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THE START-UP ECOSYSTEM AND VENTURE CAPITAL

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Start-ups play one of the most significant roles in the current global economic development. The business environment or the business ecosystem is well known in entrepreneurship. The start-up ecosystem is defined as a region with a limitation of 30 miles, consisting of entrepreneurs, start-ups, and various supporting organizations, which interact with each other. The level of success of a start-up is positively correlated with the environment in which it is operating. One of the supporting factors in the start-up ecosystems is corporations, which try to connect with start-up companies using corporate acceleration programs.

Key words: *Start-up ecosystem, corporate start-up engagement.*

СТАРТАП-ЭКОСИСТЕМА И ВЕНЧУРНЫЙ КАПИТАЛ

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Стартапы играют одну из самых значительных ролей в современном мировом экономическом развитии. Бизнес-среда или бизнес-экосистема хорошо известны в предпринимательстве. Экосистема стартапов определяется как регион с ограничением в 30 миль, состоящий из предпринимателей, стартапов и различных вспомогательных организаций, которые взаимодействуют друг с другом. Уровень успешности стартапа положительно коррелирует с окружающей средой, в которой он работает. Одним из поддерживающих факторов в экосистемах стартапов являются корпорации, которые пытаются установить контакт со стартап-компаниями с помощью корпоративных акселерационных программ.

Ключевые слова: *стартап-экосистема, корпоративное стартап-взаимодействие.*

Introduction

James Moore (1993, pp. 75-86) defined the term ecosystem in entrepreneurship, implying that companies cannot evolve with full potential without the excellent cooperation among each other, its customers, suppliers, and financial institutions. Therefore, start-up companies can evolve and grow more efficiently with the support and benefits of the regional start-up ecosystem (Mocnik and Rus, 2015, p. 16). There have been significant changes in the past decades in the concept of the ecosystem. Regarding business and within the application to the business field is the concept identified as a business ecosystem. Companies collaborate to enhance the stakeholders' added value (Tripathi et al., 2019, p. 18). A start-up ecosystem functions similarly, as an interaction of start-up companies with their supporting elements to enhance and accelerate their development and growth (Tripathi et al., 2019, p. 20).

Research question, methods of work and research

This research applies the start-up ecosystem concept to examine and compare systems of institutions, businesses, and processes concerning the venture capital and involvement in ecosystems. With the use of relevant secondary data, a categorical comparison of ecosystems is developed regarding their relative potential for corporate engagement.

The purpose of the study is an analysis of the start-up ecosystems from a corporate perspective to research:

- The current state of corporate acceleration in ecosystems;
- Objectives of corporations within the start-up ecosystem;
- Mostly used corporate acceleration programs;
- The level of strategic and financial business opportunities within an ecosystem for corporate involvement.

The literature on the topic was collected and explored in the literature review to explore the phenomena and the start-up ecosystem's critical characteristics. To assess the relevant aspects of the start-up ecosystem for this study, the literature on corporate engagement with start-ups was examined and used to create a framework and identify categories for the final comparison of start-up ecosystems. The following chapter provides an insight into the start-up ecosystem, its supporting factors, roles of corporations within the ecosystem, and how corporations collaborate with start-ups.

The Start-up Ecosystem

A start-up is a company, a partnership, or a temporary organization, searching for a repeatable and scalable business model (Blank, 2010, p. 11). It plays an essential role in innovation processes (Spender et al., 2017, p. 2). At the early stages of a start-up development, new ideas are created and introduced to the market, potentially evolving the start-up to a sustainable enterprise. The authors describe a start-up as a new temporary venture capital without a history of operations and state that the success of a start-up highly depends on the level of its cooperation with external partners since they lack financial and human resources which are needed for the development and growth (Spender et al., 2017, p. 18). Therefore, it can be concluded that start-ups (1) lack of resources (2) depend on external partners.

The environment where start-ups operate in a start-up ecosystem refers to a network of connected and interactive elements and factors within a limited region, even though the interdependence of the elements within the ecosystem is the level of contribution to the success of a start-up among the actors different (Van de Wiele et al., 2017, p. 4). A Start-up ecosystem can also be defined as a: "group of organizations interacting to create and facilitate the success of start-up companies" (Spender et al., 2017, p. 15).

