“Factors impacting startup sustainability in the Czech Republic”

AUTHORS	Naděžda Petrů https://orcid.org/0000-0002-9927-3337 Miroslav Pavlák https://orcid.org/0000-0003-3938-784X Josef Polák https://orcid.org/0000-0002-7305-3379

ARTICLE INFO	Naděžda Petrů, Miroslav Pavlák and Josef Polák (2019). Factors impacting startup sustainability in the Czech Republic. *Innovative Marketing* , *15*(3), 1-15. doi:10.21511/im.15(3).2019.01
DOI	http://dx.doi.org/10.21511/im.15(3).2019.01
RELEASED ON	Monday, 15 July 2019
RECEIVED ON	Tuesday, 21 May 2019
ACCEPTED ON	Monday, 24 June 2019

LICENSE	This work is licensed under a Creative Commons Attribution 4.0 International License

JOURNAL	"Innovative Marketing "
ISSN PRINT	1814-2427
ISSN ONLINE	1816-6326
PUBLISHER	LLC “Consulting Publishing Company “Business Perspectives”
FOUNDER	LLC “Consulting Publishing Company “Business Perspectives”

NUMBER OF REFERENCES	NUMBER OF FIGURES	NUMBER OF TABLES
48	0	9

© The author(s) 2026. This publication is an open access article.

BUSINESS PERSPECTIVES

LLC "CPC "Business Perspectives"
Hryhorii Skovoroda lane, 10,
Sumy, 40022, Ukraine

www.businessperspectives.org

Naděžda Petrů (Czech Republic), **Miroslav Pavlák** (Czech Republic),
Josef Polák (Czech Republic)

FACTORS IMPACTING STARTUP SUSTAINABILITY IN THE CZECH REPUBLIC

Abstract

The startup ecosystem in the Czech Republic falls far below the level of the developed economies of its Western neighbors. The startup map of the Czech Republic shows 1,717 continuously operating startups. And yet they have yet to receive priority attention in the academic realm. The primary goal of this article is to define the key factors of startup sustainability and to look for dependencies between them. The secondary goal is to identify the weaknesses of the Czech startup environment. The scientific hypotheses formulated focus on demonstrating the dependencies of selected factors influencing the startup sustainability. These have been verified on the basis of evaluation of data obtained via primary qualitative and quantitative research. Its findings were compared with the data of secondary research and with the conclusions of the scientific studies of international authors. The data were processed using statistical apparatus. Thanks to this research, the authors have identified in their conclusion the factors of the remote, immediate, and interior environments that can influence startup sustainability. They demonstrate a correlation between the level of strategic management and the quality of internal communications processes, between the capacities of startup management to manage relationships with customers (CRM) and to drive communications strategy, including brand support. In real practice, however, nine out of ten startups do not succeed. The reason is that their design fails to understand and address the needs of customers and lacks marketing and managed sales.

Keywords business, customer, Czech Republic, marketing management, startup, sustainability methods

JEL Classification M2, M3

Received on: 21st of May, 2019
Accepted on: 24th of June, 2019

© Naděžda Petrů, Miroslav Pavlák, Josef Polák, 2019

Naděžda Petrů, Ing., Ph.D., Department of Business Management, Faculty of Economic Studies, University of Finance and Administration, Czech Republic.

Miroslav Pavlák, Ing., Ph.D., Department of Business Economics and Management, Faculty of Economics, University of West Bohemia in Pilsen; Faculty of Economic Studies, University of Finance and Administration, Czech Republic.

Josef Polák, Dr., Department of Economics and Management, The College of Regional Development and Banking Institute – AMBIS, Czech Republic.

This is an Open Access article, distributed under the terms of the Creative Commons Attribution 4.0 International license, which permits unrestricted re-use, distribution, and reproduction in any medium, provided the original work is properly cited.

INTRODUCTION

Germany, Finland, Sweden, Denmark, that is, countries that have decided to support science, research, innovation, and sustainable development as key national priorities, nowadays rank among prosperous economies. In the years 2006–2016, they followed a path of the massive support of the innovation and sustainable development (Piwowarski et al., 2018). The Czech Republic, too, has all the prerequisites for becoming a future European innovation leader. It must focus above all on supporting the creation of technical solutions, services based on knowledge, creation of added value, on the support of science and research, startups, and the creation of a spin-off entrepreneurial environment (see Havlíček et al., 2019).

The exact number of Czech start-ups cannot be formulated into concrete numbers because of a dynamic environment in the Czech Republic that it is difficult to be measured. Many start-ups have already disappeared, others are now emerging. The Aspen Institute's research based on a sample of 550 respondents from a number of start-ups states that about 80% of start-up founders used their own financial resources to start their business (Staszkiewicz & Havlíková, 2016). The fact of the lack of the investment environment in the Czech Republic

that would motivate the creation and financing of new projects is confirmed by Šoltés and Štofa (2016), Bortlová (2015), Botric and Bozic (2017). Kozubikova, Kotaskova, Dvorsky, and Kljucnikov (2019) recommend facilitating the development of start-ups by reducing and removing administrative barriers, improving access to finance and adapting training programs involving entrepreneurship education at different levels of education. The fact that the Czech Republic does not appear among countries using venture capital for financing is also confirmed by the Invest Europe (2019) statistics.

The government agency CzechInvest partially supports the startup scene in the form of incubation and acceleration programs. Czechstartups.org serves as the official website of Czech startup activity. In 2012, StartupJobs.cz was launched – an internet portal for jobs in the Czech Republic that focuses on job offers from startups. Universities support the creation of startups/spin-offs intermittently, as they are generally regarded in the academic environment as high-risk endeavors (Belás et al., 2017; Peterkova et al., 2014). In terms of business practices, there is no sufficient motivation to the use of academic findings, whereas the approach of corporations and small- and medium-sized enterprises in the Czech Republic is rigid with regard to collaboration with startups (see Masopust & Ivanov, 2016; Virglerova et al., 2017).

The reason this topic was chosen is its pertinence. The originality and excellence of this article consist of defining the set of causes for startup dysfunction. This article is structured in the classical concept of a scientific study. The literature review presented serves as a literary input for examining the issues addressed, followed by the use of scientific methods, evaluation of findings, discussion, and conclusion.

1. LITERATURE REVIEW

In the new global economy, startup firms have been considered a key player in economic development. The reasons for their significance are their contributions to job creation (which increases employment) and economic growth at the regional, national, and industrial levels. Several breakthrough innovations and major businesses have been generated by startups (Tripathi et al., 2019). A similar opinion is evinced by D'Avino et al. (2015): "startup businesses have always played an important role in the global economy, but recently their importance has grown significantly".

