

# *Start-up ecosystem support in the Czech Republic*

## *Podpora startupového ekosystému v České republice*

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### **Abstract**

Lately, young people have preferred to get a conventional job rather than doing business. This is because minimum unemployment allows them to choose between offers from many employers. It is also partly due to concerns about bureaucracy and the risk of sanctions. In addition, young people refuse to deal with things that cause stress: they do not live to work, but they work to live. But it is a warning – if we want to have Czech companies in the Czech Republic in twenty years, and if we do not want to be dependent on multinational corporations, it would be a good idea to finally start doing something. Specific steps that can be taken include reducing administrative barriers and endless regulation, speeding up a fully electronic business-to-state relationship, and setting up systematic and effective tools to support start-ups both within regional policy and at universities. This paper aims to map the Czech start-up scene, to contribute to the understanding of the issue and to point out possible directions for the development of this new entrepreneurial form. Several scientific methods were used to write this paper. The literature review is based on a compilation of scientific texts. The Czech start-up scene is mapped by comparing and analysing secondary sources and synthesising knowledge, supplemented by experts' comments. The authors have contributed qualitative research in the form of semi-structured interviews with three start-up entrepreneurs. Deduction and suggestions are used in the discussion and conclusion.

### **Keywords**

small and medium enterprise, entrepreneurship, start-up, Czech Republic, CzechInvest, Crowdfunding

### **JEL codes**

M14, M 48

### **Abstrakt**

Mladí lidé dávají v poslední době přednost klasickému zaměstnání před podnikáním. Je to proto, že si v době minimální nezaměstnanosti mohou vybírat z nabídek mnoha zaměstnavatelů. Roli hrají také obavy z byrokracie a hrožících sankcí. Mladí lidé se navíc odmítají zabývat věcmi, které způsobují stres, nežijí proto, aby pracovali, ale pracují proto, aby žili. Je to ale varování, že pokud chceme mít v České republice za dvacet let původní české firmy a nechceme-li být závislí na nadnárodních korporacích, bylo by vhodné pro to začít konečně něco dělat. Konkrétními kroky může být snížení administrativních bariér, nekonečných regulací, urychlený plně elektronizovaný vztah mezi firmou a státem,

nastavení systematických a účinných nástrojů podpory startupů v rámci regionální politiky i v rámci vysokých škol. Zájem o podnikání sice klesá, ale neklesá počet mladých šikovných lidí s nápady a ambicemi. Cílem tohoto příspěvku je zmapovat českou startupovou scénu, přispět k pochopení problematiky a poukázat na možné směry rozvoje této nové podnikatelské formy. Pro tvorbu příspěvku bylo použito několika vědeckých metod. Sekce „Literature review“ vychází z kompilace odborných textů. Mapování české startupové scény je provedeno na základě porovnání a analýzy sekundárních zdrojů, syntézy poznatků, je doplněno o odborné komentáře. Autoři přispěli kvalitativním výzkumem formou polotrukturovaných rozhovorů se třemi začínajícími podnikateli. V diskusi a závěru je využita metoda dedukce a návrhů.

## **Klíčová slova**

malé a střední podniky, podnikání, start-up, Česká republika, CzechInvest, Crowdfunding

## **Introduction**

Although considerable attention is paid to the issue of entrepreneurship in the economics faculties of Czech universities, students today show a lack of interest in setting up their own businesses. In the 1990s, however, the situation was different. Why has there been a change in attitude towards a future career? A survey conducted by the Faculty of Economics, University of West Bohemia in Pilsen (Pavláková, 2014) shows that unleashing the potential of SMEs in the economy depends to a large extent on the environment in which they exist. Globalisation is becoming a threat to some SMEs, for several reasons. Entrepreneurs are particularly worried about the strong competitive pressure of foreign companies, their capital and technological advantage. However, they do not realise the need to change their own thinking in company management. They do not perceive strategic management as one of the important aspects determining their own competitiveness. It is now certain that even small and medium-sized entrepreneurs cannot avoid radical changes in their traditional ways of working. This concerns, for example, lean and flexible production, barrier-free organisation, multifunctionality of workers and their self-management, and remuneration methods. The current young generation has become lazy, spoiled by the welfare of Western society, and this false sense of imaginary certainty does not motivate them to undertake the necessary personal effort. However, those students who want to take their fate into their own hands have an opportunity to start their own businesses through student start-ups.

Start-ups are a phenomenon that is becoming well-known by the public. However, their increasing popularity has not had the appropriate or expected response in the academic sector, whose interest in the subject is still very limited. Student start-up projects in the Czech Republic are not as successful as they are abroad; however, progressively managed universities have understood that support for business incubators and student start-ups is one way to strengthen their competitiveness in the educational institutions market. They have come to understand that only teaching coupled with practice allows graduates to acquire the necessary skills to develop their own businesses.

Through student start-ups, a university can improve its image in the public eye, because it shows that it is creating conditions for the success of its graduates in the free market; that it supports the students' efforts to start their own business activities. The Institute of Technology and Business (VŠTE) in České Budějovice can serve as an example. "We believe that the development of innovative entrepreneurship can contribute to increasing competitiveness and employment in the South Bohemian region. That's why we offer targeted support in this area. Students have a number of ideas, but the beginnings are not easy, whether because of finances, administration or support," says Ludmila Opekarová, Vice-Rector for Practice and External Relations of VŠTE. The school wants to help high-quality student projects mainly by providing support, offices and even seed capital through its Project Innovation Centre. The school has held its Idea of the Year competition for the tenth year. A total of 197 projects were registered in the 10th year of the competition, and the winners of the competition were awarded prizes worth more than CZK 925,000 (napadroku.cz, 2017). A similarly positive experience can be found in the Zlín region (Technological Innovation Centre in cooperation with the Zlín Region and its partners announces a professional and creative competition for students of secondary schools, higher vocational schools and universities). Another example is the activity of the Governor of the Central Bohemian region and the Chair of the Board of Directors of the Central Bohemian Innovation Centre, Jaroslava Pokorná Jermanová and Rector of ŠKODA AUTO University (Pavel Mertlík) – on 17 January 2017, they signed a cooperation agreement. The aim of the strategic partnership is to help university students and start-up entrepreneurs to increase their chances of success and to develop start-ups in Central Bohemia (savs.cz, 2017). At VŠE in Prague they present their approach in the following way: "We are a university, but we do not just teach business, we practise it. And we have a recipe for it. We can help you transform your business ideas into a product. In xPORT, we nurture new start-ups and then get them to experienced mentors, investors and beyond. We send the most advanced projects to the world. We find original ways to transform the business of corporations. We invite inspiring guests. We create business community at VŠE. We are here for students, graduates and corporations." (Böhmová, 2017).

