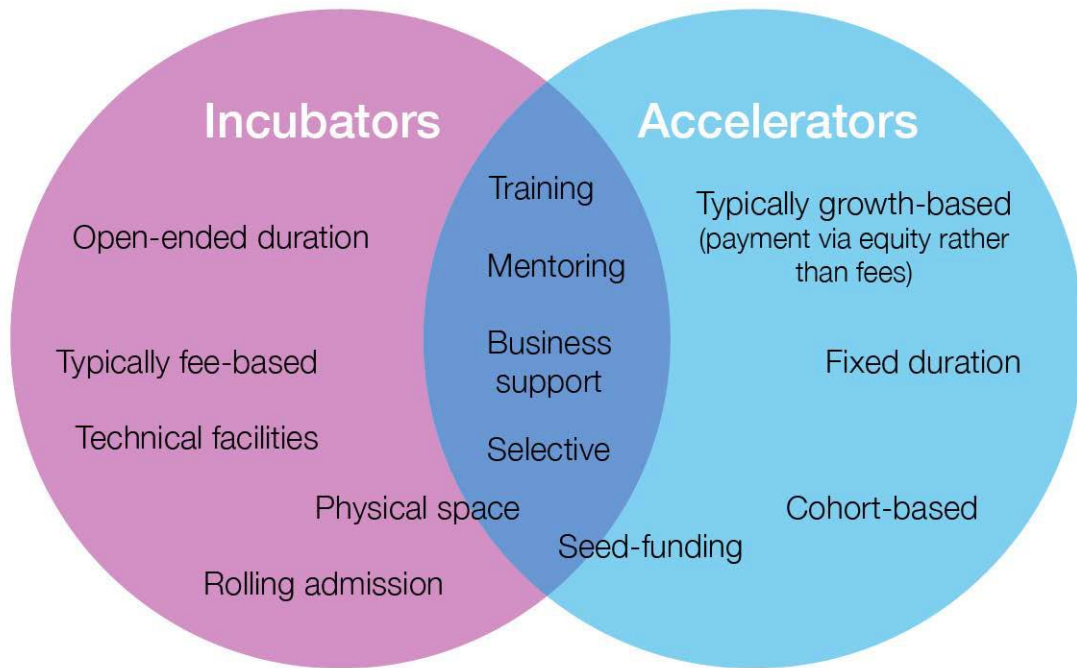
### **Mentorship and network development**

Another quite often mentioned valuable feature of accelerators is mentorship, differing significantly from one program to another. Some accelerators arrange mentorship on request based order, while others can organize up to 75 sessions during the first month only. Meeting with several mentors every day can leave less time for their main task of company development as coding and product development, but at the same time it allows to create network of future business partners and study stand-in methods. This is also cited as one of the crucial benefits from participating in accelerator program. Lastly, directors pilot the firms all over the course, enhancing consume the materials provided and the firms use this knowledge further in the program and in the real life.

Accelerators collaborate side by side with their portfolio companies, addressing them to mentors, as well as to established entrepreneurs and investors. Furthermore, accelerator programs in the issue of raising investment from several sources and establishing agreement among all the parties in strategic directing questions are also willing to accept adjustments

from their participants. They also provide excessive amount of education, advice and mentoring along the course.

Below the main distinctive to accelerator and incubator firms and characteristic features which are common to both programs.



**Figure 2.** Overlying features between incubators and accelerators.  
*Source: Adapted from Dempwolf C. S. (2014)*

### **2.3. Main Stages in Business Accelerators Model**

We can divide accelerator operation model into four main steps. In this section, we will cover those important stages of functioning accelerator model in detail:

1. Selection
2. Education, Mentorship and Network Development
3. Demo day
4. Follow on

### **2.3.1. Stage I: Selection**

One of the main important success factors in the future of the both accelerator and startup is to choose the right applicant and the program. Recruiting wrong type of company for which the accelerator cannot provide extensive support due to lack of means will eventually bring to failure. For this reason, matching accelerator services to the demands of startups is quite important.

In general, accelerators spend from one to three months to form every cohort. This amount of long time is required because of the hardness in identification early stage potential ideas and firms. Quality of the team or the ideas are crucial points in selection process rather than business plans. This is because in this very early stage of the firm, when the firm has not entered to its operation, and has not even formed its customer base and functional structure business plans are in very little interest.

Accelerators implement several selection methods, from more common simple one is two-stage process to complex multi-stage processes. Date of application is typically predefined and captured by media and marketing. Programs use the selection process to identify most promising and potential candidates, by the means of these two elements:

#### **(1) Applications**

This process usually done online accessing the accelerators online platform, or other external platforms such as Startupbootcamp, Angel.co, Fundacity and so on. Also attending startup events before the online application periods. On the application forms founders give insight into their business ideas and answer number of related questions. These all will help accelerators to have better perception on candidates' motivations, and asses all the applications on the quality of their ideas, experience and their understandings of the matter.

#### **(2) Interviews**

After applications are evaluated by team of expert judges and shortlisted initial Skype interview may be organized to know more about the applicants. Further, on specially arranged "selection days" startups are invited for face to face interviews with the experts and they also pitch their businesses.

Experts from outside the program work as an individual advisor in the screening process together with internal bodies. Selection committee usually is formed by strategic partners, investors, experts, mentors and sometimes former alumni. The interview itself can vary from twenty minutes relaxed conversation to an hour-long tough challenge, during which experts evaluate how harmonically teams cooperate, do the team members have clear ideas on what they are going to perform and so on.

According to the research from Seed-DB, most European accelerators accept five to fifteen firms per cohort.

Example of a selection process:



**Figure 3.** Bethnal Green Ventures selection processes.

*Source: Adapted from "Startup accelerator programmes practice guide", Nesta (2014)*

### 2.3.2. Stage II: Education, Mentorship and Network development

This is the core stage in accelerator program, since it provides the acceleration experience, and value addition to participants. In this stage founders develop their work to present it on Demo Day. The commonly offered services by accelerator programs are:

- **Co-working space** – crucial to share knowledge and collaboration among participants, though some accelerators gather only few times such as Y-Combinator.
- **Regular interactions with the management team** – serves to track the progress and provide business advices.



- **Training programs** – usually including seminars and job-related training courses, regarding fields financing, design, marketing, PR, legislative and other aspects.
- **Networking opportunities** – in the form of structured mentoring program, in participation experts and professionals.

We will consider following key elements of the second stage are (1) Mentorship, (2) Classes, (3) Co-working and (4) Networking in details.

### **(1) Mentorship**

Since the most valuable aspect from participating in accelerator program is access to its mentoring network, many accelerators approach to creating and managing this network with high responsibility.

Mentors are experienced professionals in theoretical and practical sides of their topic, and they are tested on their knowledge before offering them post in the program. Despite, mentorship is considered as one of the valuable services in the program it can quite differ among different accelerator programs. Some programs schedule meetings with up to 75 different mentors during their first month. Others may make introductions on an as needed basis, while some simply hand entrepreneurs a list of pre-selected mentors (Hochberg and Cohen, 2014). Effectiveness of mentors is generally estimated through feedback surveys among participants.

As reported by FounderDating.org, the top ten topics that start-up firms rate most while looking for mentor consultation are:

- Fundraising
- Digital Marketing
- Business Development
- Growth "Hacking"
- Software Engineering
- (Enterprise) Sales
- UI/UX Design
- Content Marketing

- Data and Analytics
- E-Commerce

Progressively, coaches and start-up founders are coordinated with the help of speed dating or matchmaking occasions, which empower groups and coaches to rapidly see whether there is any science between them. Accelerator programs utilizing this technique will in general unite everybody in a room and gap tutors into gatherings to circle around the various groups. These gatherings at that point have ten minutes to pitch what they do to one another, before proceeding onward. While this can at times become somewhat clamorous, it additionally adds levity to the infrequently dull activity of over and again pitching and organizing.

One potential trap to know about with the tutoring relationship is guide 'burn– out'. It is essential to decide a practical feeling of work required for coaches, and appropriately characterize their job while guaranteeing buy– in.

The quality and responsibility of coaches is a standout amongst the most significant drivers of accelerator programs achievement. Many of the prestigious accelerators are exceptionally specific of the mentors they collaborate with and enlist them on referral basis – even though casual interviews also take place quite often. On the off chance that the feedback is not adequately positive, the accelerator does not work with the tutor next time.

## **(2) Classes and Workshops**

Commonly, start-up owners have technical knowledge on their product, since they mainly come directly from universities and they lack in business development and managing areas. Accelerators serve as linking agents in this problem by providing educational courses. According to surveys this is the main argument for nascent firms to participate, since mentorship itself without educational activities is not enough for success. Usually, education process in accelerator programs covers broad business-related topics, such as balance sheet management, search engine optimization, unit product economics and so on. Seminars are usually given by directors of the program or by guest speakers who can provide one-on-one guidance after their talks (Hochberg and Cohen, 2014).

### **(3) Co-working**

Accelerators in general encourage collaboration of their participants in the common area, with a well-known exception of Y-Combinator. With the help of these activities they wish to achieve integration ideas among teams and settle down operational problems. For instance, participants support each other in UX/Ui design problems, also provide consult others which qualified advisers to contact to.

However, on the other hand there is a fear of copying each other's ideas which prevents from sharing best practices within the cohort. Founders may be less prone to discuss their objectives because of the fear of copying.

### **(4) Networking**

Accelerator programs recognize their alumni network organize as a significant resource of the program: keeping up a graduated class database is in this way a need. Some host online networks and graduated class events to make and build up the graduated classes network. Others bring in the assistance of graduated class members while choosing next generation cohorts of potential new businesses. There is likewise the cases of reusing originators, where new participants take in previously ineffective graduated founders as an individual for their own group on the off chance that they believe them to be of significant worth.

Currently, more and more accelerators could establish prestigious brands to engage firms from other countries, and these programs are international to a high degree. The capacity to gain by global networks likewise gives programs and their individuals a favourable position, because of the help new businesses can get to when scaling geographically.

### **2.3.3. Stage III: Demo day**

At the end of the acceleration period consisting mentorship and trainings, firms are presented to group of potential investors which is called Demo Day. It is one of the key differences between accelerator and other methods of supporting nascent firms. Demo days are very beneficial and effective way connecting start-ups to potential investors. Even

though getting investment cheques are very seldom at this event, they serve as a crucial role in forming useful connections and obtaining advices for successful investment opportunities later.