1.1. Definition of terms

If we wish to examine the substance of this phenomenon, to respond to the question of what factors and prerequisites are necessary for startup sustainability, we must first define the concept of a startup itself. A startup company is considered an early stage in creating a new venture or organization (Salamzadeh & Kesim, 2015). Avnimelech and Teubal (2006) define startups as young, high-tech companies whose main activity is to deal with a new venture idea up to the initial sales stage, which usually takes between one and five years. Zajko (2017) considers the start-up to be the initial phase in the life cycle of a company. If it survives the first 2 to 3 years and internal and external conditions are favorable, it should continue with the growth phase. According to Hathaway (2016), 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.

With the same revolutionary speed that technology is changing, the term startup itself is acquiring new dimensions. The technical public does not see it merely as a stepping stone from the absolute beginning of entrepreneurialism into subsequent development stages. The startup is perceived as the basic form of business, which enables the creation of a rapidly growing innovation project. It ultimately carries out the successful placement of a new product on the market, develops information technology, or executes a change of technical process, ideally in a global environment and with long-term gain. For more details, see Frederiksen and Brem (2017), Stolze et al. (2014), Tanev (2017), Coviello (2015), Mercandetti et al. (2017), Luger and Koo (2005). There were introduced three criteria that determine the defining scope of a start-up: 1) new, 2) active, and 3) independent.

Many authors place an emphasis on innovativeness (e.g. Gimenez-Fernandez & Beukel, 2017;

http://dx.doi.org/10.21511/im.15(3).2019.01

Haines, 2016; Spender et al., 2017, etc.), which nonetheless need not consist of the development of radically new technologies, new applications, applications in fields related to the advent of artificial intelligence and the processing of big data. Startups can combine existing available technologies in an innovative manner and thus wield a significant competitive advantage compared to established companies or other startups.

1.2. Prerequisites for startup sustainability

Blank and Dorf (2012) define 9 major startup elements. A vision alone is not enough for a startup to be successful. In order for the project to go in the right direction and be successful, it is necessary to take into account 9 influential elements. Every successful company uses these points:

1) value proposition – which sector the product or service is targeting, its main characteristic, what differentiates it from the competition;

2) customer segment – consisting of the target audience and the solution to the problem that the product offers;

3) channels – distribution and how products are sold;

4) relationships with customers – including efforts to create demand;

5) cost structure – including fixed and variable costs;

6) key activities – the tasks the company must perform to achieve success;

7) key resources – including suppliers and commodities;

8) key partners – including other companies necessary for business success;

9) revenue streams – turnover, source and amount of profits.

The findings of empirical studies examining the prerequisites for startup sustainability are not consistent. Dahlqvist, Davidsson, and Wiklund (2010) call attention to the fact that mere endurance and a good plan including an excellent product or service are not sufficient to achieve success. They recommend focusing on finding the right segment of potential customers and caring for them. B. Kim, H. Kim, and Jeon (2018) discuss the significance of activities associated with the launch of a business – the acumen of the founders and their business competencies (e.g. goal-orientation, risk sensitivity, business motivation, progressive thinking), innovativeness of ideas and creativity with technologies, well-thought-out financing, and the capacity for obtaining risk capital. Baloch and Akram (2018) emphasize the role of university academics who use assetization methods of instruction to support students/future entrepreneurs the motivation to found startup companies. They consider sufficient knowledge and engagement an important prerequisite for the successful launch of a business. The role of university academics is also underscored by Polák, Kozubíková, and Kozubík (2018) in the context of developing financial literacy. They consider it essential as part of all entrepreneurial activities. Based on systematic literary research, Centobelli, Cerchione, and Esposito (2017) argue in favor of the importance of processes associated with creating, obtaining, retaining, transferring, communicating, and managing knowledge, and its application and influence on the future economic, financial, market, sales, marketing, technical, technological, organizational, human and relational performance of a startup. The sustainability of the startup environment is also influenced by economic policy (Pavlák & Petrů, 2018).

A prerequisite for success is an appreciation of the importance of human capital and the ability of the employees of early startups to work in a technically balanced, high-quality, capable, and ambitious team. The most common criteria of success are high growth potential of a product, a developed sales and marketing strategy, sufficient information about the market situation, the economic parameters of the business project, the personality profile of the entrepreneur (Vnoučková, 2018). Managerial abilities and management experience tend to be ranked highly. In the field of startups focused on information technology, 21 critical success factors were identified, grouped into three categories (organizational, individual, and external) (Santisteban & Mauricio, 2017).

An important factor influencing the success and sustainability of startups is the activity associated with marketing. The research of Swenson, Rhoades, and Whitlark (2014) emphasizes the influence of the presentation and brand support of a startup in the form of WOM for rapid and successful launch. Basri and Siam (2017) recommend that early startups with limited budgets use social media as a promotional platform for promoting, increasing brand awareness, educating customers, and presenting the competitive advantages of products and services on offer. The most important tool of the sales and marketing strategy of a dynamic and developing entity with high growth potential, according to Rus, M. K. Ruzzier, and M. Ruzzier (2018), is the brand, its visibility and communication.

It can be said that the ambiguity of the findings gathered leads to understanding that the global results of a range of studies are practically incomparable. There is a wide variation between the approach of researchers, research questions, hypotheses, forms of obtaining and evaluating information and size of study samples. They are influenced by the economic and technological development of the territory examined, as well as by the legislative and subsidy conditions in the given country.

2. METHODOLOGY

The primary goal of this article is to define the key factors of startup sustainability and to look for dependencies between them. The secondary goal is to identify the weaknesses of the Czech startup environment. The study is meant to be the beginning of a long-term research endeavor whose purpose will be to continually map trends in the startup environment in the Czech Republic, to compare this with trends in comparable economies, and to seek pathways for its continued sustainability and subsequent transition to a classic business. The findings gained may be used to integrate the academic and business spheres and can help increase the success of startup companies.

H1: *A significant dependency exists between the level of strategic management and the quality of internal communications processes.*

H2: *A significant dependency exists between the ability of a startup's management to manage relationships with customers (CRM) and drive communications strategy, including brand support.*

H3: *Number of employees is not significantly dependent in relation to the management of company culture.*

Dependencies brought in the hypotheses have not yet been researched in the Czech Republic and their statement is based on personal interviews of researchers with a representative of CzechINvest.