Let us delve deeper into the issue of the access of the young generation to entrepreneurship, to the possibility of implementing business projects through the establishment of student start-ups, relying on theoretical principles and outputs, compilation, evaluation and expert comments in secondary data.

Starting a SUCCESSFUL start-up requires, in addition to a good idea, courage, energy, passion, patience, a bit of luck, a lot of stubbornness, the ability to count, and the ability to rebuild all those "buzz words" into something practical. There are many words ending "... ING" or "... TOR" around the start-up: Networking, Coworking, Crowdfunding, Crowdsourcing, Investing, Consulting, Banking, Incubator, Accelerator, etc., to get something practical for their start-up. It is necessary to imagine all the words as an ecosystem in which a start-up lives, with whom it communicates, which can be beneficial to it, but also harmful. Macro and Micro Environment, Incubators, Accelerators, Crowdfunding Platforms, Investors, Banks, Grant Programmes, Tutorials, Media, Other Businesses, Universities, etc. can be included in these terms (Panuška, 2018).

# 1 Literature review

## 1.1 The start-up as a tool to start a business project

In practice, we come across different start-up definitions. One of the most common criteria is the development phase of a business. This says that a start-up is defined as a new, yet-to-be established business based on an innovative business model and funded by start-up capital (Hathaway, 2016). Other definitions do not take the development phase into account and define a start-up as an organisation designed to seek a business model that is repeatable and scalable (Blank, 2010). An important characteristic of all start-ups is the entrepreneurial spirit and a high degree of risk associated with the uncertainty of the environment. This is mainly connected with the continued growth in the business environment and Industry 4.0 (Kupec, 2018).

The term start-up was first coined in 1996–2001, when it became known during the ‘dot-com bubble’. At that time, there was a tremendous boom of new Internet companies with top-level domains. Despite excellent ideas which attracted huge investments, most start-ups did not have a well-thought-out business model. This was followed by bankruptcies, the Internet bubble burst, and the inflated shares of these new companies lost their value. Only those companies survived that were able to generate profits even during the investment fever and at the same time were able to reduce costs, especially the number of employees. However, the term ‘start-up’ quickly caught on and began to be used in many other industries where all new projects or businesses were considered start-ups.

Not just any company that starts its business can immediately be considered a start-up, yet many people think that is the case. This idea is refuted by Steve Blank, the founder of many successful companies, who has his own definition of a start-up. Blank states that a “start-up is a temporary form of business designed to seek a business model that is repeatable and scalable”. He adds that the company’s business model changes as it develops. Start-up projects can therefore be contrasted with large corporations that operate on proven and established business models. He also states that a start-up is an institution created by people and designed to create a new product or service under extremely uncertain conditions (Blank, 2010).

In scientific literature, the concept of a start-up is often associated with small start-ups and their creation (e.g. Fritsch and Weyh, 2006; Fritsch and Schindele, 2011). Luger and Koo (2005) specify three criteria defining the framework of a start-up. They must be: 1. new, 2. active and 3. independent.

- new – only new entities registered in the Business Register are considered to be start-ups. Companies with a business history which have only changed their name, ownership structure, registered office or legal status do not meet this condition,
- active – the next definition criterion is the active participation of a newly registered company in business relations. This attribute excludes companies that, for a variety of reasons, only exist ‘on paper’;
- independent – subsidiaries controlled by a parent company may also fall into the category of newly established/registered companies active in business relationships.

For this reason, authors also apply the independence criterion that excludes these subsidiaries.

In his article “What The Hell Is a Start-up Anyway?” Alex Wilhelm (2014) states that not every small, newly created company must be immediately considered a start-up. Over many years of experience, the author has deduced a systematic 50-100-500 rule, which defines a start-up as a concept in a certain way. In his opinion, a company may be called a start-up if it generates an annual turnover of up to USD 50 million, it employs up to 100 core employees and its market price is estimated at up to USD 500 million.

First of all, a start-up is a legal entity that has been established as a business unit to implement a business model linked to a particular product, idea or innovation. It is usually an innovative company that seeks to expand its innovation on a mass (usually global) scale. It does not necessarily have to be IT innovation, but technology companies are predominant. If entrepreneurship or entrepreneurship were also taught in non-economics faculties, their owners would be able to manage management, marketing, cash flow management, etc. The success of a start-up need not be defined by mere survival. Other indicators of success include, for example, the number of job opportunities created, revenue growth, return on investment and return over a certain period of time, etc. (Schutjens and Wever 2000).

According to the Aspen Institute Prague (2016), a start-up is an entity from any industry that:

- develops a product or service that is unique in a given location or time;
- tries to solve a particular problem in a unique and innovative way;
- has the potential for rapid growth in terms of revenue and number of customers;
- is characterised by the fact that the founders themselves play a key role in the business;
- needs investment for its further growth.

