

START-UP AS THE BUSINESS MODEL OF SUSTAINABLY DEVELOPED ENTERPRISE

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Abstract. The purpose of presented research was to identify the new trends in entrepreneurship which occurs in start-ups (STPS) such as endogenous development based at the sustainable development (SD). It is shown as the consciousness of actual economy trends as well as the enterprise's needs, especially at the very early stage of development based at the SD concept. There is presented the SD understood as the consumption of resources which allows them to be preserved for future generations. The scientific problem is to examine if there is the real impact of the SD concept at the STPS practice. This research goal is to build a future, strong STPS based at the durable, scientifically proved, economic concept. The proposed methodology, to achieve its aim, consists of three stages: desk research, deepened interview and primary data analysis. Such a methodology approach lets to observe the change in the new enterprises grow up, especially at the STPS group. The findings shows that the SD concept is more and more often the base of their development strategy and that STPS, which based their development at SD, are characterized by the higher survival rate. The results of presented research allow to develop the economy knowledge about both: the STPS development and SD practical implication into entrepreneurship. Especially the originality of the research is pointing the connection between STPS survival rate and their successful development and its strategy based at the SD concept. As it may be limited by the specificity of the pandemic, when it took place, it may have practical implication into STPS development concepts and strategies.

Keywords: Start-up, sustainable development, start-ups survival rate, entrepreneurship.

JEL Classification: D22, L26, M13.

Introduction

Small, modern and dynamically growing enterprises can change a community's everyday life. Often, the mission of start-ups consists of pursuing businesses that are not very attractive to larger, older, and established companies. However, this does not mean that it does not need to think strategically, act strategically and form a strategic background or strategic preconditions (Schramm, 2018; Slávik et al., 2022).

Start-ups are shown as the priority channels for social and economic development and industrial change (Clarysse & Bruneel, 2007; Chatterji et al., 2019). Successful start-ups take many measures associated with institution creation, such as the hiring of creative workers, managing their work or organisational culture formation.

It is currently possible to observe increasing numbers of young entrepreneurs but also opportunities of

accelerating and incubating new ideas and measures intended to prepare the implementation of innovative business.

The purpose of presented research was to identify the new trends in entrepreneurship which occurs in start-ups (STPS) such as endogenous development based at the sustainable development (SD) concept. The scientific problem (the research aim) is to examine if there is the real impact of the SD concept at the STPS practice. As the SD understood as the consumption of resources which allows them to be preserved for future generations it is possible to observe that the SD concept is more and more often the base of the STPS development strategy. Also STPS, which based their development at SD, are characterized by the higher survival rate. The results allow to develop the economy knowledge about the STPS development and SD practical implication into entrepreneurship. As the research goal is to build a future,

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strong STPS based at the durable, scientifically proved, economic concept, it may be limited by the specificity of the pandemic, when it took place.

1. Start-ups as the special form of entrepreneurship

The start-up concept is ambiguous as demonstrated by a literature review. It is mainly used in the business world and not always with full awareness of its unique features. The “start-up” concept is also strictly related to the distinction of the development phases in an enterprise’s classic life cycle (Slávik et al., 2022).

Another start-up definition is the commissioning phase. It takes place after the seed phase in which a newly established enterprise can present a finished product and its marketing strategy. This phase most often includes the company’s organisational and legal structure’s formalisation and business model’s clarification with consideration of external funding’s impact (van Rijnsoever, 2021).

A start-up undertaking is mainly associated with innovative IT technologies. Its distinctive features include innovativeness and dynamic form of entrepreneurial activity, making an impact on the surroundings, creating a new reality and unique services, thereby demonstrating fast business growth.

1.1. Start-up creation, coordination and development

The concept of entrepreneurial activity encompasses all people working in a human institution, the purpose of which is to create new products and services in the conditions of extreme uncertainty (CB Insights, 2019). This means that the Lean Start-up method can be used in all enterprises, regardless of its discipline, sector and size.

The basis for a start-up’s operation is to transform an idea into a finished product, study the customers’ opinions and reactions to a novelty and acquire information that enables us to determine whether our measures are effective and whether we must change something.