2.1. Data sources

A unified definition of a startup that factors into applicable legislation does not yet exist. The Czech Statistics Office, therefore, has no obligation to gather data about this form of enterprise. Data about the actual number of startups in the Czech Republic vary, www.startupmap.cz lists 1,717 startups; this number can be considered a basic data set.

This study is based on a sample of 101 startup entrepreneurs contacted by the research agency Perfect Crows as part of Startup Report 2017–2018 and 150 startup entrepreneurs contacted by the University of Finance and Administration researchers. The respondents were selected by random sampling and represent 14.61% of the basic set. The target population consisted of startup owners. The research took place in the period of October 2017 – January 2019. The data were processed using SPSS for statistical testing. A statistical calculation of the Cronbach's Alpha indicator was used to validate the reliability of the data. The consistency and reliability test results are shown in subsection 3.2.

2.2. Research methodology

The authors used the method of comparing the relevant data of their own primary research with secondary data/outputs of the research of Keirets Forum CEE. The data of this study were obtained using individual interviews with dozens of startup entrepreneurs. The individual interviews lasted between 20 minutes and 1.5 hours and took

http://dx.doi.org/10.21511/im.15(3).2019.01

place face to face, by phone, or via Skype. Others took place as part of 5 group discussions. Each group discussion took approx. 1.5-2 hours. The individual interviews lasted between 20 minutes and 1.5 hours and took place face to face, by phone, or via Skype. The quantitative research took place with an online questionnaire, where the Kvalikvant environment was used for programming the questionnaire and collecting the data. The research topics related to the profile of startups, strategy, startup success factors.

The research performed by representatives of VŠFS, a.s. took place using similar methods. Quantitative research via an online questionnaire in the Survio application environment (185 links to the environment of the questionnaire at Survio.com were sent out, with a rate of return of 81.08%). A questionnaire was used for the study whose reliability has been validated. Only questionnaires with completed experimental data were included in the study sample. 80 individual telephone conversations took place afterwards, where the research topics related to startup success factors. The statistically evaluated parameters were also commented on by the authors based on the information obtained through qualitative research. The sample obtained by researchers from VŠFS, n = 150, was tested in the first stage from the perspective of completeness of test variables using the program SPSS. The study sample scored 100% in the test of data completeness. In the subsequent step, the reliability of test data was validated using Cronbach's Alpha. A Cronbach's Alpha value of 0.7 and above indicates a high level of consistency and reliability of the test sample. The calculation of this indicator resulted in a value of 0.907. Based on this result, the study data may be declared highly consistent and reliable.

An average value was calculated from the comparable data obtained. It can be stated that the outputs of the primary and secondary research differed in approx. 5% of the responses; the standard deviation σ may be considered negligible for the needs of this study. One limitation is the fact that it was not possible to compare individual respondents as to whether these were not the same companies. However, the probability of this factor was low.

2.2.1. *Correlation analysis*

Correlations, in various forms, are the most common statistical characteristics throughout the technical literature (*Řehák* & Brom, 2015). The purpose of the correlation analysis is to determine the mutual relationship of the given quantities. Dependencies between variables were determined using the method of calculating the Pearson correlation coefficient, which measures the strength of the linear dependency between two quantities. The results of correlation analysis are used to confirm or refute hypotheses *H1*, *H2*, and *H3*. Correlation analysis was performed using the statistics program IBM SPSS ver. 25. The results of the correlation analysis are listed in Tables 8 and 9.

2.2.2. *Description of variables examined*

When validating the dependencies of the examined variables, the study focused on an evaluation of the relationships between the variables listed in Table 1.

Table 1. Description of variables examined

Source: Authors' analysis.

Name of variable	Definition	Scale/type of metric
The level of strategic management	Represents the level of existence and use of individual tools of strategic management – i.e. setting long-term visions, purpose, goals, and values, the existence of a written document – a strategic plan that is regularly revaluated	0 = completely lacking or inadequate, 1 = low level, incomplete document exists, 2 = moderate level, 3 = exceptional level
The quality of internal communications processes	Represents the extent to which processes are developed in relation to the quality of internal communications, the description and functionality of communication channels, and with regular assessment of the efficiency of information flows	0 = dysfunctional, confused, 1 = low level, the existence of considerable communication noise, 2 = moderate level, 3 = exceptional level

Table 1 (cont.). Description of variables examined

Name of variable	Definition	Scale/type of metric
The capability of startup management to manage relationships with customers (CRM)	This variable represents the degree of capability of management to make use of the tools of the philosophy of CRM: planned steps to seek out, address customers, regular communications, developed methods for building a long-term relationship, keeping records of customers	0 = lacking or inadequate, 1 = low level, at least 3 VIP customer leads, 2 = moderate level, there are segments and regular communication with selected customers, 3 = excellent level, including automatic incentives for an innovative approach in CRM
The capacity to manage communications strategy, including brand support	This variable represents the level of capability of the management to drive and purposefully direct the communication campaign using tools of integrated communication, support the brand of the product or the startup itself	0 = very low level, communication is not managed or is managed on an ad hoc basis, 1 = low level, communication lacks appeal to target customer segment, 2 = moderate level, communication is managed, but its effectiveness has not been assessed, 3 = high level, processes associated with communications strategy including brand support are executed and measured
The number of employees	Defined by category	1 = 0-5 employees, 2 = 6-15, 3 = 16-30, 4 = 31-50, 5 = 51-100, 6 = 100-250, 7 = over 250
The managing company culture	The set of values, norms, and positions communicated to all employees, distinctiveness, uniqueness, mutual responsibility, share in implementing innovations, support of the feeling of importance for society	0 = lacking or inadequate, 1 = low level, 2 = moderate level, 3 = exceptional level, including automatic incentives for an innovative approach in the field of managing company culture

3. EMPIRICAL RESULTS AND DISCUSSION

In the first phase of the study, factors were identified that could influence the success and sustainability of startups. Outputs of the primary and secondary research were evaluated, the average value of responses was calculated. The used data sample is representative and relevant, as shown in subsection 3.2.

Table 2. Structure of analyzed startups according to a place of operation – a factor of location

Source: Own processing.