The main tasks of start-ups can be divided into two processes: cognitive aspects and the activity itself (Korunka et al., 2003). In order to comprehensively understand the cognitive aspects such as, typically, planning, we can use the business plan or business model canvas methods in relation to start-ups. A business plan is an extensive document that attempts to map all the important elements of the business. The business plan is a crucial component in planning a new enterprise or in evaluating an existing one. It serves as an essential tool when contemplating major strategic changes or introducing new innovations in a business. Initially, a business plan should be written as an internal document that is used as a work tool by the entrepreneurs and management in charge of the business (Galai, Hillel and Wiener, 2016). A business plan does not have a fixed structure, but some common features can be found. When preparing a business plan, account must be taken of the exact description of the future business, its environment, competition, market analysis, marketing plan, operational plan, team description, financial plan, business start up risks, return on capital, etc. A business model canvas is a model developed by the Business Model Foundry and has been used not only in large companies (Ericsson, 3M, Deloitte, Osterwalder, Pigneur and Smith, 2015). It is popular among start-ups, especially for its simplicity and the time required to draw it up. The business model canvas makes it easy to clearly describe important business aspects. Key points include

defining key partners and suppliers, key activities, key resources, customer relationships, distribution channels, customers and cost-benefit sharing (Cyr, 2007).

The business model of a successful start-up is based on innovation, repeatability and scalability. The word 'innovation' was first used in the economic context by Joseph A. Schumpeter (1976).

- Innovation consists of successful production, adaptation and use of progress in the economic and social sectors. The innovative business model is looking for new ways to meet customer needs, and/or creates new needs, thereby opening new markets.
- The repeatability of a business model is the ability to apply the main advantages and strengths of an organisation in new conditions for further growth and expansion. The repeatability of a business model is based on three basic assumptions: simplicity, certainty and adaptability.

Scalability is the ability of a business model to work with an increasing volume of inputs. "Most small business owners have dreams that are bigger than their current reality. The problem is, when the day to day of small business ownership can be so overwhelming, it's tough to know what you should be doing now to ready your business for a successful future." Experts recommend to build a solid foundation, scalable business solutions, strategic planning, core strengths: have an unrepeatable competitive advantage and be patient (LeBlanc, 2018).

## 1.2 Risk of start-up failure

Start-ups, as one of the engines of innovation and resources for sustainable employment, represent a current issue. For the EU, where SMEs account for 80% of new jobs, start-up success is more than important (European Commission, 2012). However, 30–40% of start-ups end in bankruptcy and 70–80% of start-ups fail to achieve their financial goals in terms of return on investment (Nobel, 2011). Therefore, the question is why the start-up failure rate is so high and what is the potential to increase their success.

Research projects that study the development and growth of start-ups have been few, although start-ups can make a major contribution to the economic development of a region. This is especially true for start-ups in knowledge-oriented sectors of the economy, such as the Information Technology (IT) segment, which shows the greatest start-up dynamics. Statistics show that the risk of start-up failure in this sector is up to 95% (HRforum.cz, 2016). The chance that an innovation will break through and succeed in the market is extremely low. On the other hand, start-ups can evolve into small companies which possess alternative management models affecting company performance positively (Velinov and Denisov, 2017).

External conditions also undoubtedly play a role in start-up success or failure. It depends largely on the structure, size and growth potential of a given market segment, the nature of the competitive environment, the purchasing and consumption behaviour

of customers, etc. For example, Fritsch and Weyh (2006) have pointed out that only 48% of new companies in the German services sector survive the first five years. In the case of manufacture it is about 64% of new businesses. The survival chance of new industries, such as electronics, ICT, life sciences, etc., is twice as small compared with the traditional industries as a result of turbulent and dynamic growth (Gimmon and Levie, 2010). The higher population density of metropolitan regions can provide start-ups with sufficient capital, human resources and knowledge that can significantly stimulate their development and increase their survival chances. However, Stearns et al. (1995) pointed out that, conversely, the competitive environment in these places diminishes the chance of start-up survival.

According to Ries (2011), the reason for start-up failure is the effort made to apply thinking, procedures and methodologies used in traditional established firms. Efforts to create business plans, strategies, forecasts, and market research may have worked in established companies in a stable environment. There is a great temptation to apply these techniques to start-ups, but this is problematic, as start-ups operate in environments with very high uncertainty. Start-ups have no history and do not operate in a predictable, stable environment. Other causes of failure may include the following:

- Ill-conceived distribution of shares in the company. Many ideas are produced in the team when in a pub, café or while travelling. Mostly, one person is the author of the idea and the person willing to invest their future time and energy. Other people involved in the project are important but do not necessarily have to be partners. They can get a share in the profits if they do what they promise in advance. Sooner or later, many companies with multiple partners run into a problem. Not all partners spend the same amount of time on the business, they have different views on profit-sharing and the strategic direction of the company. Disputes, quarrels or just bad feelings can ruin the company.
- An inability to admit that the project is not viable. An unbiased person who divides their investment into more projects is usually able to predict when it is better to terminate (kill) the project – failure is caused by not setting a boundary beyond which the project will no longer be continued (a poorly set amount of investment, unexpected time limit, etc.).
- Dysfunctional marketing, i.e. know-how for selling the product. Although it is a great product or service, its potential customers or clients simply do not know about it.

## 2 Methodology

The literary research for the article was based on the analysis of secondary sources, compared with the opinions of the authors on the present issue. Because the issue is relatively new in the Czech Republic, the authors also relied on publicly available Internet resources on the subject.

Both primary and secondary data were analysed. Primary data was obtained between 2014-2017 by carrying out both quantitative research through questionnaire surveys

and qualitative research through semi-structured interviews. The start-up database created by the authors of the paper, was chosen as the default data source. This database was supplemented by a secondary data source – the websites of selected start-up and business incubators. The nature of the survey questions corresponded to the purpose of the survey. In connection with the survey questions, the questionnaire survey and interviews concerned the following topics:

1. conditions and possibilities for setting up start-ups in the Czech Republic
2. existing start-up ecosystem support

The Aspen Institute Prague study is based on the responses of 141 start-up operators. The survey was conducted in 2016 in the form of quantitative research – a questionnaire survey with closed scalable questions. In 2015, the Ministry of Industry and Trade carried out a questionnaire survey of 64 small businesses. Again, it was quantitative research – a questionnaire survey with closed scalable questions. The authors comment on the results and suggest possible ways of solving the issues discussed.