Both definitions point out the importance of external entities for a start-up company. To provide an overview and synergies of a start-up ecosystem, Tripathi et al. (2018, p. 11) categorized a start-up ecosystem network to seven elements: Entrepreneur, Support factors, Finance, Demographics, Market, Education, Human Capital, and Technology.

Similar, in the concept of an entrepreneurial ecosystem by WEF (2017, p. 7), which structures the entrepreneurial ecosystem into a total of eight pillars, the support system pillar resembles the support factors of Tripathi et al. (2018, p. 11) with four components: mentors/advisors, professional services, incubators/accelerators and network of entrepreneurial peers. In a broader perspective, Spender et al. (2017, p. 26) identify four main influences in terms of support to the start-up as incubators, venture capitalists, large corporations, and universities. The authors point out that managing the relations with actors offering support within the ecosystem is a must for a successful start-up.

By th aligning categorizations by WEF (2017, p. 7), Tripathi et al. (2018, p. 11), and Spender et al. (2017, p. 26), can we acknowledge the importance of supporting factors within the start-up's environment. Hence, all the categorizations also indirectly emphasize the importance of the market, institutions, financing, regulations, talent, and infrastructure. However, for this research, without minimizing the role of other factors, incubators and accelerators, venture capital, large corporations, and educational institutions are explored as identified by Mocker et al. (2017, p. 26). Additionally, the role of government regulations within the ecosystem is examined to identify the connection with the start-up.

Accelerators

Cohen (2013, p. 13) broadly describes accelerators' activity as helping venture capital with intangible assets like marketing as with the help of tangibles like capital and employees. Specifically, the author states that accelerators provide programs of limited duration from 3-6 months, providing seed capital and working space. Incubators are distinguished from accelerators by the following facts; an incubation program's duration is more extended, from 1 to 5 years, whereby acceleration programs last 3-6 months in general. Incubators also usually have a non-profitable business model, whereby accelerators can also pursue financial objectives. The level of involvement and mentorship from accelerators is higher as from incubators that offer lower mentorship support.

Tripathi et al. (2018, p. 13) position incubators' role in the earlier stages of a start-up's development, during the transformation of an idea into a start-up. After identifying and developing a disruptive business potential, an acceleration program would benefit the venture capital to create an applicable business model with a broader network and, if needed, to receive an early stage or further funding.

Dempwolf et al. (2014, p. 16) narrow down the characteristics of an accelerator which:

- follows a business model,
- assists start-ups to obtain further funding,
- at least offers mentorship, education and investor networking,
- target and select start-ups through a competitive selection process,
- focus on the seed and pre-seed stages,
- target technology-specific industry.

Accelerators offer high potential value to the start-up in terms of acquiring knowledge through the mentoring processes, additional investment rounds from seed capital to an initial public offering. The most successful accelerators have developed relatively strong brands with their past performance, enhancing their network with investors and increasing their attractiveness for future start-up applicants (Dempwolf et al., 2014, p. 17). However, the authors also broadly categorize accelerators as for-profit and non-profit, acknowledging the importance of accelerators for the public good to impact local and regional economic development with organizations such as university accelerators or incubation programs supported by state funding.

Venture Capital

Pursuing strictly financial objectives is venture capital, a professional asset management activity that invests in new ventures, usually with a high-risk, high-return portfolio. VC raises money from an individual as from institutional investors. VC is most likely to invest in younger companies. Hence it acts as an intermediary for start-ups, which are usually risky to invest in. According to the study, VC has a positive impact on both micro and macroeconomic levels, such as a rise in employment levels or fostering research and development (Grilli et al., 2019, p. 2). The publication by Lerner & Kaplan (2016, pp. 3-6) also implies the positive impact of venture capital on a country's economic development, as it creates opportunities for future entrepreneurs within the innovation culture, directly impacting job creation. The presence of VC within a start-up ecosystem depends on the effectiveness and transparency of the financial and legal systems and the liquidity in the stock market.