Place of operation	VŠFS data % responses *n* = 150	KEIRETSU FORUM data % responses *n* = 101	The average value in % responses
Prague	53	56	54.5
Brno	14	15	14.5
Other	32	30	31
Total	100	100	100

From the table, it is clear that most analyzed start-up companies are headquartered in Prague. The next strongest region is Brno and its surroundings, as well as the second most important centre of economic and social life in the Czech Republic. The explanation could be the fact that spaces for the development of the startup ecosystem are available in Prague (Praguestartupcentre). Business and innovation are supported by the Operational Program Prague – Field of Growth Czech Republic. Prague vouchers support innovation projects – a collaboration with companies with research and development organizations for the purpose of the product, process, or service innovation. From approx. 60 startups that are founded in the Czech Republic every month, 40 of them are founded in Prague. Eight to nine startups out of 10 will quickly fold, because they do not have a functioning business model, they have not calculated everything well, or they have not succeeded in attracting the interest or attention of customers (Průcha, 2018). This factor can be considered significant.

Table 3. Structure of analyzed startups by legal form of business – a factor of the suitability of resources from legal form

Source: Own processing.

Form of business	VŠFS data % responses *n = 150*	KEIRETSU FORUM data % responses *n = 101*	The average value in % responses
101 – natural person operating according to the trade licensing act, not registered with the Commercial Register	6	5	5.5
112 – joint-stock company	83	73	78
Other	7	9.5	16.5
Total	100	100	100

The predominant legal form of business is limited liability company [společnost *s* ručením omezeným,

http://dx.doi.org/10.21511/im.15(3).2019.01

s.r.o.], followed far behind by natural persons and joint-stock companies. Most startups function in the form of a traditional s.r.o. In the Czech Republic, this is the most widely used legal form of a company, for entrepreneurs, it is relatively simple to establish, initial costs are lower than with joint-stock companies. The factor of suitability of resources from legal form can be considered significant.

Table 4. Structure of analyzed startups by number of employees – factor of number of employees

Source: Own processing.

Number of employees	VŠFS data % responses *n* = 150	KEIRETSU FORUM data % responses *n* = 101	The average value in % responses
1-9	46	47	46.5
10-19	27	29	28
20-250	23	28	25.5
Total	100	100	100

The most strongly represented is the category of companies from 1 to 19 employees. The results of this finding are not in any way surprising, as startups begin as small companies and only expand as part of their life cycle and success.

Table 5. Startups by area of business – the factor of attractiveness of their industry or field

Source: Own processing.

Industry	VŠFS data % responses *n* = 150	KEIRETSU FORUM data % responses *n = 101*	The average value in % responses
Mix of fields/ otherwise articulated	69	71	70
Software and cloud services	17	15	16
E-commerce, ad tech, martech	15	13	14
Total	100	100	100

In the Czech Republic, startups predominate in the fields of software, online services, and e-commerce. On the contrary, there is very low representation of companies in the fields of manufacturing, materials, hardware, and IoT. At the same time, it is worthy of note that the greatest share of startups see the field of their business as occupying the boundaries between several categories, and resist self-classification into merely a single category.

Table 6. View of startups on planning and executing marketing activities – the factor of applying knowledge in the area of marketing management

Source: Own processing.

Knowledge factor	VŠFS data % responses *n* = 150	KEIRETSU FORUM data % responses *n* = 101	The average value in % responses
Planning			
Short-term planning: weeks – 3 months	51	49	50
Long-term planning: year or more	22	26	24
Short-term planning: 3-6 months	23	20	21.5
Long-term planning: multiple years	4	5	4.5
Competitor analysis			
Internal competitor analysis	75	66	70.5
External competitor analysis	4	11	7.5
No competitor analysis performed	21	23	22
Development of marketing plan			
No	59	52	55.5
Yes, internal	35	37	36
Yes, external	6	11	8.5
Use of marketing communications tools for sales support			
Addressed internally	66	68	67
Addressed externally	22	21	21.5
Not currently addressed	12	11	11.5

Evaluating the factor of applying knowledge in the area of marketing management brought important findings. Startup entrepreneurs do not work with strategic long-term planning, do not use marketing services externally, but cover this area with their own resources, and systematically fail to devote much attention to this area. Startups are primarily focused on their own business and deprioritize everything not directly associated with product development in the initial phases. Almost a quarter did not perform any competitor analysis at all, over half did not compile a marketing plan, only a fifth has secured communication toward customer segments externally, approx. a tenth does not address it even internally. The researchers conclude that the core of most problems of Czech startups is inadequate processing of marketing analysis. Lack of understanding of the market and the customer is usual-

Table 7. Other factors influencing success of startups – processing information from qualitative research, personal interviews with owners of startups

Source: Own processing.

Factor	VŠFS data % responses *n* = 150	KEIRETSU FORUM data % responses *n* = 101	The average value in % responses
Quality of human resources	67	60	63.5
Option to expand abroad	32	35	33.5
Bureaucracy, non-transparent laws	60	64	62
Tax and administrative burden	59	62	60.5
Form of financing – external/own	35	41	37
Knowledge of legal matters	29	25	27
Capacity to obtain external sources of financing	28	25	22.5

ly a barrier that will emerge in many subsequent steps in the future. The main reasons for addressing marketing communication using internal resources include the presumed financial costliness and the concern of the startups that the external solution will not be flexible enough, will not be capable of meeting the specific needs of the startups, and will not be capable of responding to fast-paced events and changes. Startup entrepreneurs do not pay sufficient attention to managed marketing communication tools and brand management.

It can be seen from the study that a factor influencing sustainability is the acquisition of high-quality human resources. Significant obstacles are the complex bureaucracy and concern of high administrative and tax burden.

From the above factors, the researchers focused on factors, which in their professional experience, and above all the opinion of the respondents, significantly influences startup sustainability. The selected factors were examined using correlation analysis.

3.1. Correlation analysis findings

Prior to completing the correlation analysis of the variables in Table 8, a test was performed of the reliability of the variables examined by calculating the Cronbach's Alpha indicator, where a value of 0.882 indicated a high level of reliability and consistency of analyzed data. As Table 8 shows, the test data derived confirmed the high degree of correlation of the variables – level of operations and strategic management, process maturity, and

Table 8. Correlation analysis of the level of management of selected internal communication processes

Source: Authors' analysis using SPSS.

Factors		Level of operations management	Level of strategic management	Quality of internal communications processes	Factor of number of employees
Level of operations management	Pears. correlation	1	.717**	.755**	.462**
	Sig. (2-tailed)	–	.000	.000	.000
	N	251	251	251	251
Level of strategic management	Pears. correlation	.717**	1	.720**	.419**
	Sig. (2-tailed)	.000	–	.000	.000
	N	251	251	251	251
Quality of internal communications processes	Pears. correlation	.755**	.720**	1	.376**
	Sig. (2-tailed)	.000	.000	–	.000
	N	251	251	251	251
Factor of number of employees	Pears. correlation	.462**	.419**	.376**	1
	Sig. (2-tailed)	.000	.000	.000	–
	N	251	251	251	251

Note: ** Correlation is significant at the 0.01 level (2-tailed) (this means high quality statistical data at the level of 1% deviation).

http://dx.doi.org/10.21511/im.15(3).2019.01

quality of internal communications processes. The factor of number of employees in comparison to the other factors expressed a weak positive correlation, but it could not be considered significant.