## 3 Empirical results and discussion

### 3.1 Conditions and possibilities for setting up start-ups in the Czech Republic

It can be said that the Czech start-up ecosystem has seen increasing growth in the last five years. There are new business incubators<sup>1</sup> and accelerators<sup>2</sup> in which Czech and, in some cases, foreign companies are growing. Start-ups are very important for the Czech economy. They have a quick start and even faster growth, and have the potential to generate profits and create new jobs in the future. They are also a very important motivating element for our students and graduates.

According to a survey by the Aspen Institute Prague (Brejčák, 2016):<sup>3</sup>

- 1 *The term **incubator** itself shows that its contact with a start-up is at a very early stage. An incubator is “a business support process that accelerates the successful development of start-up and fledgling companies by providing entrepreneurs with an array of targeted resources and services. These services are usually developed or orchestrated by incubator management and offered both in the business incubator and through its network of contacts” (Mielach, 2013). Incubators aim to improve the functioning of already established businesses through various methods, such as consultations or help with promotion and expansion.*
- 2 **Accelerators** serve start-ups, i.e. early-stage businesses, and have similar tasks and methods to incubators. Accelerators are usually private institutions that charge start-ups for their services. This can be either in the form of monthly fees or a share in the company. This may also include seed investment for which the accelerator obtains, together with the services provided, a share in the company (3% – 10% according to the scale of the investment and the services provided).
- 3 *Of the total number of 550 respondents, 141 start-ups answered. The size of the examined file does not justify drawing conclusions about the whole basic set of startups in the Czech Republic. Similar studies are unique in the Czech Republic, so the outputs offer an interesting look at the situation of Czech start-ups.*



- There are 51 business incubators in the Czech Republic. 23 privately owned, 21 public and 7 in public-private ownership. At the same time there are more than 80 coworking centres in the Czech Republic.
- 81% do not have any women among the co-founders.
- 58.8% of them are based in Prague, 1.6% are based in Plzeň, 1.6% in České Budějovice, 4% in Ostrava, and 15.3% in Brno. These figures show that they are prevalent in large university cities.
- The legal forms of start-ups are joint-stock companies (11.3%), unlimited partnerships (2.1%), limited liability companies (73%), self-employment (4.3%), branch of a foreign company (7.1%) and other (2.2%).
- 22% of the companies were registered before 2013, 39% in 2013–2015, and 39% in 2015–2016. This is conformation of the fact that the Czech start-up ecosystem has seen growth primarily in the last five years.
- When asked what sources of financial support the companies used for its start, the respondents could choose from several answers. The sources were own capital (78%), the so-called 3F – friends-family-fools – group (12.8%), local business angels (12.8%), strategic business investors (9.02%), public aid (8.5%), foreign VC funds (6.4%), local VC funds (6.4%), foreign business angels (5%), crowdfunding (4.3%), scientific grants (3.3%), and other funding (3.5%). It can be said that financing of start-ups from external sources has not been reported. As a fund-of-funds manager, the EIF (European Investment Fund) was to select teams for managing accelerators, seed funds and venture capital funds in 2017. These should invest independently in Czech start-ups and emerging businesses. In total, EUR 50 million has been made available, with the larger part being allocated to venture capital. In addition to the above-mentioned 50 million euro, start-ups could eventually get far more. The EIF often acts as the main investor in funds, which is a positive signal and encourages other private investors to invest together. The agreement with the EIF is the first implemented financial instrument in the Czech Republic in the current programming period of European funds and the first ever investment start-up support programme implemented in the country (Brejlová, 2017).
- What is the timeframe for stable, expected and sufficient income? 5.4% of start-ups responded immediately, 20.8% after several months during the first year of business, 11.5% between the first and the second year, 15.4% after two years, and 46.9% were still without profit.
- Non-financial support is also important for start-ups – again, respondents could choose several variants. The respondents mentioned mentoring (29.8%), participation in local competitions (24.8%), participation in fairs (22.7%), local acceleration programmes (14.9%), participation in foreign competitions (14.2%), local incubators (12.1%), university (6%), foreign acceleration programmes (7.8%), local technology parks (4.3%), university incubators (3.5%), foreign incubators (2.1%) and foreign technology parks (1.4%). The low percentage of non-financial support received through universities and university incubators illustrates the unsatisfactory situation / approach of universities.
- The motivation for the use of incubator or accelerator services was mentoring and business consultancy (42.6%), obtaining information on funding opportunities (19.1%), approaching prospective investors and networking (32.6%) and office

space (14.2%). These are incentives for university incubators that could offer or mediate these services.

- 38.6% of respondents are in the local market, 61.4% in the global market.
- 62.1% of the companies deliver new products or services, 22.7% are improving an existing product, 6.1% are copying and adapt an existing product and 9.1% are not sure. Of these, only 34.7% have registered a patent or trademark. This figure indicates that in the Czech Republic there is a very low awareness of the importance of intellectual property protection, and the processes related to the protection of copyright and industrial rights.
- External factors that make it difficult for start-ups to succeed include the steps required to realise exports and enter foreign markets, complicated, non-transparent and ever-changing legislation, administrative complexity and the tax burden, or inadequate computerisation of state administration.
- Factors limiting initial success are the lack of qualified human resources, limited funding opportunities, the need to find investment resources, and acquiring the right contacts, skills and knowledge in management and financial management.

In 2015, the Ministry of Industry and Trade carried out a questionnaire survey of 64 small businesses<sup>4</sup>. It was found that:

- Start-up creation is not easy in the Czech Republic.
- In addition to the initial idea and a quality team, especially demanding innovative solutions require a large initial investment, which is often difficult to obtain for start-up entrepreneurs. It is the very limited opportunity to receive financial capital in the early stages of business that hampers the development of small innovative companies.
- 70% of the business owners had to limit their investments.
- In the first years after establishing the company, their investments ranged up to a maximum of CZK 5 million. The reason for the low volume of investment is, in particular, the very limited access of enterprises in the early stages to external sources of financing.
- In terms of existing business financing, own resources (without the consideration of foreign resources) are dominant (46%). Another 22% of companies have received funds from family and friends. External sources outside friends and relatives primarily include business angels, i.e. individual investors (9%) and banks (7%).
- The venture capital market is very poorly developed in the Czech Republic compared to other EU countries (Ekonomický deník, 2015).