Similar to accelerators, venture capital most likely targets younger companies, targeting new technologies within undeveloped markets, which once again represents a high-risk investment with the possibility of higher returns. However, as accelerators cooperate with start-ups for six months on average (Dempwolf et al., 2014, p. 19), VC invests for a more extended period (Lerner and Kaplan, 2016, p. 13). Hence, according to the publication, entrepreneurs and venture capital are interdependent. Several supporting systems within the start-up ecosystem provide a total benefit for venture capitalists: the regulatory framework, talent, presence of other private equity/investment firms, and incubators/ accelerators offering investment opportunities. The authors also emphasize the importance of larger companies, which impact the development of entrepreneurship and present investment opportunities with spinoffs. Following the levels of risk of VC investment, the liquidity level on the markets must be high, for easier management of the VC's portfolio, also in terms of exit strategies (Lerner and Kaplan, 2012, p. 36).

Laws and Regulations

The role of the government plays one of the critical supporting factors within the start-up ecosystem. Hence, the government is responsible for the proper environment regarding creating and developing new companies, which subsequently increases investors' and investment-related companies' presence. Provided with the examples of Hong Kong and Finland, where the government either improves the legal procedures regarding start-ups operations or directly cooperates with larger companies to provide resource support start-up companies (Tripathi et al., 2018, p. 14). The growth of a start-up ecosystem is positively correlated with a suitable regulatory environment. Silicon Valley, for example, with its beneficiary regulatory framework for start-ups attracts, fosters the start-up's relocation to the respected area (Tripathi et al., 2018, p. 15). Governments can directly foster the nation's economic development by supporting the creation and growth of the start-up ecosystem with:

- tax exemptions,
- creation of government-funded incubation and innovation centers,
- supporting the creation of new companies,
- healthy legal environment regarding IP rights (Hazarika and Shivakumar, 2018, p. 5),
- trade regulations,

- encouragement of innovation (Van de Wiele et al., 2017, p. 12).

On the contrast, some authors claim that the role of the government in funding and subsidizing of start-ups should be minimized in order to foster the "natural selection processes" among the newly established companies, aiming at the survival of the start-ups, which can find financial and other resources on their own. Despite the willingness of specific government incentives to foster the innovation-driven economy, their efforts have to be balanced accordingly. According to the author, many governments on all levels have wasted substantial amounts of capital to create a healthy business environment. Governments can reduce their risk levels of failed investment by focusing on beneficial policies and laws for both start-ups and established businesses, which would embrace the funding of start-ups by the private sector (Van de Wiele et al., 2017, p. 61).

Large Corporations

Van de Wiele et al. (2017, p. 66) emphasize the importance of large corporations within the ecosystem. Established companies attract potential talent to regions of their operation. Besides, they often provide business training programs for the employees, either in technical skills or managerial knowledge, ultimately benefiting the founders of start-ups who worked in large companies beforehand. Larger companies can offer valuable resources to new ventures, such as working space or even funding and provide exit opportunities to the start-up with equity acquisitions, depending on the established company's objectives. An established global company's presence can promote a geographic area, which consequently helps the start-ups operating there.

More massive, established corporations seek new ways and overall struggle with in-house innovation. Due to the disruption and growth of start-ups and their orientation toward tech-specific industries, there has been an increasing trend of corporate involvement in start-ups, which increases their relevance within the start-up ecosystem (Weiblen and Chesbrough, 2015, p. 69).

From the literature review of this chapter, it can be concluded that (1) accelerators pursue public and private interests, (2) venture capital represents an essential role within a start-up ecosystem, (3) educational institutions are a driver for entrepreneurial growth, (4) the growth of start-up ecosystems is accompanied by government incentives and a supportive regulatory framework. However, larger companies' role and initiative within the start-up ecosystems have to be additionally explored to successfully compare the start-up ecosystems of Shenzhen and Hong Kong from a corporate perspective.

The following chapter presents the corporate involvement with start-ups in greater depth, providing further insights into the phenomena, also providing theory on the corporate correlation with accelerators and venture capital.

Corporate Start-Up Initiative

Corporate engagement into start-ups is not limited to corporations operating only in a technology-specific industry. Corporations like Coca-Cola have already recognized the importance and benefits of start-up involvement, incorporating innovation into their business models. They tackle the corporate entrepreneurship dilemma by using the external environment to improve the ability to innovate with open innovation (Mocker et al., 2015, p. 14).