In order to improve the results achieved by entrepreneurs, it is necessary to adopt an accounting system adapted to the people that clear the start-up and based on progress monitoring, establishment of intermediate objectives and task sequencing (Shepherd & Gruber, 2021; Göcke et al., 2021).

The identification of the start-up term also includes the division according to the following criteria:

- arrangement between a creative entrepreneur - investor - customer: a creative entrepreneur knows what is realistically feasible, an investor has knowledge about product marketing, a customer expects information about the product. It is important to maintain the flow of information between the aforementioned market elements and to build mutual trust. This enables the entrepreneur to sell his product, the investor to recover his invested capital

with a satisfactory return rate and the customer to obtain a product that meets his needs,

- an entrepreneur’s managerial skills and knowledge: aside from being the product’s creator, an entrepreneur is also tasked with managing his own activity (at least in the initial phase) and should also be a professional and be passionate about his products, be a reliable and committed salesman,
- obtaining the funds required for creating the product: an entrepreneur who believes in his product is tasked with acquiring capital for the implementation of business assumptions and convincing investors that he will succeed in the market (OECD, 2013).

1.2. Start-up as an innovative environment

In economic terms, innovation is the production implementation of a new or improvement of an existing product, or introduction of a new or improvement of an existing production method.

In a broader sense, innovation does not refer solely to science or technology but also to the evolution of economic and social relations concerning the behaviour of humans acting in various roles, including manufacturers, consumers and scientists that make up the given country’s society (Kowal et al., 2017).

While the 20th century economy has limited the interest in “Schumpeterian” entrepreneurs (Landström et al., 2012) it recognized the new units in which the classical innovation concept has been modified and developed – the start-ups.

An innovative economy based on new technology absorbs knowledge and converts it into an offer to customers. Start-ups operate on the basis of the aforementioned principles and are often enterprises established to solve problems of large business entities that show demand for innovative solutions.

The corporate innovation model has three destination states: to the market, to spinout or to innovation termination. Each of these involves potential benefits and also risks for the technologists and managers involved. Often they do not benefit in ways that match the risks they take or the effort they expended (Freeman & Engel, 2007).

One of the main areas of a start-up’s innovative activity is the development of R&D activity between entities, featuring horizontal, vertical and institutional R&D cooperation distinguished on the basis of market relations between entities (Lyth Frederiksen & Brem, 2017). The team aspect is one of the internal factors of the company that affects business growth (Sadma, 2021).

Such approach allowed to formulate following research questions (RQ):

- RQ1: Is there any specificity in STPS development?
- RQ2: Is the SD theory known by STPS funders?
- RQ3: Can SD effect the STPS development?

2. Importance of start-ups for the economy

Start-ups are most often micro or small enterprises constituting part of the small and medium enterprises' sector. In this aspect, a start-up is an enterprise's development phase starting at the time of its establishment and ending when it makes an impact in the market.

An early account for the term "start-up" in the literature can be found in Carmel (1994) noticed how these companies were particularly innovative and successful, advocating the need for more research on their software development practices so as to replicate success and try to transfer it to other technology sectors.

The literature also shows that start-up consists of entrepreneurial intent, which is actually a business idea and the reason why the start-up exists, confidential customer cognition, and work experience (Gulati, 2019). Start-ups are places that activate innovative processes and create workplaces in fields requiring specialist knowledge combined with creative solutions. Therefore, they play a significant role in economic and social processes by increasing knowledge in society (Marom & Lussier, 2014; Jasińska-Biliczak, 2019). On a global scale, the industries in which STPS operate and the degree to which they are able to develop are determined to a large extent by the conditions of the regions in which entrepreneurs and STPS operate' (Ács et al., 2017).

In terms of definition, these entities provide services located at the entrepreneur's place of residence, thereby making them different from the growing start-ups' discipline. The importance of micro and small company activity is key for the economy of nearly every country in the world.

3. Business model and entrepreneurship creation

Multi-dimensional approach (Teece, 2010) to the entrepreneurship creation allows to point that the business models adopted in start-ups are the realisation of the profit generation method, a recipe that enables reaching customers and efficient functioning. Therefore, the adoption of an adequate business model is crucial for start-ups (Cardon et al., 2011).

The starting point for establishing a business model is to attempt to solve a market problem that is unnoticed or unsolved by anyone else (Sloan, 2013).