H1 presumed a significant dependency existing between the level of strategic management and the quality of internal communications processes. The value of 0.755 demonstrated a strong dependency between the given quantities; hypothesis 1 can be confirmed.

Prior to completing the correlation analysis of the variables in Table 9, a test was performed of the reliability of the variables examined by calculating the Cronbach's Alpha indicator, where a value of 0.820 indicated a high level of reliability and consistency of analyzed data. As shown in Table 10, data testing confirmed the strong correlation between the following variables – the factor of capability of management to conduct CRM, company culture, communications strategy, and brand support. The number of employees in comparison to the other factors expressed a weak positive correlation, but it could not be considered significant.

H2 presumes that a significant dependency exists between the capacity of startup management to drive relationships with customers (CRM) and communications strategy, including brand support. The value of 0.692 achieved is distinct for its strong positive correlation, this dependency can be designated as significant and *H2* can be confirmed. *H3* presumes that a number of employees is not significantly dependent in relation to the management of company culture. The value of 0.427 achieved denotes a weak positive correlation, on which basis *H3* can be confirmed.

3.2. Discussion

First, it is worth discussing the highlighted factors presented in the first phase of the research, then to comment on the outputs of correlation analysis and to support the verification of the hypothesis through argument. The results presented can be classified into the relevant interdisciplinary connections between fields of study – management, marketing, HR, economics, etc. In the first phases of a startup company, the primary goal is not to generate a profit, but above all rapid growth and expansion. One of the options for distinguishing the factors that influence the sustainability of business – that is, the transition from startup to classic business – is their division in relation to their appearance in the market environment. The proposal corresponds to the theory of analysis of the customer environment as described in the publications of Kotler and Keller (2013), Porter (2004), Affonina (2015), Magretta (2012) and others.

Table 9. Correlation analysis of the level of selected marketing activities of selected internal communication processes

Source: Authors' analysis using SPSS.

Factors		Capability of management to conduct CRM	Factor of managing company culture	Capacity of management to drive communications strategy and support brand	Factor of number of employees
Capability of management to conduct CRM	Pears. correlation	1	.599**	.692**	.376**
	Sig. (2-tailed)	–	.000	.000	.000
	N	251	251	251	251
Factor of managing company culture	Pears. correlation	.599**	1	.742**	.427**
	Sig. (2-tailed)	.000	–	.000	.000
	N	251	251	251	251
Capacity of management to drive communications strategy and support brand	Pears. correlation	.692**	.742**	1	.505**
	Sig. (2-tailed)	.000	.000	–	.000
	N	251	251	251	251
Factor of number of employees	Pears. correlation	.376**	.427**	.505**	1
	Sig. (2-tailed)	.000	.000	.000	–
	N	251	251	251	251

Note: ** Correlation is significant at the 0.01 level (2-tailed) (this means high quality statistical data at the level of 1% deviation).

3.2.1. *Factors of the wider environment above all the macro and microeconomic, legislative, the technological, political, sociological, etc.*

A startup entrepreneur cannot manage these factors, but must know and respect them. In terms of political decisions, it can be stated that in the Czech Republic, it is a period extraordinarily favorable to establishing startups. Under the leadership of prime minister Andrej Babiš, the Council for Research, Development and Innovation, 2019 [Rada pro výzkum, vývoj a inovace, RVVI] met for its regular conference on Friday, March 29, 2019 to discuss action plans of the newly implemented Innovation Strategy of the Czech Republic 2019–2030 and to propose the state budget for research and development for 2020 with a view to the years 2021 and 2022. "We are preparing a revolutionary solution for motivation and financing of spin-offs and startups. We are involving the government. The goal is for the ideas of young people not merely to end at the hand of foreign investors", he said on one of the key tasks of the government-approved Innovation Strategy for the Actions of Andrej Babiš (*Úřad* vlády ČR a RVVI, 2019).

The legislative and economic factor is also important for startups, whether in terms of simplified administration for businesses and the digitization thereof, through the addressing of tax matters, such as the option for immediately claiming of VAT for newly created startups, to the legislative foundation of this business form and its support. It is worth discussing the creation of the foundation of an entire ecosystem in the form of suitably earmarked subsidies for projects that need "long money" – e.g. development of breakthrough technologies in health care and others.

3.2.2. *Factors of the immediate environment – the situation in the industry, customer needs, requirements, and expectations, and competitors*

For beginning startups, the factor of attractiveness and openness of the industry is one of the most important. Satisfying customer PPO allows for sustainable startup development. To satisfy the customer, however, presumes an ability on the part of startup entrepreneurs to accurately perform the segmentation of the potential audience of the product on offer, to define whether they will operate on a B2B market or a B2C or B2G market. The product on offer must be unique for the customer and must bring him high added value. The startup entrepreneur must also offer a creative communication campaign, including support of the brand of the startup itself or the product on offer, which will serve to invoke in the customer the desire for the product, which often requires a high level of investment in technology and marketing, and, according to Kupec (2018), is a high-risk activity of marketing communications.

Startup vendors may not only be the representatives of private venture capital funds, investors, but also the providers of advisory services (representatives of science and research, university platforms, other educational institutions, consultation in the fields of sales and marketing strategy, protection of intellectual property, legal, economic, or tax services, proprietors of incubators or business accelerators, etc.). The startup entrepreneur must know how to "sell", how to present his product and arouse the feeling about it that it will pay off to work with the startup.

3.2.3. *Factors of the internal environment of the startup – this is derived from founder knowledge, skills, and qualities*

This is decided by the personality of the founder, his age, level of enthusiasm, daring, capability to overcome fear of failure and believe in success, patience – persistence, endurance, and ability to learn from past mistakes. Motivation and higher value are also important – faith in higher purpose, that what he is doing will bring good to all of society, sufficient self-confidence, managerial competency.