During Demo days, founders present their business ideas which they were working on lately in the form of pitch. They normally last no more than 10 minutes, focusing to describe potential of their businesses and firms. Sometimes, firms could be able to present their prototype product on the demo day, however this is not the requirement.

Investor demo days have advanced and frequently join an interactive form, for example, scaled down executive gatherings or speed dating, as a method for getting the new businesses used to communicating with financial specialists, while likewise allowing the investors themselves to show signs of improvement feeling for the group.

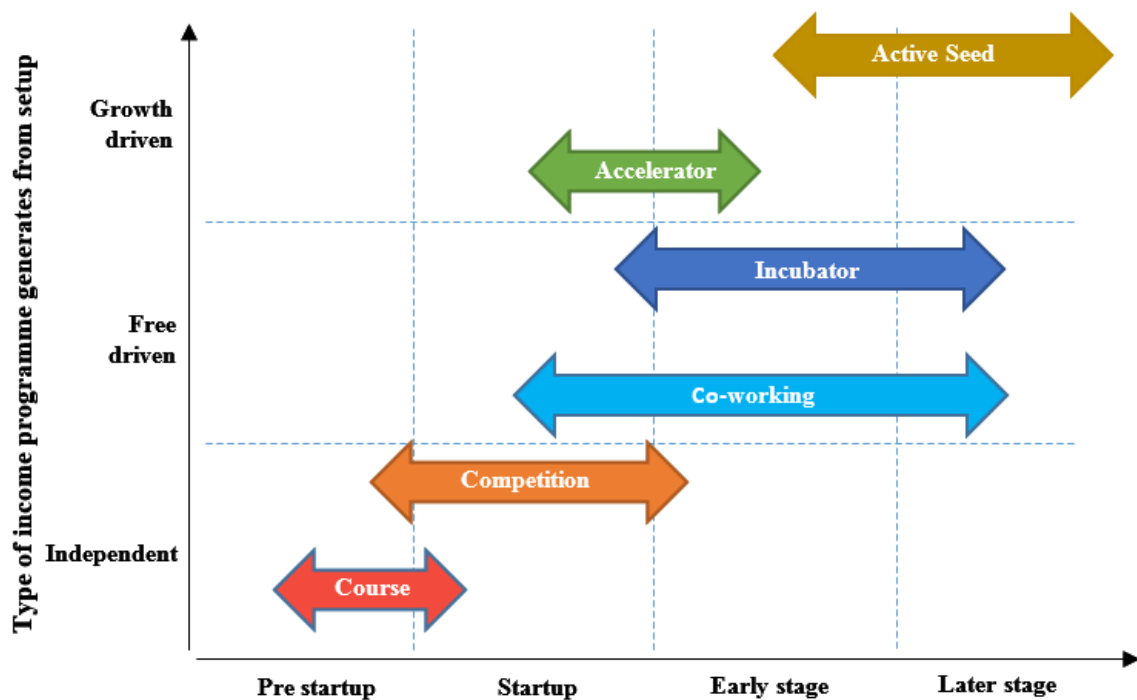
#### **2.3.4. Stage IV: Follow-on investment**

This is not directly traditional stage in accelerator operation which ends with the Demo Day, but the new trend which increasing number of programs offering. Follow-on stage emerged mostly because new graduates from accelerators are still facing problems in raising Series A investments which is provided mainly by angel investors and venture capitalists in the amount up to fifteen million euros in exchange for equity, after seed funding by the accelerator program. To help battle this, a few accelerators offer follow-on investment once the program is done; along these lines they can in some cases go some route towards spanning financing gaps. This could be organized by staged investments, or an additional capital infusion after graduation. These trends are identical to the upstream vertical integration inside the industry sector.

In 2016, 600 startups obtained investment through the AngelList platform. Successively, for the whole 2017 year 1900 startups have secured \$715M of funding through AngelList; the above mentioned startups have received \$6.6B in follow-on funding afterwards (Mohr, 2018).

### 3. OTHER START-UP DEVELOPMENT TOOLS

During the last twenty years, other various types of startup support instruments have been developed, in addition to accelerator models. These closely similar startup development tools comprise co-working spaces, crowdfunding, grants, contests and prizes, hackathons, University linked business Incubators, foundries.



**Figure 4.** Typology of some Startup Support programs

*Source: Adapted from "Startup accelerators: An overview of the current state of the acceleration phenomenon" (2015)*

#### Co-working spaces

Co-working spaces are physical workspaces, typically giving fundamental office facilities and accessible on very attractive terms, and often provided for single users and new, developing organizations. These administrations include some major disadvantages, regularly a membership or rolling contract, however there is typically no restriction to the time an organization can stay inhabitant and access administrations. Research facility space or extra incubation help has customarily not been accessible in co-working spaces. Nonetheless, some have started to offer mentorship support and related facilities.

In general, can be divided into for-profit and not-for-profit types, where the latter provides services at subsidized costs, focusing in ecosystems development. Performs a role for startups in networking, cooperation with other companies. Operation costs are reduced by sharing office areas with other startups. Successful example is CIC (Cambridge).

### **Grants**

Grants are direct financing which comes in the form of non-returned sum of money, mainly provided by public organizations and NGOs. Grants are given for specific research activities, business plan generation, cost analyses in some industries and so on.

Scaffold the financing sources given by angel investors/VC assets for whom the inborn risks of the endeavors might be higher than their investment goals. Cultivate improvement of explicit sorts of enterprises as well as business visionaries that the giving organization regards vital to create. There is no or restricted equity loss for the companies, with the access to mentors and networks in some cases. Successful examples can be Deshpande Centre, Corfo (Chile).

### **Crowdfunding**

Exemplary crowdfunding gives access to seed capital at moderately low cost. As per OECD, funders can be reimbursed either by:

a) products and facilities: e.g., favored ideas on merchandise/services or uncommon affirmation of interest. Requires remunerations that are appealing to investors, which has demonstrated to be troublesome occasionally. Or on the other hand

b) equity crowdfunding: gives funders a chance to recover their underlying investments or stake in future profits of the firm being established. Administrative difficulties block advancement around the globe. Going ahead, industry advancement could come as usage of the JOBS demonstration lifting the restriction on general sales lessens some administrative difficulties (OECD 2013).

Facilitates ventures benefit from more admission to seed capital by tapping a pool of founders. Successful examples are Kickstarter, Angellist.

## **Contests and Prizes**

Organization or government-driven challenges expecting to comprehend a business issue, e.g. constructing zero-emission buildings, automation of factory processes, enhancing a basic procedure.

Key objectives are "Crowdsourcing" supported innovation, creating pioneering commercial ecosystems and ability specifically market niches and determining enrolling talent for the benefactor. Successful examples can be DARPA, Ansari X prize, Longitude prize, Netflix prize.

## **Incubators**

Programs without fixed-term targeted at supporting startups in early stages. Incubators also can be divided into two categories: For-profit, where teams and business ideas are selected for according their success expectations at the very early stage. Not-for-profit, which is aimed to develop ecosystems and for obtaining experiences in new areas.

Similar to co-working space, additionally: structured mentorship, larger access to entrepreneurial ecosystem. Examples: Harvard iLab Incubator.

## **Foundries**

Foundries are a hybrid form among accelerator, venture capital funds, and incubator program. *The business of a foundry is building other businesses. It's cycle time (or unit of iteration) is time to determine whether a viable business can be built around a product.* (Boris Mann, 2016)

Key objective of foundries is investing in early-stage ventures, guide their acceleration process through helping startups targeting on their core business. Successful examples are Blade and Launch.

## **Active seed / VC funds**

They are funds providing additional support on top of pure capital investment. These supports may also offer office spaces or mentorship.

## **Startup Weekends**

Startup Weekend has emerged as the separate event of the Techstars acceleration program. It is generally a 54-hour weekend event that enables enthusiasts, software developers,

business leaders, graphic designers, team of programmers present their ideas to the audience of startup founders, in order to build team around them. The occasion has a standard arrangement. It begins on Friday evening when a few members pitch their plans to every single other member. At that point groups are conformed to the best pitched ideas, and they spend the remaining of the weekend approving and developing their idea. The entire procedure is bolstered by local and occasionally international mentors. At the end of the event on Sunday, groups meet up and pitch their recently propelled plans to a board of judges. The judges choose 1 to 3 teams as a winner who may in the process get acceptance to a startup accelerator program.

### **Hackathons**

A Hackathon is an event fundamentally the same as a Startup Weekend, with the huge difference, that Hackathon occasions are centered exclusively around structure solid software products amid the occasion. While the objective of a Startup weekend is to approve business concepts and establish firms, a Hackathon is an occasion at which software developers, visual designers, UX specialists, project managers and others work together comprehensively on software based problems. The guidelines of each Hackathon can change, from utilizing a particular programming language to dealing with a particular question using various software packages or notwithstanding accelerating private innovation in large organizations.

Successful examples are Angelhack, Techcrunch Hackathon, MIT Hack for Democracy.



## **4. DIVERSIFICATION OF ACCELERATORS**

### **4.1. Different Accelerator Models**

Throughout the history of development of accelerator programs have undergone several diversifications in their models. In this section we will analyze the newly emerged patterns and compare them with each other from the up to date studies on this topic.

Accelerators during the period of almost twenty years have been divided into many types focusing into horizontal development of the startup ideas. The Typical Accelerators profile incorporates following features: not being extended internationally, providing a co-working space to business entities, lack of a vertical specialization, executing regular week by week tutoring or status meeting with invited mentors. In addition, acknowledge both B2B and B2C projects or nascent firms, and not acknowledge virtual attendance in the curriculum, implying that they must be present in the accelerator physical office throughout the entire course.

Below we will consider several variations where those features were not present, and thus can be addressed as different type of accelerators.

#### **4.1.1. Pre-accelerator**

Pre-accelerators focus on pre-seed level and very early startups. This first group is grounded on the "idea" of phase development. This implies, for the pre-accelerator pattern, accelerators whose objective are startups on their very initial phase of advancement are considered to fit, where there is just the enthusiasm to accomplish something and a draft concept as well as plan, yet at the same time no prototype has been developed.

The main idea of pre-accelerators was to be a first challenge to recognize potential ideas from not all that great ones, giving the new venture chance applying to the acceleration programs have beforehand some background and in this way decrease likelihood of failure in the short-run. In the meantime, new businesses that are not necessarily competitive to be dispatched could be early portrayed and removed in order to spend so much time and assets on "not perspective" concepts.