The customer development model (Blank, 2013) shew at Figure 1, demonstrates that most start-ups lack a structures process for testing hypotheses concerning their business model in the fields of prices, channels, customers and thorough understanding of the market.

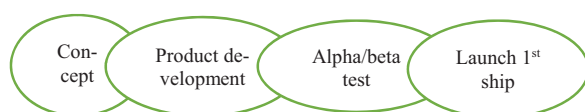


Figure 1. The business model based at product (source: Blank, 2013)

Modern economic processes taking place in start-up enterprises demonstrate dynamic changes in the work organisation's internal structure, sale forms and making an impact on the surroundings (Khelil, 2016). A product or service provider's quick and adequate reactions are key for developed economies.

4. Analysis of factors contributing to the success of incubated start-ups

Creation of a unique environment for the economic activity of start-ups provides an opportunity to satisfy the needs of future entrepreneurs, aid them in taking their first steps in business and development.

4.1. Methodology – characteristic of the research area, probe and methods

The research methodology consists of three stages: desk research, deepened interview and primary data analysis. According to Jaya et al. (2017) several factors that determine the success of a start-up consist of: timing, team, ideas, business models, and funding that is why such a factors were taken under consideration.

A study was conducted in 2021 in the Opole region as part of the cooperation with the Science and Technology Park in Opole using an electronic survey form provided to the entities cooperating with the STPS via e-mail and newsletter. The study group was expanded with Academic Business Incubators functioning at the Opole universities, among others, but due to restrictions, responses were provided only by the group of entities cooperating with the STPS. It is a pilot study due to the SARS-CoV-2 pandemic restrictions (relatively small study group, relatively low return rate).

The small study group was the basis for using the multi-criteria Analytic Hierarchy Process method. The method is used for supporting the decision-making process.

The following hypothesis (H) was formulated:

H: the STPS need and formulate endogenous development based at the SD economic theory.

The elements specified in the above method's hierarchy were supplemented based on the factors mentioned by an expert, one of the founders of a globally successful start-up.

4.2. Research results

The presented results of own research concerning the business models of start-ups functioning in the region and the factors affecting the success of those entities. Figure 2 shows the STPS owners/main funders age structure.

In most cases, start-up founders are people who establish their activity shortly after completing their education or even during their education process.

In terms of gender, start-up owners / main founders can be divided into 42% females and 58% males. The

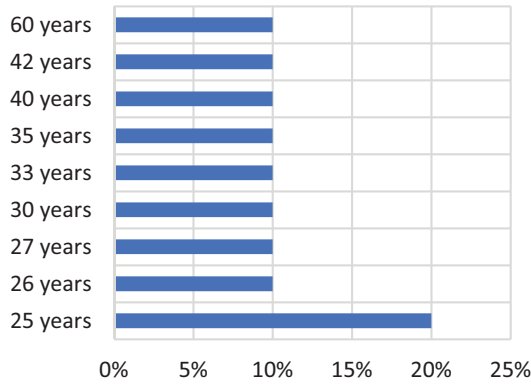


Figure 2. Age of the start-up owner / main founder (source: own research)

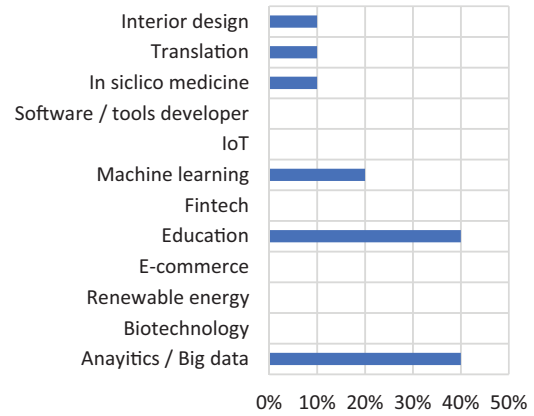


Figure 5. STPS discipline (source: own research)

gender structure demonstrates that males are the start-up founders in most cases. This mainly results from the disciplines of the studied undertakings, i.e. mainly IT. The funders' education is presented at Figure 3.