According to the World Bank, the Czech Republic ranks 81st among 190 countries when comparing the difficulty of setting up a new business entity. The Czech Republic has worse conditions for start-ups than Ukraine, Kosovo or Benin. Domestic start-ups therefore

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<sup>4</sup> Most of them operate in Prague and Central Bohemia (37%), the South Moravian Region (31.5%), the Plzeň Region (11%) and the Moravian-Silesian Region (9%). In terms of sectors, respondents were particularly active in ICT (almost 51%), less than 17% are in research and development, followed by the manufacturing sector and trade with 5%.

have a much more complex position than start-ups in other Central European countries. Support is important for Czech start-ups not only because of the greater bureaucracy when setting up the company, as shown by the above-mentioned World Bank ranking, but also due to their worse access to investment (Dostál, 2017).

### 3.2 The Czech start-up scene

As part of the Start-up Survey, the Aspen Institute<sup>5</sup> published the *Czech Start-ups Report 2016*. Having created a database of 550 start-ups, the Aspen Institute invited all of them to take part in the survey that ran in the summer of 2016. Moreover, the questionnaire was distributed via Czech incubators, acceleration programmes, CzechInvest, and other popular channels for Czech start-ups, which maintain their own databases.

Based on the replies collected from 140 Czech start-ups an analysis of the Czech start-up ecosystem was prepared. The survey results are as follows:

- Nearly 70% of the surveyed start-ups are in the **early stages of development** (pre-seed and seed stage), whereas only 15% are in the scale-up phase.
- Slightly above 60% of the start-ups claim they offer **new services or products**, and almost 23% of them are working on an **improvement of an existing** service or product.
- 78% of the Czech start-ups have used **finances from their own resources**. Local business angels or the start-up's network (the 3F group) financially supported 13% of the surveyed start-ups.
- Start-ups mainly operate in the following fields: **SaaS** (28%), **web services** (21%) and **mobile software services** (17%). Other often chosen areas are: analytics/business intelligence (16%) and cloud services (12%). Interestingly, around 10% of start-ups mentioned the Internet of Things and education as their fields of activity.
- The vast majority of companies surveyed are micro-enterprises, employing up to 10 people. More than **65%** of them had **increased** their **number of employees** in the past six months by at least one person.
- Among the surveyed start-ups, almost **25% do not export**. Only 22% get more than half of their income from abroad.
- Collaboration with universities and commercial **R&D centres** is not a common trend and only a few of the surveyed start-ups began in academia or research centres. This is also reflected in the areas where the surveyed start-ups operate – most of them bring in **new IT products and services rather than technological solutions**.
- When asked about the most major internal challenges, the surveyed start-ups listed **human resources (53% of responses)** and **finances/investments (43%)** as the top two.

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<sup>5</sup> For more information see <https://www.aspeninstitutece.org/project/czech-startup-report/>

### 3.3 Existing start-up ecosystem support

There are many ways to support start-ups in the Czech Republic. In this paper we demonstrate two examples: government support (CzechInvest) and alternative support (Crowdfunding).

#### 3.3.1 State support through CzechInvest<sup>6</sup>

**CzechStarter** is a project supported from the Marketing programme of Priority Axis 2 Development of business and competitiveness of small and medium enterprises of the Operational Programme Enterprise and Innovation for Competitiveness (OP EIC) 2014–2020. CzechInvest is also targeting start-ups using other programmes such as **CzechDemo**, **CzechAccelerator** or **CzechMatch**. The first nine start-ups are currently engaged in its so-called Basic Phase. During this phase, selected mentors will provide valuable experience from the business environment. The most successful start-ups will test their acquired knowledge in Silicon Valley. “They can get up to 150 hours of mentoring and counselling from areas such as finance, management, marketing, or intellectual property protection depending on their individual needs. We will cover 85% of their costs, and up 100% of the costs of travelling and staying in Silicon Valley,” says Markéta Havlová, Director of the CzechInvest Start-up Department. One start-up can thus reach up to CZK 700,000. Among the most exciting start-ups included in the programme are PlasmaAgro, which uses low-temperature plasma for the physical treatment and stimulation of seeds, and New Era Materials, which is producing unique composite materials (Dostál, 2017).

The **CzechAccelerator** project provides rental of office space and an acceleration programme full of mentoring in Silicon Valley, New York, London and Singapore. The selected participants will participate in a three-month acceleration programme in developed destinations where they can expand their horizons and gain invaluable business experience. In addition to arranging office space, mentoring from experienced foreign mentors, counselling services related to the protection of intellectual property, and helping with the preparation of promotional materials corresponding to the local mentality, it will provide two return tickets and within three months will organise workshops on different topics (Lean Canvas, Pitching B2B Sales) or entry to interesting networking events where start-ups can meet potential customers, partners, and investors.

The **CzechMatch** project will prepare start-ups for presentation and negotiation with investors and business partners. They will have a unique opportunity to introduce their innovative idea to foreign investors and get feedback from them. During a week-long seminar abroad, start-ups can expect a programme full of mentoring and networking,

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6 *CzechInvest, the Investment and Business Development Agency, is a publicly co-funded organisation subordinated to the Ministry of Industry and Trade of the Czech Republic, which strengthens the competitiveness of the Czech economy by supporting small and medium-sized enterprises, business infrastructure, innovation and foreign investment in manufacturing, strategic services and technology centres. CzechInvest's objective is, among other things, to support the Czech start-up community as a young and fast-growing sector, especially in the field of innovation and technology. CzechInvest believes that innovation and technology are the fields of the future.*

with a matchmaking event at the end. They will strengthen their presentation skills, gain new contacts and experience abroad, and increase the chance to internationalise their business project.