From the pre-accelerator model analyses, it has been derived following definition for the program: provides zero financing and not requires equity share, a length shorter than 12 weeks in prevailing circumstances, groups quantity per program essentially from 3 to 10, lastly a primarily Sponsorship based business model dependent from privately owned businesses, that may be willing to cover expenses of the program, and benefits at the same time.

On contrary accelerators investing in exchange for equity, which typically center around the commercial realization of the new ventures that participate in the program, pre-accelerators will in general be committed to skilling-up the business founders they cooperate together and founding the ecosystem network. This is particularly significant in specific communities where the nation lacks in commercial initiatives. In this way, pre-accelerator programs demonstrate this noteworthy job in testing and changing some social incapacitates, for example, punishment of risk, absence of aspiration and absence of self-assurance (NUMA, 2014).

Successive examples for this model can be Startup Pirates and Startup Next both lasting for a short period of time and managing early stage ideas, can create and set them up for above and beyond, as joining an accelerator as well as searching financing sources. It is worth mentioning that in spite of the fact that Startup Pirates works with candidates in the idea phase of development, Startup Next works with candidates in the model or prototype stage, the two projects work for making ventures prepared for an accelerator or seed funding, and accordingly, both are considered pre-accelerator programs.

In the “Accelerator: Joint guide to develop acceleration programmes” (2017), following are mentioned as the most common activities in pre-accelerator programs:

- Startup Weekends
- Hackathons
- One-to-one mentoring.
- Assisting in the formal application processes.
- Pitch Trainings
- Investment Readiness programs.
- Various other types of startup events

### **4.1.2. Typical accelerator**

The characteristic feature for this second type of accelerators is being able to build ready product or prototype by the end of the program by their participants. Typical accelerators are also called as horizontal, not specialized or generic type. The term horizontal accelerator is used, since these accelerators target to bring up the services or products that are persistent with customer needs in more than one market or sector.

The size of investment in this category of accelerator varies significantly, depending number of different factors such as, country of origin, business model, specialized field, program's ambition and existing strategy. The length of the program is usually minimum 12 weeks, and may be as long as up to 24 weeks. Number of groups in each cohort goes maximum up to ten for each season. However, this rule may not be always true if we consider one of the prestigious accelerator of this type Y-Combinator which handles to run almost hundred startups in each call. Most common types of business models applied in the horizontal accelerators are sponsorship supplied by well established companies, venture capital based which is investment in exchange for equity in the startups and also fixed fee based type charged commonly per number of participants in the team in the program.

This model of accelerators may be the most appropriate one for the ventures who are going to commercialize their final product in more than one market or region. The most distinctive characteristic between a vertical accelerator and a horizontal accelerator is that the former one suits for startups focusing into specific markets, where the latter one is well suited for firms focusing specific product or technologies (Linkedin, 2015).

The prominent areas of interest of typical horizontal accelerator programs cover Cloud Technologies, Internet and Company products, Software as a Service, Hardware development, Internet of Things (IoT), communication technologies and so on. Most well-known accelerators of this category include TechStars, Y-Combinator, Seedcamp etc. Despite those mentioned accelerators have developed a lot of distinctive characteristics during their period of activity their main goal as to help nascent firms to reach the market has not changed, and can be well fit for typical accelerator definition.

### 4.1.3. Vertical accelerator

Arising number of accelerator programs lead to apply differentiation strategies to sustain increased competition among accelerators. According to Global Accelerator Network 25% of all accelerator programs are focused in one particular area (NUMA, 2014). This new emerged type of the program is called as Vertical Accelerator. Hochberg (2015) in his turn also underlined the trend of shifting towards vertical accelerator model, which he defined as orientation to particular industry sector to be the most significant over the last two years.

Vertical accelerator's model is basically analogous to typical horizontal oriented accelerators, with the crucial variation in focus directed to solely one vertical. This characteristic implements to have homogenous applicants, supported by mentors and trainings on very specific area. In consequence, this will increase effectiveness of the program to startups.

Attractive field for vertical accelerators are industries requiring specialized knowledge and regulations, such as clean energy, IT intense healthcare. At the same time, there are several programs working in broad vertical focus, such as non-profit, food and film, hospitality sectors. Similarly, generic accelerator programs are also showing tendency of movement towards service and software firms that are not necessarily horizontally focused in specific industry. Main advantage of vertical orientation is being able to get comprehensive picture, finding true disruptive strategies to compete with incumbent firms for the startups.

Global Accelerator Report (2016) indicates the trend in Verticalization is driven mainly by the following needs:

- **Building up core competences:** with the development of sectors requiring high level of specialization, accelerators are experiencing difficulties in engaging high promising early stage ventures to their program when they are "man of all work".
- **Reacting to Corporate clients:** the skill of a corporate support or accomplice is kept to the business in which it works.
- **Brand working:** so as to offer progressively "concentrated" benefit to new businesses and draw in the best founders, accelerators need to position themselves in their environments and pull in increasingly experienced mentors and investors.

As indicated by LinkedIn (2015), various new vertically-focused accelerator programs have been founded in big metropolitan territories. The vertical topic for accelerators is picked to use the specific opportunities of the provincial financial specialist network in that specific vertical market and to build a tutor network around it. Metropolitan zones are regularly full of trade, financial institutes, insurance companies, media, cultural sites, museums, style industry representatives, universities, and also at the same time as relaxation and excitement places. This wide variety of services and activities bring opportunity to numerous teams to be able to offer their support to organizations in such big vertical markets. For new accelerator programs, the vertical focus is so fundamentally established in the network, so that extraordinary assets are accessible to invest into their participant startups and to improve their ecosystem.

As mentioned above, vertical accelerators' model complies with the traditional accelerator programs, the main contrast they provide access to specific sector experts and mentors, also the particular resources which generic accelerators do not include into their program, such as connecting to related industry producers and retailer, manufacturing means (NUMA, 2014). For example, for the startup developing orphan drug it is very difficult to bring value for a program whose focus is general, lacking specialist and mentors in this sector compared to vertically oriented accelerator program into this domain. The invited specialists in the vertical program encompass extensive knowledge in their area of research, and are able to foresee future obstacles for the startups.

Currently, FinTech, EdTech, sustainable energy, healthcare industry, style and fashion industry, real estate are considered main topics for vertical oriented accelerator programs. Some well-known representatives of this model are healthcare tech accelerator Blueprint Health, food industry accelerator Food X, Startup Bootcamp, 33 Entrepreneurs and so on.

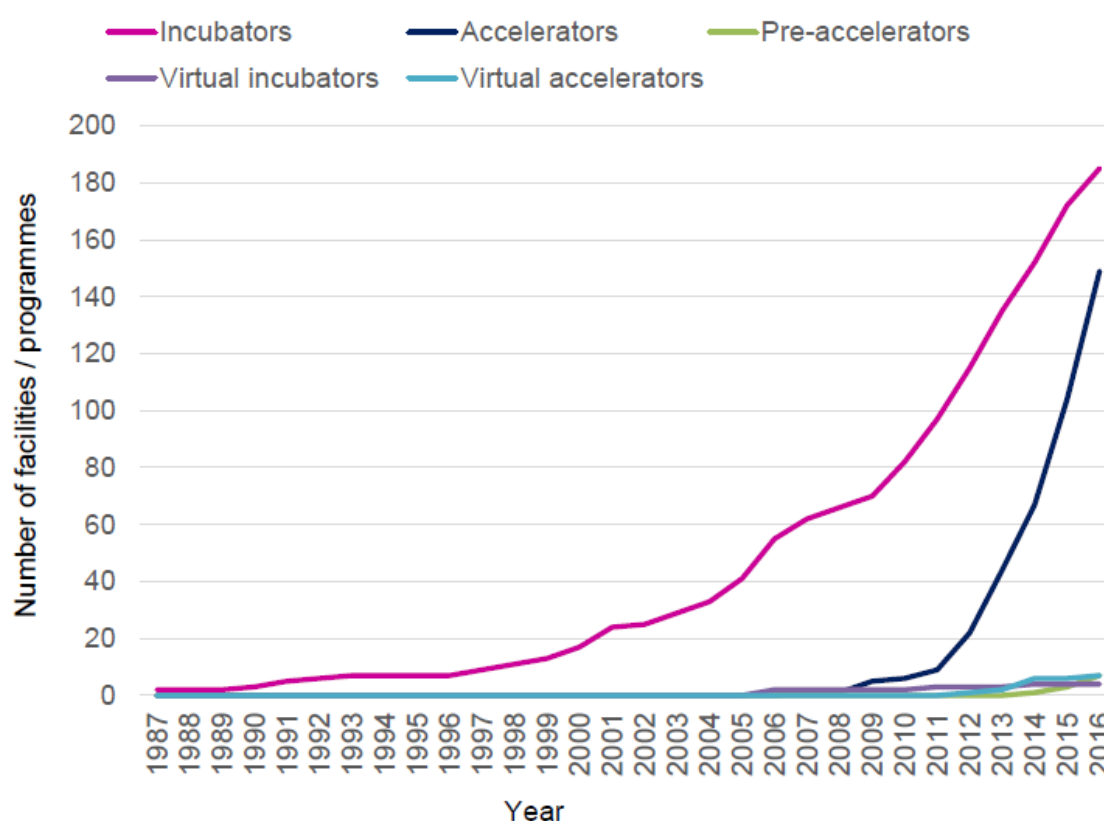
#### **4.1.4. Virtual accelerator**

In general, traditional accelerators are specialized to support business on site. And another significant difference between incubators and accelerators that incubator programs tend to join businesses located in a shorter distance than accelerator programs on average. The new emerging trend is a "virtual" programs both for incubators and accelerators which perform their activities online thus no moving to the location is required. Nowak and Grantham

(2000) described this emerging model, as the program exclusively providing such services as mentoring and networking with investors, without physical space or infrastructure.

According to "Business incubators and accelerators: The national picture" (April, 2017) report there existed seven virtual accelerator programs active in the United Kingdom, and they were serving 340 startups each year. Three out of seven virtual accelerators business model were based on fixed-payment of approximately 150 GBP, with the duration of nearly seven weeks. Three virtual accelerators from the report offered direct investment option varying from 10,000 GBP to 400,000 GBP in exchange for 5 to 12 percent equity in the startup. Two out of seven program were not focused in one distinct sector, and three of them focused into not distinct digital technologies, and last two on EdTech and Fintech business each.

Below, the figure is illustrating the growth rate of five different types of startup support programs from 1987 until 2016 which are currently active in the UK.