H1 presumed a significant dependency existing between the level of strategic management and the quality of internal communications processes. Although it was demonstrated, the real practice of the study sample of startup entrepreneurs – see Table 6 – showed that startup entrepreneurs prioritize operations management, and do not add short-term goals into connection with long-term goals. This more easily leads to errors in management, which can cause outputs that can-

http://dx.doi.org/10.21511/im.15(3).2019.01

not be incorporated with long-term sustainability. This error becomes more pronounced in cases of poor, uncoordinated internal communication of long-term goals. A fundamental error is that they have not sufficiently communicated internally the needs or problems that their product solves, and instead concentrate on the rapid execution of their idea.

H2 presumes that a significant dependency exists between the capacity of startup management to drive relationships with customers (CRM) and communications strategy, including brand support. Although it has been demonstrated, in the real startup environment, management does not focus on these activities. They primarily focus on sometimes altogether inadequate conclusions related to the attractiveness and novelty of their product, which they nonetheless fail to support with a communication campaign to the exterior environment, namely the customers. They underestimate the importance of a creative communications campaign, the creation of a relationship between the customer and the brand, the company.

The above outputs confirmed the findings published in the academic studies listed in the literature review. In connection with the topic of our research, we consider it significant to incorporate factors on the organizational, individual, and external environments. Santisteban and Mauricio (2017) identify 13 critical factors including as important the marketing and human resources team, namely the factors of the internal environment of the startup at which we have also arrived through our research. This also confirms the findings of Basri and Siam (2017) regarding the fact that despite the easy accessibility of platforms for social media, startups do not manage to maximize their potential to the benefit of their companies.

Practice shows that marketing is fundamental to startup sustainability and its role will continue to increase as part of the Marketing 4.0 environment. Marketing and its management must permeate the entire evolution of the startup. This does not consist solely of classical promotion in the online and offline environments but an overall mindset and approach to thinking about business as such.

In the Czech Republic, on April 10, 2019, the Startup World Cup & Summit took place – the finals of the global startup competition. It was not, however, merely a showing of the most promising startups of seventeen European countries – the absolute winner was the Swedish project Mimbly, which is developing solutions for water sustainability and management. *Český* Motionlab, which is developing a platform for creating personalized videos, obtained victory in the regional round. This confirms the effort of the organizers of the event to show that "the startup heart is beating" right here in the Czech Republic, despite the limitations referenced in the text. The media support of this event called attention to the fact that the Czech Republic has significant potential in the rapidly evolving startup world, yet for the time being uses only a fraction of it. According to the chief of the multibillion startup Strava and former vice president of Instagram James Quarles, CEO of Avast Vince Steckler, and California investor John Rizzi, one of the conditions for a sustainable startup company is better collaboration with investors, startups, corporations, universities, and the government.

CONCLUSION

This article defines the term startup – it is a company that is being created with an expectation of high growth in the near future. The scalability, or possibilities to expand the circle of customers into a more or less arbitrary dimension and at low incremental costs differentiates the startup from typically beginning companies.

The main goal of the study was to define the key factors for the sustainability of startup companies. These were subsequently divided on the basis of the research outputs into factors appearing in the wider, immediate, and internal environments of beginning companies. A satisfied customer is a key factor for the sustainability of businesses, whose loyalty can be earned using CRM tools. The attention of the

customer must be captivated by a creative communication campaign and brand support. As was proven, startup entrepreneurs do not consider these factors decisive for their success, prioritizing instead the development of the product. Its uniqueness, however, is not presented to the customer with sufficient effectiveness due to an absence of customer relations management and their own unwillingness (due to lack of knowledge, ability, or respect for order, or concerns of high financial costs, etc.) to execute a communication campaign. The personality of the startup entrepreneur and his capability to strategically manage internal processes toward long-term goals, and to communicate them across the team continues to be considered a key factor.

The secondary goal was to identify the weaknesses of the Czech startup environment. The currently low interest of classical financial institutions in investing in beginning companies may be considered a weakness – in the Czech Republic, an investment environment has not been developed that would motivate the establishment and financing of new projects. The targeted national concept for founding, developing, and financing startups was submitted by the RVVI only at the beginning of 2019, and thus far lacks specific implementation tools. Universities support the creation of startups/spin-offs intermittently, as they are generally regarded in the academic environment as high-risk endeavors. For some time, the necessary in-depth analysis of the Czech startup environment has been lacking. Czechs, compared to other nationalities, do not know how to sell themselves, and tend to be reserved in their marketing. The goals articulated may be considered met.

The sustainability of individual startups is derived from the level of development of the overall startup ecosystem in the given country. This can be compared to a snowball effect – the more experienced business owners return to business after their first exit, the better it is for the scene. At the same time, the money that they earned with their first exist are often recycled within the startup scene, which once again supports its further development. A similar principle is exhibited by investors as well – if they find and support quality projects, their investment gains value and confidence in investing in startups increases. A similar effect can be expected from scientific institutions – the larger the number of successful spin-offs, the more levels of trust in the benefit of scientific institutions for development of startups. It is necessary to support this development, present examples of best practice, to learn from the mistakes of the less successful.

The above facts confirm the importance of the research presented in this article. Startups may be unsuccessful thanks to the disproportionate positioning of the resources and activities of startup entrepreneurs with regard to their internal and external environment. This determines the necessary direction of subsequent research for identifying specific strengths and opportunities to leverage them, weaknesses and proposals for addressing them. The study, whose limiting factor is the variability of the startup business environment, should form a starting point for initiating a long-term study. Its purpose will be to continually map the development of the startup environment in the Czech Republic in comparison with development in comparable economies, to see options for its effective support and development in connection with the priorities of the individual economies. It will be important not only to describe and evaluate the status, but also to understand the thinking of startups and investors, as well as to capture the view of the technical public and small business owners.