**CzechDemo** is a project allowing start-ups to present themselves at major international events and showcase their innovative products. Young entrepreneurs have the opportunity to exhibit at the most famous fairs, festivals, and conferences.

**CzechLink Start** is a project designed for start-up innovative Czech companies looking for a strategic or investment partner. Its aim is to not only facilitate Czech start-ups with foreign investors, but also to provide them with capital to start their business and increase the flow of foreign investment into the Czech Republic.

**CzechStartups.org** is the first official website about the Czech start-up scene. It was launched as CzechInvest's partner project in cooperation with IBM Czech Republic, Czech ICT Alliance, the Association of Small and Medium Enterprises and Tradesmen of the Czech Republic (AMSP ČR) and Rockaway Capital. The portal is a one-stop-shop for all relevant information about the Czech start-up scene. Its aim is to offer a comprehensive overview of the Czech start-up scene, to publish information on current government and private start-up programmes and small and medium-sized businesses, and information on support providers to help start or accelerate business through mentoring, networking, or providing investment. It is the official online centre for start-ups in the Czech Republic. In the Start-up Support Programmes section, it presents incubation and acceleration programmes and programmes directly funded by European funds.

**Table 1:** Current incubation programmes in the Czech Republic

<b>Incubation programme name</b>	<b>Activity</b>
AI Start-up Incubator	Focuses not only on the business side of things, but especially on the development of innovative and promising business ideas.
Creative Incubator DEPO2015	Development of entrepreneurial skills, mediation of contacts with important people from the given field.
UP Business Catapult	Discount for business premises (for students and employees of Palacký University, use of virtual office and coworking for 6 months completely free of charge). Use of the meeting room free of charge, a significant discount on renting a training room. Five free hours of consulting services per month given by a VTP UP consultant; semi-annual efficiency evaluation of the company. Possibility to raise up to CZK 30,000 for consulting services from external consultants. Possibility to meet with experienced mentors, preferential registration for events organised within the UP Business Club, access to materials from these events.

<b>Incubation programme name</b>	<b>Activity</b>
TITC Science and Technology Park and Business Incubator	Business Incubator in Brno, implemented as one of the main projects of the Regional Chamber of Commerce of South Moravia in cooperation with the Brno Technical University. It is creating an environment for the promotion of innovative entrepreneurship, along with the development of business cooperation with universities and scientific workplaces. It supports the transfer of science, research and innovation results (technology transfer), and has educational and awareness-raising functions.
Steel-it Business Incubator	Operated by the EuroSchola Institute and more than 13 other public and private partners. The aim of the project is to set up a business incubator focusing on the area of information and communication technologies and the so-called 'knowledge and new economy'. Emphasis will be put primarily on innovative and emerging companies from new dynamically developing industries, particularly ICT. The aim is to facilitate the transfer of new ideas and knowledge from the field of ICT into practice and to create adequate conditions for starting a business in this area.
Point One	Coworking centre and also a business incubator of the Czech University of Agriculture in Prague. Incubation of a project lasts 18 months on average. The aim is to help a member quickly recognise whether their business is viable or not. The premises are open to all students and graduates of the CUA who want to start a business.
ESA BIC Prague	Incubation and development of technologically advanced start-ups that use space technologies or systems in their commercial products or services.
CTU Incubator InQbay	Open to students, researchers and graduates of the Czech Technical University but also to all prospective entrepreneurial entities.
ICUK StartUp GO!	A creative coworking space, a professional training programme with experienced lecturers and business professionals, regular reviews with mentors and presentations from potential investors, help with getting grants, establishing contacts and sharing experience with companies in a similar phase of development.
Virtual incubator of the Technological Innovation Centre in Zlín	Intended for newly established companies that need a place for their registered office or delivery addresses, but also for companies that want to use a number of other business incubator services without the need for their own office.

<b>Incubation programme name</b>	<b>Activity</b>
Prague IoT Centre: IoT&SmartCity Incubator	From idea to functional prototype, first customers and international distribution channels in 6–9 months. Putting a specific use-case into practice, from the idea itself to a customer project. The programme is designed for B2B products combining hardware and software with international potential.
Incubation Centre Hradec Králové	An important condition is the focus on advanced products, technologies and services with the potential for further innovation.
Laboratory of the Vodafone Foundation	Approaches non-governmental organisations and socially responsible entrepreneurs who are trying to promote a positive change in society, focusing on pre-seed and spin-off companies, or those that are not happy with their direction and want to restart their business.
Erasmus for Young Entrepreneurs	A cross-border exchange program to help new and emerging entrepreneurs get new experience from experienced entrepreneurs running smaller businesses in other participating countries.

Source: authors, processed according to [www.czechstartups.org](http://www.czechstartups.org)

**Table 2:** Current acceleration programmes in the Czech Republic

<b>Acceleration programme name</b>	<b>Activity</b>
Impact Hub Impact First	Social Lean Start-up Business Plan Methodology.
Impact Hub Tieto NERDS	Workshops to help with planning and team leadership, needs analysis, presentation skills, business planning, and other business needs.
Impact Hub 100 Day Challenge	Learning from experienced mentors and more than 15 professional consultants and partners.
Impact Hub Social Impact Award	Educational programme for socially beneficial businesses operating in 15 countries around the world.
JIC MASTER	Analyses, strategic team making.
JIC STARCUBE	Financial support, mentoring, finding business partners.
GreenLight	Motivation and support especially for university students to implement their own business plans. Moravian-Silesian Region.
StartupYard Accelerator	Project management in data, mobile applications, analytics.
aPORT VŠE	Mentoring, start and scaling of business, individual approach.

Source: authors, processed according to [www.czechstartups.org](http://www.czechstartups.org)

Young people are also encouraged to start businesses by the Association of Small and Medium-Sized Enterprises and Tradesmen of the Czech Republic through the non-subsidy project **Young Business – Your Way** (AMSP ČR, 2018). The project is prepared in cooperation with Komerční banka and Google. Its goal is to create a broad platform for young people and to convince them that having influence means being independent. Its annual culmination is announcing the winner of the Start Up grant programme. The announcement takes place on the Day of Entrepreneurs of the Czech Republic. In 2017, a jury evaluated 59 business plans, choosing the “Boem Audio” project as the winner. This project deals with the development and production of innovative wooden speakers. Its goal is to bring innovative products from fine materials to the market, providing users with exceptional quality and comfort. In order to implement their business plan, the founders of Boem Audio will receive a grant of CZK 300,000 from Commercial Bank.