**Figure 5.** Growth of incubators and accelerators 1987 – 2016 in the UK

Source: Adapted from "Business incubators and accelerators: The national picture", Bone J. (2017)

## **4.2. Accelerators by the Key Partners**

In general accelerators are less dependent from government or university funding compared to incubator programs. However, increasing number of accelerators are receiving investment from these sources. In this chapter we will analyse funding sources of accelerators and their distinctive features.

### **4.2.1. Government backed Accelerators**

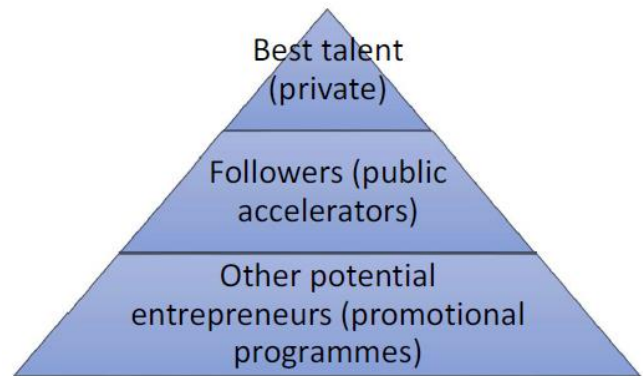
Government backed accelerators tend to incorporate extensive goal in the business ecosystem and country scale projects as whole, while profit-oriented private programs are more economic benefit driven, who choose carefully only the most prominent business ideas, and corporate funded accelerators who have restrictions depending the sector they focus and upon their internal constitutions.

Typical accelerators in most cases choose the best startups from the pool and provide initial seed investment in return for the share in the company, hoping to resell them for profit in the future. The goal of all these accelerators is to generate returns for their investors. The generated capital return is shared among all the investors and the management team of the accelerator. This does not mean that a typical private accelerator does not generate social value, the main difference is they often tend to engage only the most outstanding startups and individuals in the class.

According to B. Kos (2017) there are 6 main critical motives for building government funded accelerator in any country:

- To help follower companies to grow into leaders
- To assist collaboration of whole ecosystem parties
- To foster transfer of knowledge among shareholders
- Methodically promoting entrepreneurship in the region
- To establish exemplary accelerator meeting requirements of the government's development policy
- To become investment financing structures from subsidized ones

A government accelerator intends to help to the followers with the goal of turning them into leaders. They aim to give a “second chance” to talented individuals who could not realize their potential in the past due to different factors, to grow into successful ventures. The public accelerator can aim better to specific social layers, also can assign larger funding into informational and educational projects necessary for company management.



The format of public accelerators has a lot of resemblances with incubators, technology parks and similar government startup ecosystem players which also propose number of important business running inspiration activities, such as networking events, educational discussion groups, communities and other advantages. A great deal of savvy unites into such an innovative center. Yet, it's essential that the help foundations do not just propel, actuate enterprising potential and support, but additionally offer efficient, far reaching and all-encompassing projects for establishing and developing organizations. That is the reason the idea of a startup accelerator relates to the hip with what other support programs are putting forth to their target market.

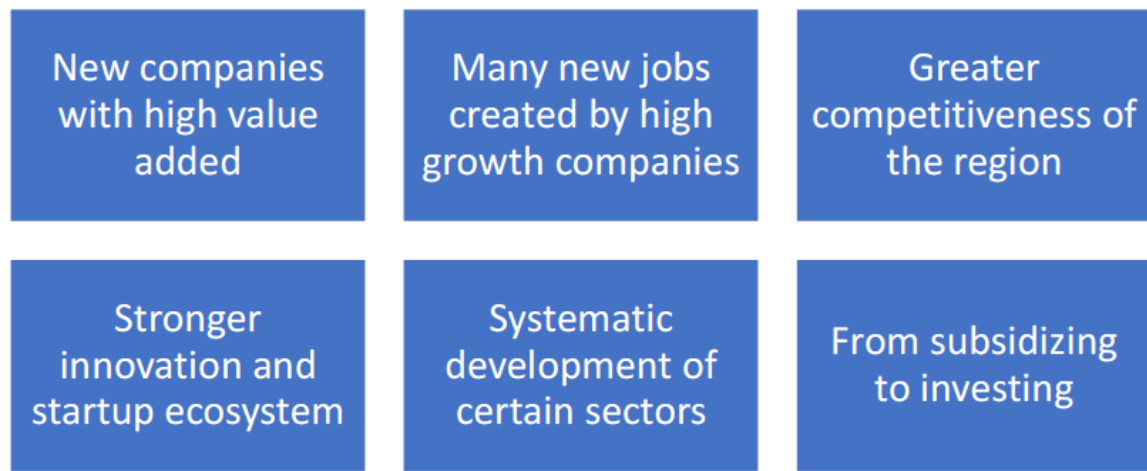
Another significant task of public accelerators is creating opportunity to knowledge transfer among startup ecosystem members by joining all of them together. When the critical mass of people with entrepreneur minds is reached in the region, it leads to the development of the local startup ecosystem. The first requirement for this transformations is close partnership within all the active participants, including mentors, investors etc. A government backed accelerator is capable to perform an important role in bringing together all interested parties and boost knowledge transfer.

For governments public accelerators can serve as an effective instrument to achieve their technological or economic development plans in the regions. Accelerator structure enables to advance particular competences of the region by supporting talented students, commercializing technologies to conduct scientific research and so on.



Finally, the government can dispense a portion of the assets it used to help businesses with endowments to co-invest into enterprises collectively with private investors. This will initiate extra private investor movement due to the leveraging. At the same time more significantly, the valuable information is exchanged from outstanding investors to government workers. Thus, government backed accelerators could be an extraordinary example of overcoming adversity of public private cooperation.

The reasons for founding a public accelerator can be summarized as follows:



**Figure 6.** Reasons for founding a public accelerator

*Source: Adapted from "Accelerator: joint guide to develop acceleration programmes", Kos B. (2017)*

The main benefits the government will receive from creating a public accelerator according to B. Kos (2017) are following:

- Methodical and comprehensive assistance of business ecosystem, extending it from just promotion of entrepreneurship, which leads to creation of new job places and raising the number of new firms.
- Sparking young talents in various sectors, social layers, segments and not so obvious potentials all over the country, systematically increasing level of competition of the state.
- To boost innovation in the internal startup ecosystem by attracting skilled specialists from abroad who will share their latest knowledge in respective areas.
- Purposely development of lacking or less developed industry sectors or market niches to create competences in new areas for the country.

- Transformation from subsidizing to investing, which can be more feasible strategy for companies, by reinvesting profits into new enterprises.

Due to the effectiveness the accelerator model in the business ecosystem itself, more and more municipalities are using this method all over the world. These are some of the examples of public accelerators:

- Startup Chile – well-known and successful public accelerator, where many new companies outside Chile also participate.
- German Accelerator – serving as a link for German IT and life science startups to get access to US mentors and investors.
- Nordic Innovation House – links Scandinavian countries startups to US financial sources and market opportunities, can be an example of international collaboration.
- UK Defense & Security Accelerator – an example of specifically focused in one sector government specialized accelerator.
- Dubai Future Accelerator – a government initiated accelerator focused in social and humanitarian projects for its participant startups.
- Startup Slovenia – Successful public funded accelerator with powerful educational component, combining both private and government funds.
- LAUNCHub Ventures – Bulgaria based accelerator where the investment sources come from EIF line by JEREMIE scheme. The program and funding is managed by private company.

From the above mentioned accelerator programs, can be observed the large diversity of their focus ranging from development of narrow industry sectors to various social segments, to boosting startup ecosystem growth or transformation into public investment model from old fashioned subsidized way, etc.

#### **4.2.2. University Linked Accelerator Programs**

Universities were always one of the important sources of knowledge creation and technology advancement, where people are trained creative and methodological thinking skills to advance the existing knowledge. University linked accelerator programs are not

new, since the universities were always closely involved in innovation focused accelerators, and can be characterized with high level of cooperation with universities focusing to provide educational services. They cater extensive courses for students, researcher and to related stuff to seek business niches and markets for their inventions with using their competences in research facilities and laboratories. The programs are normally held during the summer break periods.

The motives behind running accelerator programs for most Universities is based on the recognition of their important role in promoting regional business activities. There are significant differences in their model from profit oriented private accelerators, and which creates favorable advantages for the enterprises. In almost all cases they provide access to laboratory, physical space and workshop facilities, combined with suitable terms in equity arrangement.

In contrast to typical accelerators, university based programs are mostly non-profit financed by corporations or run by fixed tuition fee, and do not ask for share in the equity of student established ventures. They generally offer seed grants to the startups activities to foster their growth mainly in the idea stage, due to the lack of competences of their participants in business fields. University accelerators assistance and activities in providing mentoring, technical support, access to facilities and networking are practically the same as other type of accelerators, which also includes Demo day at the end of the course (Dempwolf, 2014). Several universities offer their services to the faculties and graduated students, such as StartX at Stanford.

In the following, there is a list of various university and research based accelerators:

- LaunchYU, Canada – the AccelerateUP program lasting four months is intended to help early stage ventures to launch, scale up and manage their activities.
- TechCelerator, US – they offer pre accelerator program focused to incorporate research into startups.
- StartX Stanford, US – Stanford University based accelerator program.
- Cicada Innovation, Australia – joint accelerator program offered by several Australian universities.

- Bond University, Australia – designed to develop potential ideas from classroom to further, offered for students.
- Harvard Biomedical & Engineering Accelerators, US – relates to two specialized accelerator programs offered by the same prestigious university.

The trend in university linked accelerators shows to shifting into more specialization, as in technology focus, offered laboratory services and stages of development.