ACKNOWLEDGEMENT

These results were achieved through work on the student project "Business incubator as a tool of cooperation of academic environment with real practice in the Czech Republic and abroad" using objective-oriented support for specific university research of the University of Finance and Administration.

http://dx.doi.org/10.21511/im.15(3).2019.01

REFERENCES

1. Afonina, A. (2015). Strategic management tools and techniques and organizational performance: Findings from the Czech Republic. *Journal of Competitiveness, 7*(3), 19-36. http://dx.doi.org/10.7441/joc.2015.03.02
2. Avnimelech, G., & Teubal, M. (2006). Creating venture capital industries that co-evolve with high tech: insights from an extended industry life cycle perspective of the Israeli experience. *Research Policy, 35*(10), 1477-1498. https://doi.org/10.1016/j.respol.2006.09.017
3. Baloch, K., & Akram, M. W. (2018). Effect of teacher role, teacher enthusiasm and entrepreneur motivation on startup, mediating role technology. *Arabian Journal of Business and Management Review*, 7(4), 1-14, doi: 10.12816/0052284
4. Basri, W. S., & Siam, M. R. A. (2017). Maximizing the social media potential for small businesses and startups: A conceptual study. *International Journal of Economic Perspectives, 11*(2), 341-346. Retrieved from https://www.researchgate.net/publication/321058367_Maximizing_the_Social_Media_Potential_for_Small_Businesses_and_Startups_A_Conceptual_Study
5. Belás, J., Dvorský, J., Tyll, L., & Zvaríková, K. (2017). Entrepreneurship of university students: Important factors and the propensity for entrepreneurship. *Administratie Si Management Public, 28,* 6-24. Retrieved from https://ideas.repec.org/a/rom/rampas/v2017y2017i28p6-25.html
6. Blank, S., & Dorf, B. (2012). *The Startup Owner's Manual 10-Pack: The Step-By-Step Guide for Building a Great Company* (608 p.). California: K&S Ranch Press.
7. Bortlová, H. (2015). Business angels' environment in the Czech Republic and the USA – case study. *Trendy Ekonomiky a Managementu, 9*(23), 9-16.
8. Botric, V., & Bozic, L. (2017). Access to finance: innovative firms' perceptions in post-transition EU members. *E+M Ekonomie a Management, 20*(1), 129-143. http://dx.doi.org/10.15240/tul/001/2017-1-009
9. Brejčák, P. (2018). Čas *změnit očekávání: Dvacátníci jsou nejméně* úspěšní *zakladatelé startupů.* Retrieved from https://tyinternety.cz/startupy/cas-zmenit-ocekavani-dvacatnici-jsou-nejmene-uspesni-zakladatele-startupu/ (accessed on May 24, 2018).
10. Centobelli, P., Cerchione, R., & Esposito, E. (2017). Knowledge management in startups: Systematic literature review and future research agenda. *Sustainability, 9*(3), 361. http://dx.doi.org/10.3390/su9030361
11. Corvello, V., Grimaldi, M., & Rippa, P. (2017). Startups and open innovation: A review of the literature. *European Journal of Innovation Management, 20*(1), 4-30. http://dx.doi.org/10.1108/EJIM-12-2015-0131
12. Coviello, N. (2015). Re-Thinking Research on Born Globals. *Journal of International Business Studies, 46*(1), 17-26. http://dx.doi.org/10.1057/jibs.2014.59
13. D'Avino, M., De Simone, V., Iannucci, M., & Schiraldi, M. M. (2015). Guidelines for e-startup promotion strategy. *Journal of Technology Management and Innovation, 10*(1), 1-16. https://doi.org/10.4067/S0718-27242015000100001
14. Dahlqvist, J., Davidsson, P., & Wiklund, J. (2010). Initial Conditions as Predictors of New Venture Performance: A Replication and Extension of the Cooper et al. Study. *Enterprise and Innovation Management Studies, 1*(1), 1-17. https://doi.org/10.1080/146324400363491
15. Frederiksen, D., & Brem, A. (2017). How do Entrepreneurs Think They Create Value? A Scientific Reflection of Eric Ries' Lean Startup Approach. *International Entrepreneurship and Management Journal, 13*(1), 169-189. http://dx.doi.org/10.1007/s11365-016-0411-x
16. Gimenez-Fernandez, E., & Beukel, K. (2017). Open innovation and the comparison between startups and incumbent firms in Spain. *Universia Business Review, 55,* 18-33. Retrieved from https://research.ku.dk/search/?pure=en/publications/open-innovation-and-the-comparison-between-startups-and-incumbent-firms-in-spain(555456ff-4b17-477f-970a-159ded0bf77f).html
17. Haines, T. (2016). Developing a startup and innovation ecosystem in regional Australia. *Technology Innovation Management Review, 6*(6), 24-32. Retrieved from https://timreview.ca/article/994
18. Hathaway, I. (2016). What Startup Accelerators Really Do. *Harvard Business Review*. Retrieved from https://hbr.org/2016/03/what-startup-accelerators-really-do (accessed on March 1, 2016).
19. Havlíček, K. (2019). *Inovační strategie* České *republiky 2019–2030.* Retrieved from https://www.vyzkum.cz/FrontClanek.aspx?idsekce=866015 (accessed on February 6, 2019).
20. Invest Europe. (2019). *European Private Equity Activity Report 2018*. Retrieved from https://www.investeurope.eu/research/activity-data/annual-activity-statistics/ (accessed on May 3, 2019).
21. Kim, B., Kim, H., & Jeon, Y. (2018). Critical success factors of a design startup business. *Sustainability, 10*(9), 2981. http://dx.doi.org/10.3390/su10092981
22. Kotler, P., & Keller, K. L. (2013). *Marketing management* (814 p.). Praha: Grada.
23. Kozubikova, L., Kotaskova, A., Dvorsky, J., & Kljucnikov, A. (2019). The impact of political factors' perception on suitability of international business environment: the

case of startups. *Economics & Sociology, 12*(1), 61-79. http://dx.doi.org/10.14254/2071-789X.2019/12-1/3

24. Kupec, V. (2018). Risk Audit of Marketing Communication. *European Research Studies Journal, 21*(1), 125-132. https://ideas.repec.org/a/ers/journl/vxxy-2017i3bp125-132.html

25. Luger, M. I., & Koo, J. (2005). Defining and Tracking Business Start-ups. *Small Business Economics, 24,* 17-28. https://doi.org/10.1007/s11187-005-8598-1

26. Magretta, J. (2012). *Michael Porter jasně a srozumitelně: o konkurenci a* strategii (231 p.). Praha: Management Press.