**Mamnapad.cz** is an independent magazine about innovation, creativity, and start-ups for all business innovators and enterprising people. In addition to information from the world of creative projects and start-ups, it provides tips and guides to promote creativity and innovation in organisations. Its vision is to help individuals, groups and organisations successfully implement their ideas and innovative projects and promote creative thinking in society. It believes that creative thinking and innovation can create a better world together. On its website, it introduces new business ideas (such as irrigation technology, a taxi for pregnant women, a scarf against the cold, Vissto – a start-up focusing on smart solution for data visualisation, and more), looking for investment capital, or a suitable investment project.

### 3.3.2 Crowdfunding

Crowdfunding is a method of funding in which a large number of individuals contribute a small amount of investment in order to achieve a target amount which the receiver pre-sets. Generally, if a receiver does not receive the required amount of money in a set period of time, any money already invested is returned to the individual investors. If the receiver achieves the amount of money needed, contributors usually get a special reward. These awards can differ and therefore there are four types of crowdfunding: benefit crowdfunding, reward crowdfunding, loan crowdfunding and share crowdfunding Crowder.cz (2018).

In the Czech Republic, crowdfunding is rising in importance as a form of funding. The most common type is **reward crowdfunding** when people usually receive a material reward. **Hithit.com** and **Startovac.cz** are two most famous reward crowdfunding platforms. After four years of crowdfunding, Hithit has launched more than 1,300 projects and about 2.665k EUR (70 million CZK) has been collected from people to support different projects. Another smaller reward crowdfunding portal is **Penezdroj.cz**, which has so far had 14 successful projects with 54k EUR (1.42 million CZK) collected.



### **3.4 Qualitative Research – semi-structured interviews with start-up entrepreneurs**

The authors had the opportunity to hold interviews with representatives of the business community and participants of the individual competitions (family company of the year, competition for the most creative start-up entrepreneurs and queens of small business), as part of the 2017 Business Day held on 3 October 2017 in Prague at the Ambassador Hotel. For this study, they selected three entrepreneurs who were asked five identical questions in a semi-structured interview. The responses were recorded electronically and transcribed. The aim of the research was to find out what caused the start-up founder to implement their business plan, and what they see as their own contribution.

These answers could be considered as case studies. They summarise the replies of the founders of service start-ups.

Company A: Type of business: Education – consultancy in the field of personnel management; coaching; number of employees in the company: 1; region: Capital City of Prague.

Company B: Type of business: trade, manufacturing; number of employees: 1; region: Capital City of Prague.

Company C: Type of business: consulting services; number of employees: 3 internal, 4 external.

**Table 3:** Answers of qualitative research respondents

Question	Company A	Company B	Company C
<p><i>What brought you to doing business? How would you describe your company in five sentences?</i></p>	<p>I set up the company as a consulting company focused on personnel management and coaching. Personal development has been my focus for the last 15 years. I work on projects either alone or with external lecturers. Last year, I and my daughter Hanka started a new stage of (now) joint business ventures. We started creating an inspirational combination of a diary and agenda, and at the end of the year we started selling them under the Life Designer brand. We offer the diary together with the Guide on the way to my vision, of which I am the author.</p>	<p>I have already been through several business ideas in my life: we have always implemented them within our family business where I worked with my father and my brother for nearly twenty years. During this time, my desire to implement my own projects, my own strategy and my vision gradually matured until I decided to go my own way.</p>	<p>I wanted to be able to influence my decisions, and I was naive to think at that time that business was the freest option. Later I found that it was not that easy, but I still consider it the best decision. That's why I founded Fundchaser with Martin Vitek. Our focus is the creation and implementation of crowdfunding campaigns and access to Kickstarter, the largest crowdfunding platform, which is not available in many countries. We also help with subsequent entry into the US market if our clients' campaigns are successful. As a company, we have existed for three years and now our team consists of seven people. Our motto is "creativity without borders".</p>

Question	Company A	Company B	Company C
<p><i>What helped you at the beginning of your business and what complicated your life?</i></p>	<p>The hardest thing for me was to do everything on my own. Previously, I was used to working with a team. In addition, when I was focusing on a long-term customer, I neglected the shop and after the contract ended, I experienced a drop in turnover. Now I'm glad I work with my daughter. Firstly, because we understand each other well so I enjoy my work, but also because we use each other's different experiences and opinions.</p>	<p>My friends, people and luck helped me a lot ... and of course also my faith and the desire to change my life and make a change. Of course, this also brings a number of complications, including the persistence of old dogmas and habits.</p>	<p>What helped me most was my desire to constantly learn new things and the belief that failure is not a loss but a new experience that can push me forward. The advice of experienced people around me helped me a lot, too. My impatience and the effort to get everything instantly at the expense of quality was the biggest impediment for me.</p>

Question	Company A	Company B	Company C
<p><i>What do you consider your greatest success?</i></p>	<p>I am especially happy that for the first time in my life, I have begun to produce an intangible product that we see as useful, practical and beautiful. And the reactions of the first users confirm this. It is also of great value to me that I can share my experience with my daughter and also learn from her.</p>	<p>The fact that I decided, despite many complications, to really start my own business!</p>	<p>My greatest success is Fundchaser's constant and dynamic development. I mean, we do not just stand on the spot and we do not just take orders for money, but we try to develop together with the needs of our clients, and we are doing well in this regard. Of course, with regard to less complex issues, our participation in crowdfunding campaigns, such as the Skinners campaign, was successful.</p>