UBI Global, the Stockholm-based research and advisory firm study revealed following university related or collaborated accelerator programs as the leading in the world of its kind for 2017/18 (UBI Global,2018):

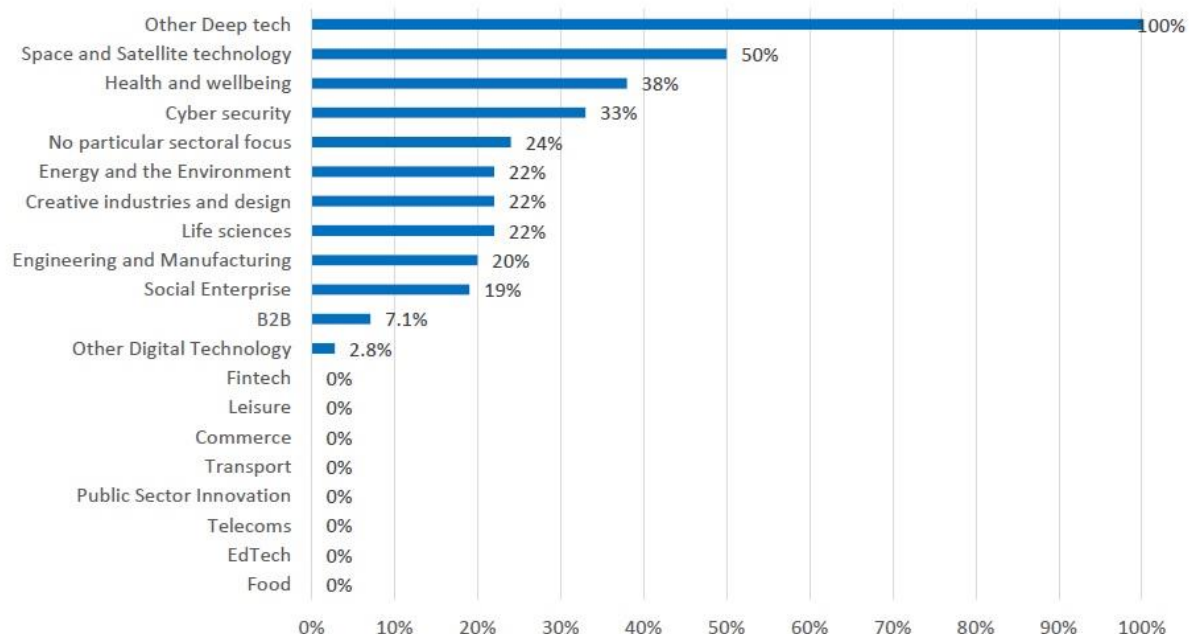
#1 – York Entrepreneurship Development Institute, Canada

#2 – Entrepreneuriat Laval Inc., Canada

#3 – TEC Edmonton, Canada

#4 – The Accelerator Centre, Canada – *jointly shared with* – imec, Belgium

Below the graphs represent the main focus areas of 100 percent publicly funded accelerator programs all over the UK, based on information of 150 programs.



Total number of programs that provided information on their sectoral focus and funding sources = 150.

**Figure 7.** Percentage of accelerators focusing on each sector which are fully university and public funded in the UK.

Source: Adapted from "Business incubators and accelerators: The national picture", Bone J. (2017)

### 4.2.3. Corporate Accelerators

“Corporations are showing high collaboration with startup founders and the broad business ecosystem around them”, said Bobby Franklin, President and CEO of NVCA. One reason for such intense collaboration for accelerators with corporates is the maturing accelerator industry. In 2018, 52.1% of all accelerators were funded by corporates (GUST, 2018).

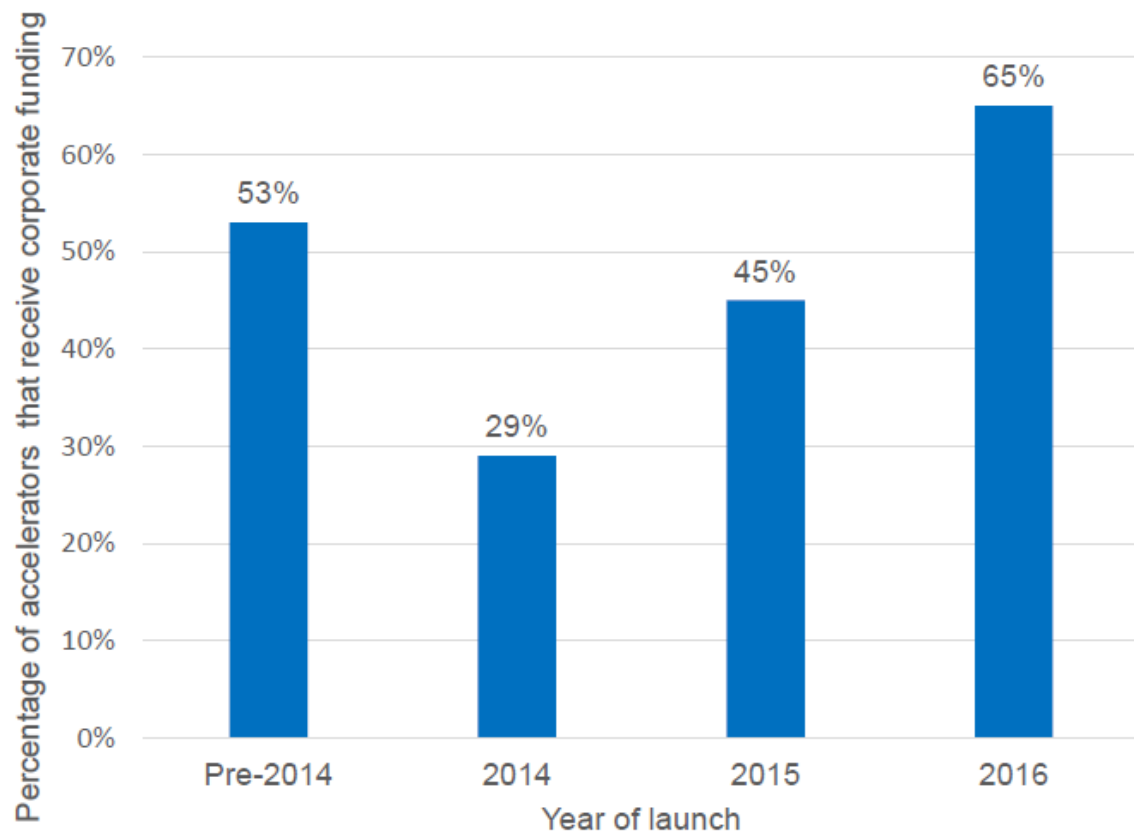
Global Accelerator Report (2016) indicates 5 different directions Corporates benefit from partnering with accelerators:

- **Fast and cost effective launching a program:** corporations can shorten the time necessary for developing new skills in acceleration business by cooperating with accelerators, and benefit from implementing the best traditions of accelerators cultivated throughout their activities.
- **Improving deal flow:** this will give access to accelerators wide network potential and marketing facilities.
- **Staying advanced:** corporates have acquired the lesson that in technology driven world competitors are arising often from startups, not from the well-established old companies. They can have intuition into the disruptive innovative ideas in their market segment by accessing to accelerators deal flow.
- **Nurturing an innovative corporate culture:** to do so they can choose to appoint their corporate managers as mentors in the accelerator or they can allow their executives to innovate. In the second scenario a new product could be introduced into a startup which is then accelerated by the accelerator.
- **Presenting the brand into more innovative perspective:** by lining up with accelerators and the startups they manage, which have proven to be innovation symbols in the minds of general public.

According to J. Bone "Business incubators and accelerators: The national picture" (2017) report the proportion of accelerators financed by corporates since 2014 is 65%, with only 29% before 2014 for the same indicator all over the UK. This results clearly indicates the trend of how the businesses are showing more interest into collaboration with accelerators. These collaboration of initiating accelerators by corporations can give access to develop

disruptive business ideas capable to change how the businesses work internally, which are usually being created by small startup teams.

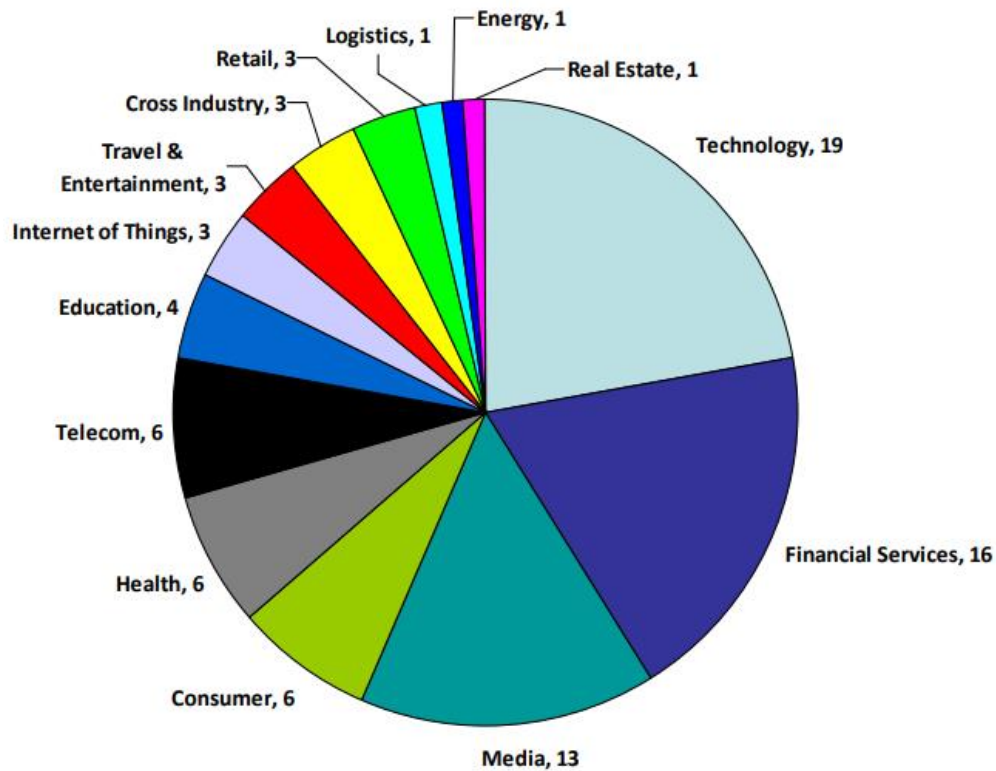
Below, the chart represents share of corporate accelerators founded in the UK from 2014 to 2016.



**Figure 8.** Share of corporately funded accelerators that launched in 2016, 2015, 2014, and pre-accelerator in 2014, in the UK.

*Source: Adapted from "Business incubators and accelerators: The national picture", Bone J. (2017)*

Corporates are generally interested in running accelerators in the industry sectors they are based themselves in, meaning the focus of the program is vertical. But this is not always true, in some cases corporate accelerator can be generally focused, if they were funded by international investment, consulting or similar corporates. There is a special term for these kind of programs, targeting social oriented business representatives, which is called impact accelerators. The main focus areas for corporate accelerators are technology, financial service sector and media & entertainment.