Authors point out the implications of the growing trend of corporate start-up engagement with the growth of corporate acquisitions of start-ups, increasing investment by corporate-owned venture capital, and the growing number of corporate supported accelerators (Mocker et al., 2015, p. 8).

From engaging with start-ups, corporations have certain expectations of how cooperation contributes to their strategy. They try to find and develop solutions in the external environment, less capital intensive.

Mocker et al. (2015, p. 12) provide overlapping objectives of a corporate start-up engagement as in Kohler (2016, p. 28):

- to rejuvenate corporate culture,
- to innovate big brands,
- solve business problems,
- future market expansion.

Corporate Venture Capital

This type of engagement usually pursues financial objectives by the corporation and matches with their strategic objectives, which distinguishes a VC from a CVC. Corporations have to pursue their main objectives and strategies. Hence, the most general practice of CVC is creating a separate corporate venture entity, which is solely owned and financed by the founding corporation, minimizing the risk of the respected engagement to the corporation's core business. However, the risks are still relatively high, depending on the corporation's level of equity involvement. The innovation flow pursed by this corporate engagement is outside-in, meaning that corporations wish to gain and receive insights from the external environment as in addition to potential profit (Weiblen and Chesbrough, 2015, p. 70).

Corporate incubation

Ideas and innovation are often created within the corporation; however, they have a small link to the core businesses and are often discarded from further research and development. Corporate incubation is a way to further develop relatively unrelated products and services to the corporate parent, yet with potential in other markets or even industries. Inside incubation functions similar to external incubation programs, where the new venture is created and provided with funding, expertise, and contacts by the corporate parent. The objective of corporations is to create a new business unit, with incorporating the incubation program. Success in business units not correlated with the core of the corporation often results in spinoffs or out-licensing. The example is the Xerox's spinoff, Adobe, which was after going public, evaluated higher than Xerox itself (Weiblen and Chesbrough 2015, p. 71).

The opposite of the Inside-Out model is the Outside-In innovation flow, whereby corporations receive the flow of tangible and intangible resources from the external environment. The phenomena refer to a more modern approach to corporate start-up engagement, closing the gap between corporates and start-ups with corporate acceleration.

Corporate accelerators

Operating similar to independent accelerators, corporate acceleration programs target a more specific cohort of start-ups and are supported by a corporation. They share some typical acceleration characteristics with non-corporate accelerators as they are time-limited (not more than a year) and include mentorships, training, and network opportunities. According to Hochberg (2016, p. 24), a corporate accelerator offers the corporate's resources, networks, and expertise to start-ups for a limited period, potentially for an exchange of equity in the start-up itself. Besides, corporations have different objectives when establishing an accelerator, from testing ideas, developing products to strategic and financial objectives.

Kanbach and Stubner (2016, p. 1756) categorize corporations' primary objectives as financial and strategic. With the financial objectives, corporations wish to increase their revenue by increasing the start-up value through their acceleration program. The prerequisite is an investment into equity by the corporation. The authors also state that only financial objectives are rarely pursued by the corporations with their accelerators, yet required for the accelerator program to sustain. Strategic objectives, on the other hand, are divided into three primary objectives:

1. Receiving insights into market developments and technologies. Larger companies can so quickly identify the current market developments and trends through the business of the start-up.
2. Development of the start-up in terms of technology, networking, and marketing to integrate the start-up into the corporate internal environment, whereby the corporation includes the start-up into their value chain.
3. Evaluating and being present in the development of innovative products and services could potentially disrupt their core business, lowering the possibility for the corporation to stay behind within a specific industry.

Two additional objectives are provided, which could hardly be interpreted as strategic. With a high amount of disposable capital, companies create accelerator programs to increase the corporation's entrepreneurship levels, aiming to enhance the corporate culture. The cooperation of employees by providing mentorship or advice with the start-up can positively influence the corporation's entrepreneurial spirit. Most recently, corporations support external acceleration programs as a marketing activity to increase their public image of being an innovative, orientated company.