27. Masopust, L., & Ivanov, S. (2016). Evaluation of a new technology start-up in the Czech Republic: the impact of girlfriends on business. *International Journal of Organizational Innovation, 9*(2), 118-123. Retrieved from https://web.b.ebscohost.com/abstract?direct=true&profile=ehost&scope=site&authtype=crawler&jrnl=19431813&AN=118454292&h=zdt3Td2lhRmR1Rbh3zlIddHWAQayock0Clcqp4jtObOzdyKYvnyh0PZmRsW0unXzb5TD03ZsqvNfbVptnnMZWg%3d%3d&crl=c&resultNs=AdminWebAuth&resultLocal=ErrCrlNotAuth&crlhashurl=login.aspx%3fdirect%3dtrue%26profile%3dehost%26scope%3dsite%26authtype%3dcrawler%26jrnl%3d19431813%26AN%3d118454292

28. Mercandetti, F., Larbig, C., Tuozzo, V., & Steiner, T. (2017). Innovation by collaboration between startups and SMEs in Switzerland. *Technology Innovation Management Review, 7*(12), 23-31. https://doi.org/10.22215/timreview/1125

29. Pavlák, M., & Petrů, N. (2018). Start-up ecosystem support in the Czech Republic. *Acta VŠFS, 12*(2), 165-190. Retrieved from https://econpapers.repec.org/article/prfjournl/v_3a12_3ay_3a2018_3ai_3a2_3ap_3a165-190.htm

30. Peterkova, J., Wozniakova, Z., & Stefanovova, Z. (2014). A. Innovative entrepreneurship by startups and spin-offs in the Czech Republic. *Actual Problems in Economics, 154,* 247-257. Retrieved from https://www.researchgate.net/publication/286204851_Innovative_entrepreneurship_by_startups_and_spin-offs_in_the_Czech_Republic

31. Piwowarski, M., Miłaszewicz, D., Łatuszyńska, M., Borawski, M., & Nermend, K. (2018). Application of the vector measure construction method and technique for order preference by similarity ideal solution for the analysis of the dynamics of changes in the poverty levels in the European union countries. *Sustainability, 10*(8), 2858. http://dx.doi.org/10.3390/su10082858

32. Polák, J., Kozubíková, Z., & Kozubík, A. (2018). Financial Literacy of University Students and Effects of Practical Experience. *Socioint 2018: 5th International Conference on Education, Social Sciences and Humanities* (pp. 17-26). Dubai: International Organization Center of Academic Research.

33. Porter, M. E. (2004). *Competitive strategy: techniques for analyzing industries and competitors* (396 p.). New York: Free Press.

34. Průcha, J. (2018). *Petr Mandík: Proč se ani z dobrých nápadů nestanou funkční startupy*. Retrieved from https://roklen24.cz/a/StJKv/petr-mandik-proc-se-ani-z-dobrych-napadu-nestanou-funkcni-startupy (accessed on March 14, 2018).

35. *Řehák*, J., & Brom, O. (2015). *SPSS – Praktická analýza dat* (336 p.). Praha: Computer Press.

36. Rus, M., Ruzzier, M. K., & Ruzzier, M. (2018). Startup branding: Empirical evidence among Slovenian startups. *Managing Global Transitions, 16*(1), 79-94. http://dx.doi.org/10.26493/1854-6935.16.79-94

37. Salamzadeh, A., & Kesim, H. K. (2017). The enterprising communities and startup ecosystem in Iran. *Journal of Enterprising Communities, 11*(4). 456-479. https://doi.org/10.1108/JEC-07-2015-0036

38. Santisteban, J., & Mauricio, D. (2017). Systematic literature review of critical success factors of information technology startups. *Academy of Entrepreneurship Journal, 23*(2), 1-23. Retrieved from https://www.abacademies.org/articles/systematic-literature-review-of-critical-success-factors-of-information-technology-start-ups-6638.html

39. *Šoltés*, M., & *Štofa*, T. (2016). Crowdfunding – the case of Slovakia and the Czech Republic. *Quality Innovation Prosperity, 20*(2), 89-104. http://dx.doi.org/10.12776/qip.v20i2.807

40. Staszkiewicz, M., & Havlíková, D. (2016). České *startupy – 2016*. Retrieved from https://www.slideshare.net/berrz/ceske-startupy-2016 (accessed on December 6, 2016).

41. Stolze, A., Arnsfeld, T., Kelly, L., & Lüdtke, C. (2014). *The Lean Startup Status Quo: Deconstructing the Lean Start-Up Movement to Assess its Validity as a Strategic Planning Tool for Entrepreneurs* (Working Paper No. 3). Faculty of Business Management and Social Sciences. Osnabrück, Germany: Osnabrück University of Applied Sciences.

42. Swenson, M. J., Rhoads, G. K., &Whitlark, D. B. (2014). Startup marketing: Leveraging leverage. *The Journal of Applied Business and Economics, 16*(6), 56-62. Retrieved from https://web.b.ebscohost.com/abstract?direct=true&profile=ehost&scope=site&authtype=crawler&jrnl=1499691X&AN=100408021&h=JGwjSykaLURUkLtqafhGKkCcMAf%2f4BgpdJSryyAz%2b6X9mBjGa8BYgA%2f9n3q9LbaIkMQxV4lClrvY4944uFktOw%3d%3d&crl=c&resultNs=AdminWebAuth&resultLocal=ErrCrlNotAuth&crlhashurl=login.aspx%3fdirect%3dtrue%26profile%3dehost%26scope%3dsite%26authtype%3dcrawler%26jrnl%3d1499691X%26AN%3d100408021

43. Tanev, S. (2017). Is there a lean future for global startups? *Technology Innovation Management Review, 7*(5), 6-15. Retrieved from https://timreview.ca/article/1072

http://dx.doi.org/10.21511/im.15(3).2019.01

44. Tripathi, N., Seppänen, P., Boominathan, G., Oivo, M., & Liukkunen, K. (2019). Insights into startup ecosystems through exploration of multi-vocal literature. *Information and Software Technology, 105,* 56-77. https://doi.org/10.1016/j.infsof.2018.08.005

45. Úřad Vlády České republiky a RVVI. (2019). *Rada vlády řešila plnění cílů Inovační strategie ČR a rozpočet na vědu na rok 2020.* Retrieved from https://www.vyzkum.cz/FrontAktualita.aspx?aktualita=868988 (accessed on March 30, 2019).

46. Virglerova, Z., Dobes, K., Kramolis, J., & Kotaskova, A. (2017). The influence of SME owners' education on their perception of business environment in Czech Republic. *Economics & Sociology, 10*(3), 321-332. Retrieved from https://www.economics-sociology.eu/?534,en_the-influence-of-sme-owners%E2%80%98s-education-on-their-perception-of-business-environment-in-czech-republic

47. Vnoučková, L. (2018). Criteria of innovativeness and creativity in start-ups and innovative entrepreneurship. *Quality Innovation Prosperity, 22*(1), 27-43. http://dx.doi.org/10.12776/qip.v1i1.1040

48. Zajko, M. (2017). Challenges of scaling-up process for start-ups. *8th Balkan Region Conference on Engineering and Business Education and 10th International Conference on Engineering and Business Education Balkan Region Conference on Engineering and Business Education, 3*(1), 62-70. https://doi.org/10.1515/cplbu-2017-0009