**Figure 9.** Corporate Accelerators divided by Sector Orientations.

*Source: Adapted from "Future Asia Ventures" (2016)*

The way how corporates can interact with the accelerators can be distinguished into five distinctive categories according to Hochberg (2016). The simplest form for corporations to join the active programs as a mentor or investors with the perspective of investing into most appealing startup teams. A second form is so called "Powered by", where corporations make agreement with established accelerator programs to run the program for them. The most well-known accelerator participating in this kind of collaboration with corporations is the US based TechStars accelerator. As successful examples of powered by TechStars accelerator collaborations can be mentioned Disney Accelerator, Barclays Accelerator, Sprint Accelerator and Kaplan EdTech Accelerator. In this most prominent model, well-established accelerator programs take the role of managers to run the program from the choosing program format, marketing, organizational issues to hiring specialists and providing co-working spaces if required. The third format of organizing corporate accelerator is establishing it internally using the corporate own resources, examples of these format can be Microsoft, Telefonica and others. The next format is building a consortium, i.e. forming partnership with one or several preferred corporations to operate dual or multiple partnership accelerator. And finally, the last format is an accelerator operating fully inside

the company, with the goal to advance the company's internal teams divided into different product groups.

Startups are considered to bring the innovative ideas into real world faster, because of their size and easiness of internal interaction among the company compared to prestigious wealthy but not agile to implement new ideas as fast due to the bureaucracy, organizational structure subjects. Starting and running accelerator by the corporations could provide these lacking capabilities. This is why many big corporations have already launched or launching their own accelerator programs, such as Microsoft, Intel, Kaplan to involve and benefit from disruptive ideas created in startups until they become too costly to purchase.

"While most corporate-sponsored accelerators pour investment into their participants, they take actual equity stakes in rare cases, and as a matter of fact often advertise that as a feature of the accelerator" (Crichton, 2014). The real value could come from building a product ecosystem around the corporate use case, integrating new workforces into their new ideas.

According to Corporate Accelerator DB, there are 71 active Corporate accelerators worldwide (latest update Dec 20, 2016). Corporate Accelerator DB describes these programs as accelerator programs with additional following criteria:

- They are either owned or sponsored to more than 50% by one or several corporate entities which main business is not work with startups
- The program's objectives are derived from the parent's interest

The corporate accelerator model covers not only high technology sectors, but are being applied across different industries and countries, as an example insurance market with Allianz, healthcare with Bayer, consumer goods with Coca Cola, entertainment with Walt Disney corporate accelerators.

The table below demonstrates some examples of corporate accelerators that are aligning themselves with corporations from the Corporate Accelerator Database:



<b>Company</b>	<b>Accelerator</b>	<b>Funding</b>	<b>Equity</b>
<b>Anheuser Busch Inbev SA</b>	Budweiser Dream Brewery	\$20K	No
<b>AT&amp;T Inc.</b>	AT&T Aspire Accelerator	\$50K+\$25K..	Up to 5%
<b>Barclays PLC</b>	Barclays Accelerator	\$20K	6% to Techst..
<b>BNP Paribas</b>	Innov&Connect	No	No
<b>Intel Corp</b>	Intel Education Accelerator	Up to \$100K	6%
<b>Citrix Systems Inc.</b>	Citrix Startup Accelerator	No	No
<b>Google</b>	Google Launchpad Accelerator	Up to \$50K	No
<b>IBM</b>	IBM Alpha Zone	No	No
<b>Kaplan</b>	Kaplan EdTech Accelerator	\$20K from Techst..	6% to Techst..
<b>Telefonica SA</b>	Wayra	Around \$50K	
<b>Yandex</b>	Tolstoy Summer Camp	No, but some...	No
<b>Telecom Italia SpA</b>	#Wcap Accelerator	25K EUR	No
<b>Microsoft Corp</b>	Microsoft Ventures Accelerator	No	No

**Table 2.** Examples of Corporate Accelerators

*Source: Adapted from Corporate Accelerator DB (data as of June, 2019)*

The primary limitation of corporate accelerator program is the incentives of corporations and the startups may not be the same in the program (Crichton, 2014). Moreover, Corporate involvement could constrain flexibility in the startups development. Startups in corporate accelerators are required to meet product - market fit simultaneously with product - market fit, which can sometimes bring an adapted product to one company's objectives instead of creating high demand product to the whole market. Finally, there is a risk of emerging high codependency, because of overprotection from corporates, not allowing their startup to challenge market forces and missing market adaptation feedbacks (Kohler, 2016).

## **5. ACCELERATOR VALUES**

### **5.1. Vision, Mission and Core Values**

In order to be in the leading positions among accelerator programs, it should have built its vision which will define the direction in the next 5 to 10-year period, stating the accelerators long term strategic plans. To create the vision following requirements should be taken into account:

- To have a clear idea of the final position of the accelerator in the market
- Further development potential, and field of activity of the accelerator
- To prepare plan for maintaining successful performance over long time period
- To specify amount of mentors and investors will be engaged
- The range of nascent firms to attract to the program annually and the strategy for its increase

In terms of mission of accelerator programs, all share common character which is to accelerate new venture foundation process and sustaining its growth with the help of such instruments as capital investment, mentorship, creating networking opportunities and training. This core mission can be further developed and diversified depending on the goals of interested parties and type of the startup accelerator. Corporate accelerator format suits best to keep well-established companies competitive to deal with recent changes in their field of activity, better prepare to upcoming threats or solve specific technological problems. Whereas, typical venture capital funded accelerator are more concerned to reaching higher rate of investment for their investors, and government backed accelerators initiated to create competitive startup environment in targeted sectors of economy and specific regions.

Together with its vision and mission another important aspect for accelerator is to define its core values, which plays important role as an indicator to be chosen by outstanding startups. The startups will be attracted to those programs with clearly described cultural norms and internal regulations. The proper value creation also beneficial to gather startup network sharing similar concepts. As an example for agile cultural values for business accelerators can following statements:

- following clarity and sincerity in the operations

- providing mentorship and trainings only from well established specialists and businessmen in their fields
- Using lean management standards as an alternative for business plans
- Close collaboration with all the investors.

## 5.2. Trends

Another important issue to become a successful representative at present, accelerators need to track emerging international trends continuously and be able to search and occupy not yet focused market segments or industry niches by other accelerators which are strongly expanded in the region. When local needs and gaps in the potential market sectors are identified, the accelerator could choose in which segment it will focus, depending its internal capabilities and bring large amount of young talents in the industry to their program, in order to become successful startup accelerator. The following trends are directly reflective of what sectors accelerators and incubators are focusing in currently.



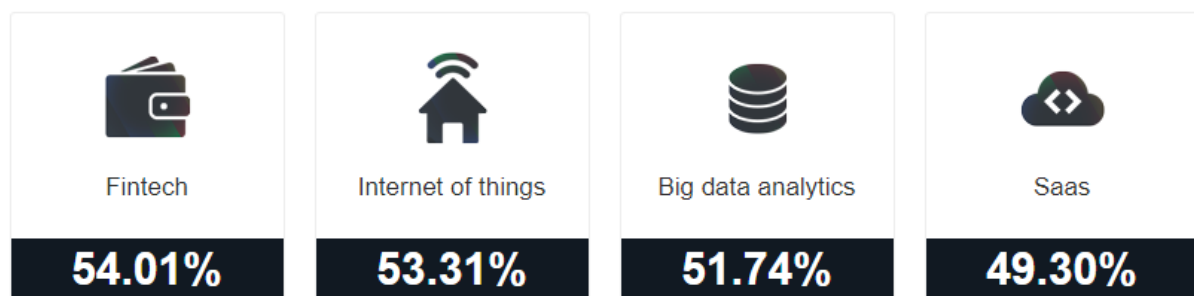
**Figure 10.** Major sectoral focus of Incubators and Accelerators.

*Source: Adapted from "Business Incubators and Accelerators: The National Picture", Nesta (2017)*

However, there are still questions about the role of accelerator programs in the early stage companies' success rate, since it is still quite new phenomenon. The rapid expansion of these programs all over the world recently, are creating data necessary to conduct academic research to study the value and influence of these programs to founder, ventures and the local business ecosystem as a whole.

B. Kos (2017) in his work also identified currently the most attractive and trending fields globally, with the focus to technology as follows:

- Artificial Intelligence
- Virtual reality
- Internet of Things
- Financial and Insurance technologies
- Clean technologies and energy
- Biotechnology (example: <http://indiebio.co/>)
- Smart Cities
- Travel & Hospitality
- Hardware (example: <http://alphalabgear.org/>)
- Medical devices & Equipment
- Business Intelligence
- M-commerce
- Automation
- Additive Manufacturing (3D Printing), New Materials and Packaging.



**Figure 11.** Percentage of accelerator programs, that reported an interest in investing in these markets in the next 12 months.

*Source: Adapted from "Global Accelerator Report", (2016)*

Normal operational model of accelerators until recently was to focusing into 10-30 new businesses for every year by putting \$20,000-\$50,000 in every business. Due to the need of adaptation to fast changes and requirements of the business environment, accelerators are operating throughout the investment life cycle. The maturity of the accelerator business model forces them to find new niches in local startup ecosystems and provide potential investment partners and promoters. These actors comprise public organizations,

universities and corporations. The current state of the operational models of accelerators have expanded eternally, and as a result are vanishing boundaries among accelerators, incubators and early stage investment funds. According “Global Accelerator Report 2016” from the total 579 accelerators included in the report, 35.9% of them characterized as a combined accelerator, incubator, venture capital fund, and/or angel group.

Top 10 countries by investment			Top 10 countries by startups accelerated		
	United States	\$ 105.544.072		United States	2.930
	United Kingdom	\$ 18.000.573		United Kingdom	992
	Chile	\$ 11.323.555		France	612
	Spain	\$ 7.857.851		Israel	608
	Germany	\$ 6.775.534		Mexico	523
	Mexico	\$ 5.166.931		Brazil	491
	Brazil	\$ 4.331.701		Chile	467
	Australia	\$ 4.294.699		Spain	428
	Israel	\$ 3.078.988		Canada	339
	India	\$ 2.948.625		India	267

**Figure 12.** Accelerator business activity summary for the 2016 year.  
*Source: Adapted from “Global Accelerator Report”, (2016)*

### 5.2.1. Digital Trends

UBI Global highlighted in its “Best Practices 2018: How Business Incubators & Accelerators Should Adapt to Emerging Trends” article, the main digital trends in accelerator businesses as to be in the field of Internet of Things (IoT) and Big Data with higher specialization within specific market segments. Below the most disruptive trends in traditional industries are described.