Question	Company A	Company B	Company C
<i>What are your plans for the future?</i>	We have a lot of ideas about how we would like to expand our range to include different bulletin boards and organisers. We want to learn how to sell our products in the Czech Republic and then offer them abroad. We are also considering an electronic version of Life Designer. But that's far away.	I expect that the market establishment of my first product, Carton Cajon, in the Czech Republic will surely take some time. In addition to the design instrument, I see great potential in it as a teaching material for nurseries and schools, and the creation of an educational programme will also be time-consuming. Another logical step will be to expand abroad.	I would like to extend our services to more Central European countries and the Balkans. We are also currently investing in finding new solutions for our clients, because we want to offer them a more comprehensive and effective solution that will be precisely tailored to the start-ups we work with most.
<i>Based on your experience, is there anything you would not do again?</i>	We must be very cautious about investing. Our ideas and enthusiasm are our great asset, but also our great risk. We need to concentrate on what we have and first focus on its appreciation, and fine-tune the process so that it is simple and does not take too much time, and create a financial reserve for further investment.	There is nothing I wouldn't do again: all of this was a valuable experience. If, however, I was standing again on the starting line and had the knowledge I now have, I would prepare the administrative part better and devote more time and attention to it.	I would recommend everyone to assess after each failure the reasons why this failure has happened and to learn a lesson from it. I used to think that it was not my fault and someone else was to blame. And that's exactly the mistake I no longer want to repeat. You have to focus on yourself and not look for mistakes in others.

Source: authors

**Evaluation of semi-structured interviews.** Although this is a small sample of respondents, the idea of doing business was brought about by the need to realise their own idea. Among the great benefits at the beginning was the willingness to take risks and hard work; conversely, impatience, the effort to quickly realise the idea was a hindrance. The actual start of the business is seen as the greatest success. The respondents plan to expand their initial idea in the future. They advise proceeding systematically and evaluating the reasons for potential failures.

## 4 Discussion

Figures are one thing, stories and real practice quite another, as evidenced by the outputs of the qualitative research. Although several initiatives leading to the development and support of the start-up ecosystem in the Czech Republic are mentioned above, the authors believe they are rather supportive but isolated tools. The issue should be addressed not only by the government and public administration, but also by educational institutions, firms, financial institutions, and start-ups themselves. It is too late to start talking about promoting entrepreneurial spirit in universities. Entrepreneurial skills should be already being taught in the early stages of the education process. Advocacy groups and lobbying to support start-ups should come from one place, and there should also be a single source of legal, financial and administrative advice to start-up entrepreneurs.

The government administration is expected to simplify administrative barriers to business. According to the Association of Small and Medium-Sized Enterprises and Tradesmen of the Czech Republic, a small entrepreneur who chooses, for example, to open a food business, needs a positive opinion from, or has to report their activity, to 15 to 20 state institutions. In normal operation, they can expect between 20 and 30 types of checks from the state authorities. (idnes.cz, 2018) The management, contractual conditions between shareholders, investors and owners should also be simplified by introducing new legal forms (e.g. a convertible bill of exchange or a simple joint-stock company, etc.). Business start-up visas should be established in line with the European system of initial visas. Other improvements could be tax breaks under predetermined clear conditions for whom and for how long, after creating a favourable business environment and direct support with easier access to sources of finance and labour resources. The aim of entrepreneurship education and entrepreneurial thinking should be to teach children and young people in a way that suits their needs and develops their skills for education, professional, and personal life. Good entrepreneurial education and education should provide students with the opportunity to think and act in an entrepreneurial manner, focus attention on key core competencies that are transferable to different contexts, especially in the world of work, enable students to gain practical experience related to the world of work, promote positive attitudes, and develop soft skills such as problem-solving, decision-making, risk-assessment, and more.

It is also necessary to consider the approach of higher education institutions to supporting and establishing start-ups, business accelerators and incubators. In addition to the

goodwill and expertise of educators, however, the method of financing these activities must be resolved, creating the motivation factors to implement them.

Successful entrepreneurs should be presented on a daily basis in the media. They should point to their 'Pathways to Success'; to opportunities they can use for the threats they face. There are hundreds of top regional entrepreneurs who, for two decades, have been generating good added value, who invest, employ, speak little, and help selflessly. We should also not forget that young people themselves are becoming a bit comfortable. Being a low-level manager of a multinational company in Prague is more attractive than start trying to prove yourself in your own region. All of this leads to the idea of breaking this circle of passivity and mobilising creative individuals to become independent entrepreneurs in areas with potential. Case studies, examples of good practice, but also examples of failure should appear in school curricula, and should have sufficient media coverage. In society at large, it is necessary to promote an atmosphere of a positive relationship to and perception of entrepreneurs as carriers of further development and economic stability. The discussion of the topic can be concluded with a quotation from Steve Jobs.

***"Your time is limited, so don't waste it living someone else's life. Don't be trapped by dogma – which is living with the results of other people's thinking. Don't let the noise of others' opinions drown out your own inner voice. And most important, have the courage to follow your heart and intuition. They somehow already know what you truly want. Everything else is secondary."***  
**Steve Jobs (gurteen.com)**

## **Conclusion**

The issue of support for the emergence of new, especially student, start-ups is a current one. The authors aim to continue focusing on this subject, to carry out more detailed and broader research aimed at assessing the current state of the start-up ecosystem in the Czech Republic, as well as to propose to the University of Finance and Administration an educational project that would develop entrepreneurial thinking among students and support the entrepreneurial spirit in those members of the young generation who still approach entrepreneurship with reluctance. The authors will look for possibilities of cooperation in internationalisation, and compare the support of the start-up environment in the Czech Republic and the countries of the European Union. In educational practice, they will focus on inspiring students and guiding them towards entrepreneurial activities, creating a suitable climate for entrepreneurship support. One of the steps will be an event called D Day, which will take place at the University of Finance and Administration. In this event, 3rd year students of the Bachelor's degree will present to a professional jury their business plans prepared within the Business Model course. In addition, they will seek examples of good practice and prepare case studies that will be included in teaching materials. The authors firmly believe that this paper will encourage the academia to introduce similar activities at their schools.

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