Based on their study with 13 corporate accelerators in Germany, the authors (Kanbach and Stubner, 2016, p. 1767) create four types of corporate accelerators:

1. As the "listening post," corporate accelerators pursue a strategic objective to get familiar with the trends and developments in the relevant markets and receive more profound insights. The funding corporation operates in a related industry as the start-up. Such accelerators get involved with the start-up in its early stages and do not get involved with the start-up start-up ‘s equity.
2. As the name implies, value chain investors define the strategic objectives of a corporation to identify, develop, and integrate new products or services into the corporate value chain from the external environment. Such programs target strongly related industries to the core business and involve investment into equity.
3. Corporations pursuing strategic objectives create a protected environment, whereby they can test potential internal as external ideas, targeting start-ups at the earlier stages in somehow related industries. Corporates can conduct research and development with lower costs to recognize potential innovation, which could benefit the corporation.
4. Unicorn hunters pursue a strictly financial objective, whereby they invest in start-ups that fulfill specific criteria in their growth potential. The start-up is improved with the acceleration process. Its value also subsequently increases due to the accelerator's recognized brand, ultimately increasing the revenues of the corporation after it sells the owned equity.

Mocker et al. (2015, p. 18) provide examples of accelerators from established multinational corporations categorized by their objectives; (1) Dell with their corporate accelerator Dell for Entrepreneurs, launched in 2013, offers to finance for entrepreneurs, range of resources, assistance in marketing and mentoring. Dell's engagement with start-ups helps to rise the entrepreneurial culture in the corporation as well as helps Dell to identify new innovative technologies, (2) Google's acceleration program, whereby they offer a range of events, free services, and financial investment, operating on a global scale but often positioned within all Google's campuses, (3) Microsoft offers a variety of acceleration programs, engaging with start-ups as they believe that start-up companies are the disruptors in the future market, aiming to build a strategic partnership with the start-up company, not taking any equity in the start-up.

Kohler (2016, p. 351) suggests there are four dimensions (Proposition, Process, People, Place) corporations have to consider when setting up an accelerator:

1. Defining the relationship between the start-up and the corporation,
2. the structure and duration of the corporate accelerator,
3. selection processes,
4. the location where the corporate accelerator will be hosted or established.

Additionally, it is relevant to define how the interactions between the corporation and start-ups should be established, what type of acceleration should be provided, and executed, either throughout a partnership within the start-up ecosystem or should a corporation run the acceleration program on its own.

From the review of the literature by Kohler (2016), Weiblen and Chesbrough (2015), Mocker et al. (2015), Kanbach and Stubner (2016) can be concluded that there is a (1) rise in corporate engagement with start-ups and the start-up ecosystem, (2) corporations pursue either financial or strategic objectives, (3) corporates fill the innovation gap with start-ups with corporate acceleration, (4) corporate acceleration can be done independently or with an external partner, (5) corporations engage with start-ups with different programs, (5) corporate accelerators are industry-specific, (6) start-ups benefit from corporate acceleration.

Conclusion

The top five performing start-up ecosystems ranked by its performance, funding, market reach, talent, and start-up experience are Silicon Valley, New York City, Los Angeles, Boston, and London. The highest-ranked start-up ecosystems are still dominating in terms of activity levels in most sub-sectors. However, there is an up-rising of other ecosystems and clusters, which focus on specific industries. GSER (2018, p. 34) suggests 12 challenger start-up ecosystems, 7 of which are from the Asian-Pacific region, indicating a growth potential of ecosystems within the region. China is the only country among the challengers with two nominated ecosystems, Hangzhou and Shenzhen.

Following the current development in the field and the emergence of start-ups, there has been increased corporate involvement and interest in the start-up ecosystem. A study by Mocker et al. (2015, p. 8) estimates that at least 30% of all European accelerators were supported by corporations in 2015, emphasizing the importance of corporations within the start-up ecosystem. Although there are various reasons why corporates engage with start-ups, they can all be generally embedded into one of the two primary objectives of corporates: strategic or financial. A successful collaboration between a start-up and a larger established company mutual value is created, representing a win-win situation for both parties.

Through strategic cooperation, corporations are possibly able to test new technologies and receive access to innovation, with lower cost and risk regarding their core businesses, whereby start-ups can receive various resources from their corporate partners, like marketing knowledge and experience, which are the business capabilities which the majority of start-up companies lack, as they often fail to analyze the market and struggle to identify the demand for their products.

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