#### Fintech

Fintech stands for shortened version of financial technologies, is the technology which applies innovative approach to contest traditional financial practices in the distribution of financial services (Tom C. W. Lin, 2015). This is a rising digital trend initially concerned

commercial financial institutes and back end customers, currently extended covering any innovation focused technology connected with financial field, which also includes web based banking, education, investment and crypto currencies. This area demonstrates a few traverses with other raising trending sectors as retail, along with digital security.

## Agritech

Agritech focuses on enhancing yield, effectiveness, and profitability as a result of implementing advanced technology in cultivation, aquaculture and horticulture. The term can be related to products and services also the implementations obtained from traditional agriculture which enhances functional procedures. Meanwhile, aquaculture, viticulture and forestry can benefit from the application of Agritech. From climate examination, pest control, air and soil temperature monitoring, Agritech organizations additionally improve items and services to control water system and solar systems, also with the help of drones.

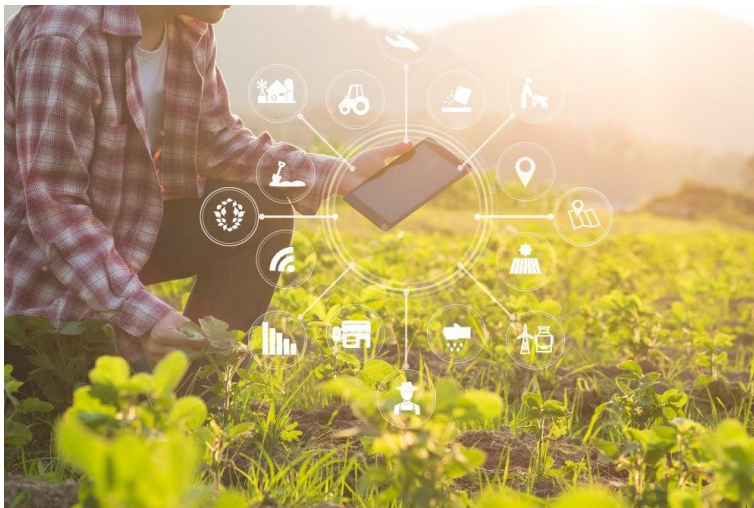


Image source: Shutterstock

## Edtech

Education technologies entails application of hardware and software solutions to assist learning and increasing efficiency of students with the establishing suitable technical processes and systems. This sector was not showing high increase for many years, however, the boost in activities of online entrepreneurs led to Edtech revolution lately. These businesses are utilizing innovation to convey another design of learning. Benefiting from the better coverage of the internet to convey customized education and preparing, that can

respond to the person's expectation to absorb information; these innovations depend on Big Data to be progressively productive and powerful.

## **Smart Cities**

A Smart city is an urban zone that utilizes various kinds of electronic Internet of things (IoT) sensors to gather information and afterward utilize this information to oversee resources and assets proficiently. Business visionaries associated with arranging smart urban areas utilize several unique kinds of sensors to gather information that is utilized to deal with the resources of the city more productively. The IoT acts vigorously in the smart city matrix, optimizing administrations and interacting with citizens and their needs. However, the consequences are still not clear of such heavy interaction of technologies into personal spaces, also from the cultural point of view. Despite these, it is expected to deliver enhanced quality of living, more structured urban development with less expenses for its citizens through smart technologies.



Image source: Shutterstock


## **Cyber Security**

Intended to ensure the framework including the network and information from digital assaults, cyber security applies to the associations and the people who use it. Business entities in digital security are on the forefront of the methods utilized for information assurance. Almost all the trending digital industries demand for it.

## 6. CASE STUDIES

### 6.1. Techstars

#### Overview

	
<b>Founded</b>	Oct 1, 2006
<b>Headquarters</b>	Greater Denver Area, Western US
<b>Number of companies funded to date</b>	1,678
<b>Initial funding</b>	\$20,000
<b>Equity required</b>	6%
<b>Program duration</b>	3 months
<b>Revenue for 2018</b>	\$11.7M

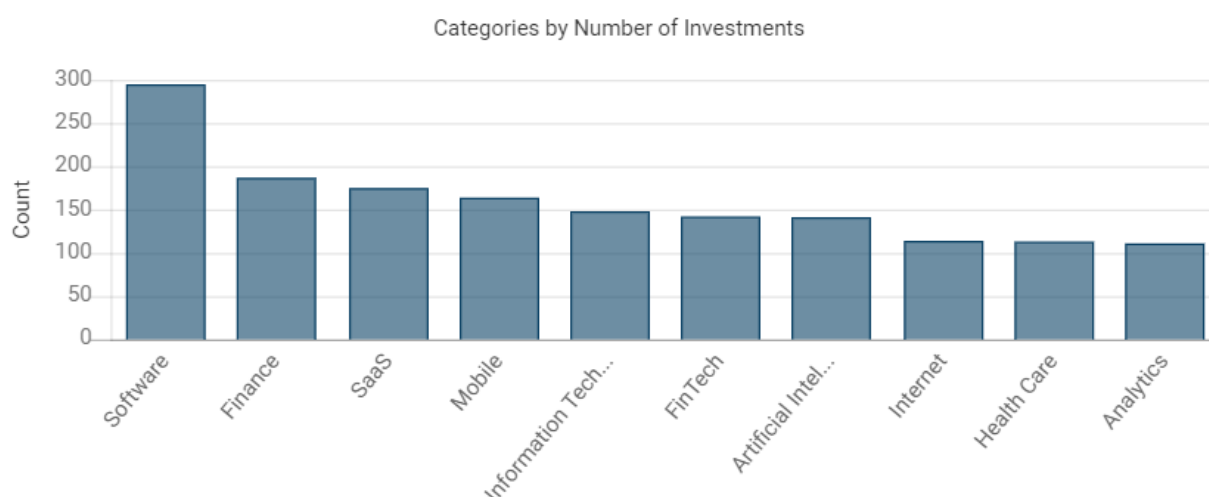
Note: Data as of June 2019.

**Table 3.** Overview of Techstars

Source: Adapted from crunchbase.com

TechStars is a for-profit, mentorship driven “venture accelerator” which is designed to fund and accelerate the development of very early stage startups to a point where they can assure angel or venture capital financing, be acquired or grow to profitability (NI: VAN, 2011).

#### Statistics & Figures



**Figure 13.** The main areas of Techstars investment.

Source: Adapted from crunchbase.com



## 6.2. Y Combinator

### Overview



<b>Founded</b>	Mar 1, 2005
<b>Headquarter</b>	San Francisco Bay Area, Silicon Valley, West Coast
<b>Number of companies funded to date</b>	2,364
<b>Initial funding</b>	\$150,000
<b>Equity required</b>	7%
<b>Program duration</b>	3 months
<b>Revenue for 2018</b>	\$10.1M

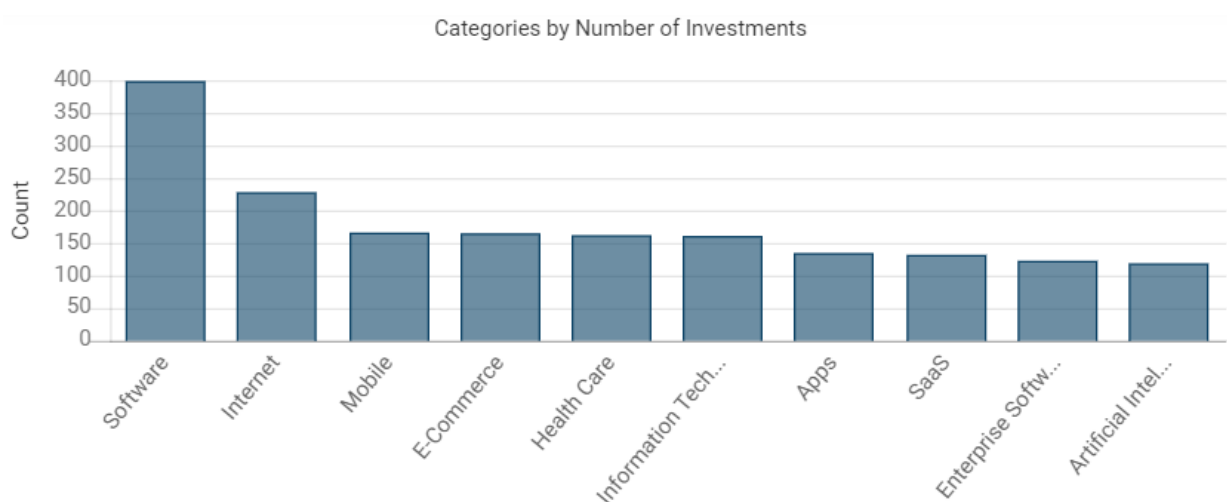
Note: Data as of June 2019.

**Table 4.** Overview of Y Combinator

*Source: Adapted from crunchbase.com*

Y Combinator, founded in Silicon Valley in 2005, is the pioneer of the startup accelerator program, consistently positioned at the top ranks in the US and worldwide. In 2017 *Forbes* classified Y Combinator as one of two "Platinum Plus Tier U.S. Accelerators", with the second one in the list AngelPad.

### Statistics & Figures



**Figure 14.** The main areas of Y Combinator investment.

*Source: Adapted from crunchbase.com*

### 6.3. Startupbootcamp

#### Overview



<b>Founded</b>	2010
<b>Headquarter</b>	European Union (EU)
<b>Number of companies funded to date</b>	526
<b>Initial funding</b>	€15,000
<b>Equity required</b>	6-8%
<b>Program duration</b>	3 months
<b>Revenue for 2018</b>	\$3.2M

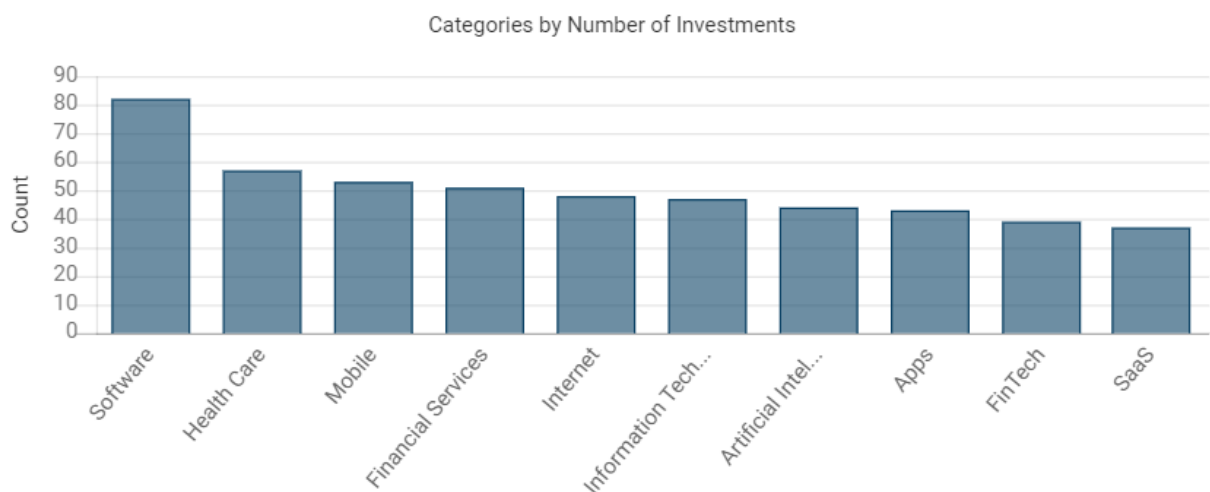
Note: Data as of June 2019.

**Table 5.** Overview of Startupbootcamp

*Source: Adapted from crunchbase.com*

Startupbootcamp was established in 2010, is a network of industry-oriented startup accelerators. Currently, it operates worldwide with 20+ industry-oriented programs in such major cities as Amsterdam, Berlin, San Francisco, London, Melbourne, Miami, Mumbai, Mexico City, New York, Cape Town, Chengdu, Dubai, Hartford, Istanbul, Rome and Singapore (Wikipedia).

#### Statistics & Figures



**Figure 15.** The main areas of Startupbootcamp investment.

*Source: Adapted from crunchbase.com*

## 6.4. 500 Startups

### Overview

<b>500startups</b>	
<b>Founded</b>	Apr 1, 2010
<b>Headquarters</b>	San Francisco Bay Area, Silicon Valley, West Coast
<b>Number of companies funded to date</b>	1,950
<b>Initial funding</b>	\$150,000
<b>Equity required</b>	6%
<b>Program duration</b>	4 months
<b>Revenue for 2018</b>	\$5M

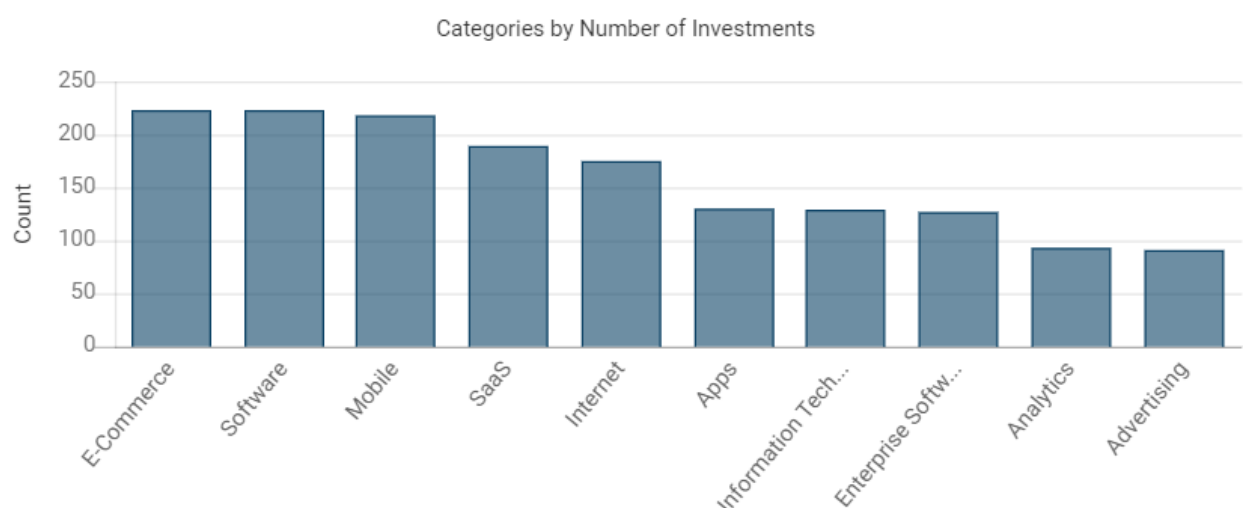
Note: Data as of June 2019.

**Table 6.** Overview of 500 Startups

Source: Adapted from crunchbase.com

500 Startups founded in 2010 by Dave McClure and Christine Tsai is an early-stage startup fund and seed accelerator (Wikipedia). It has a network of startup programs, operating in close relationship with tech giants in the Silicon Valley, where its headquarter is also located.

### Statistics & Figures



**Figure 16.** The main areas of 500 Startups investment.

Source: Adapted from crunchbase.com

## **Conclusion**

During the last 15 years, accelerator business model has expanded worldwide becoming one of the preferred early stage company support mechanism. Accelerators have played major role in becoming successful thousands of firms. The model has emerged in US close to high technology firms based areas, later taking different forms and specializing in particular industry verticals. In the thesis four key step were identified in the accelerator program: selection, education and mentorship, demo day and follow-on. It is necessary to note that while the networking, mentorship and education elements element of the program seems similar, they highly distinct in the way of public and for-profit oriented accelerators. The next step in the study is to compare similarities and differences in the activity of accelerator and business incubators, which is well established and mainly publicly funded startup support program.

Since from their foundation to nowadays the accelerator business model has emerged into various forms and focused in different industries. In the fourth chapter, accelerators were analyzed by two main categories: by their focus and by the key partners involved. They can be differentiated into pre-, typical, vertical and virtual by their focus of development stage of ventures and industry specializations. In the next subcategory accelerators are separated into government backed, university based and corporate accelerators. Due to the maturing of the model and the recognizing arising benefits for corporations, the last form is becoming very popular and makes up 52.1% of all accelerators established in 2018 (GUST, 2018).

Despite its popularity, there is still debates around the value added benefits of the accelerator programs. There are still few statistical data on the success rate of startups which went through accelerator programs due to the newness of this phenomenon, especially in emerging markets. As mentioned in the study, accelerators always need to look for new ways to address local business needs, its resources and to know current development stage of the sector and the whole ecosystem. Also, it is crucial to develop integrated network of domestic and international partners to increase the range of offered services and mentors in order to make accelerator community attractive for startups.

## References

- Blank S. (2013) "Why the Lean Start-up changes everything" *Harvard Business Review*
- Cohen S. (2013) "What Do Accelerators Do? Insights from Incubators and Angels." *Innovations: Technology, Governance, Globalization* 8, no. 3-4
- Cohen S. and Hochberg Y. V. (2014) "Accelerating Startups: The Seed Accelerator Phenomenon" *SSRN Electronic Journal*
- Nesta (2014) "STARTUP ACCELERATOR PROGRAMMES: A Practice Guide"
- Miller P. and Bound K. (2011) "The Startup Factories: The rise of accelerator programmes to support new technology ventures" *Nesta*
- Herman J. A. (2015) "Start-up Development in Latin America: The Role of Venture Accelerators" *MIT: Sloan school of Management*
- Hochberg Y. V. (2016) "Accelerating Entrepreneurs and Ecosystems: The Seed Accelerator Model" *University of Chicago Press*
- Dempwolf C. Scott, Auer J. and D'Ippolito M. (2014) "Innovation Accelerators: Defining Characteristics Among Startup Assistance Organizations" *Optimal Solutions Group, LLC, College Park*
- <https://medium.bmannconsulting.com/what-is-a-startup-foundry-ed0821c8278b>
- [https://en.wikipedia.org/wiki/Startup\\_Weekend](https://en.wikipedia.org/wiki/Startup_Weekend)
- Barba M. J. (2016) "Startup Accelerators models: The Nova SBE recommendation" *NSBE: Nova SBE - MA Dissertations*
- Bone J., Allen O. and Haley Ch. (2017) "Business incubators and accelerators: The national picture" *Nesta, BEIS research paper number 7*
- Blaz K., Venturelab d.o.o and Mojca Cvirn (2017) "Accelerator: JOINT GUIDE TO DEVELOP ACCELERATION PROGRAMMES" *Technology park Ljubljana*
- Carvalho A. C. (2016) "Digital Startups Accelerators: Characteristics and Evolution Trends" *FCT: DEMI - Dissertações de Mestrado*
- <https://www.ycombinator.com>
- Tasic I., Montoro-Sánchez A. and Cano M.D. (2015) "Startup Accelerators: An Overview of the Current State of the Acceleration Phenomenon" *XVIII Congresso AECA. Cartagena*
- <https://www.seed-db.com/accelerators>

Hoffman D. L and Radojevich-Kelley N. (2012) "Analysis of Accelerator Companies: An Exploratory Case Study of Their Programs, Processes, and Early Results" *Small Business Institute® Journal*, 2012, Vol. 8, No. 2, 54-70

Kohler T. (2016) "Corporate accelerators: Building bridges between corporations and startups" *Business Horizons*, 2016, vol. 59, issue 3, 347-357

Kanbach Dominik K. and Stubner S. (2016) "Corporate Accelerators as Recent Form of Startup Engagement: The What, The Why, And The How" *The Journal of Applied Business Research* – November/December 2016

Future Asia Ventures (2015) "Corporate Accelerators 2016 Outlook" *Small Business & Entrepreneurship*

Amezcuca A. S., Grimes M. G., Bradley S. W. and Wiklund J. (2011) "Organizational Sponsorship and Founding Environments: A Contingency View on the Survival of Business-Incubated Firms, 1994–2007" *Academy of Management Journal* Vol. 56, No. 6

Hackett S. M. and David M. D. (2004) "A Systematic Review of Business Incubation Research", *The Journal of Technology Transfer*

<https://corporate-accelerators.net/database/index.html>

<https://techcrunch.com/2014/08/25/corporate-accelerators-are-an-oxymoron/>

The World Bank (2011) "Nurturing Innovation: Venture Acceleration Networks. A review of existing models"

<https://www.crunchbase.com/organization>

GUST (2016) "Global Accelerator Report 2016"

Mohr T. (2018) "Funding & Exits — Chapter 9: Incubators, Accelerators, Angels and Seeds"

<https://ubi-global.com/revealed-worlds-top-university-linked-business-incubators-accelerators-17-18/02/>

<https://ubi-global.com/best-practices-2018-how-business-incubators-accelerators-should-adapt-to-emerging-trends/05/>