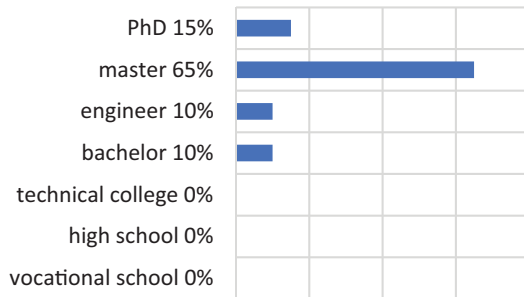


Figure 3. Funder education (source: own research)

In the studied start-ups group, mostly founders have a master's degree, while 15% of them have a PhD degree. Figure 4 points the fields of their studies.

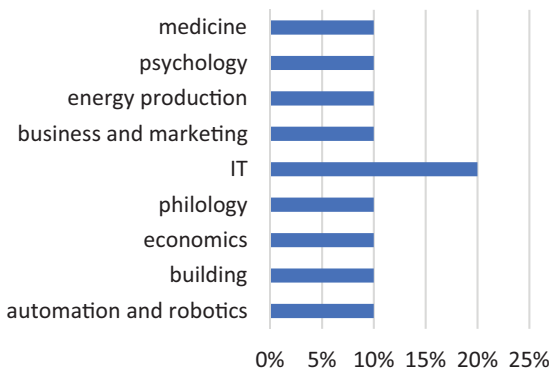
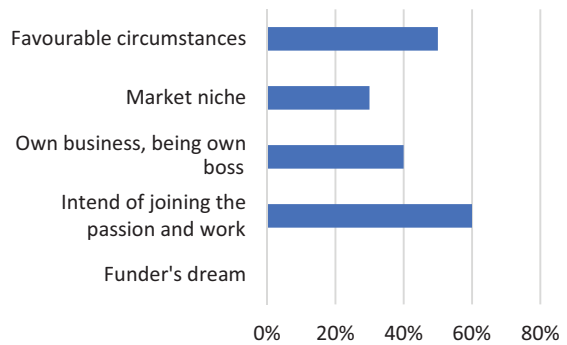


Figure 4. Field of studies / profession learnt (source: own research)

The vast majority of start-ups is functioning in disciplines related to information and automation, while in other disciplines, IT is the main field of service provision. The STPS disciplines are presented at Figure 5.

In most cases, the respondents specified the data analysis field (Big Data) and education as their main areas of activity. All services are provided via the Internet.

The question: Is it your first start-up? – was answered by 100% of start-up founders in the affirmative by replying that it was their first activity of this type. The reasons of STPS establishing are shown at the Figure 6.



Note: There was the possibility of multiple choice, so the answers do not sum up till 100%

Figure 6. Reasons for establishing the start-up (source: own research)

The most often cited reason for establishing the start-up was the willingness to combine passion with work, followed by the emergence of favourable conditions. When asked about employment in the start-up, most respondents replied that they do not employ workers in their start-ups (70%). In 30% of start-ups that employ workers, employment increased during their activity.

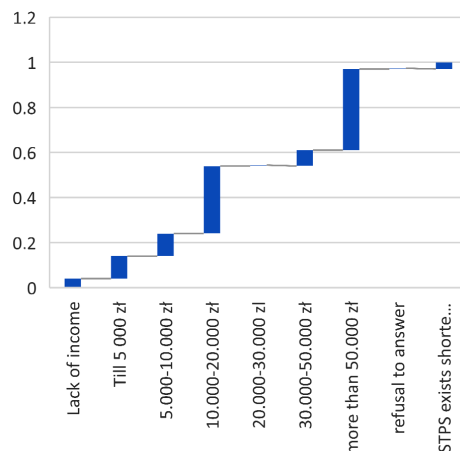


Figure 7. STPS revenue (source: own research)

36% of start-ups generate a maximum revenue of PLN 5,000 per month. At the same time, 50% of the start-up founders stated that they regularly achieve revenue on the sale of their main product or service. 77.8% of the respondents stated that their revenue increased during their activity. The examined STPS revenues are presented at the Figure 7.

When asked about funding, the vast majority of the start-up founders pointed to own resources as the main source of funding in the activity's initial phase. Subsidies (10%) and loans (8.5%) were rarely mentioned.

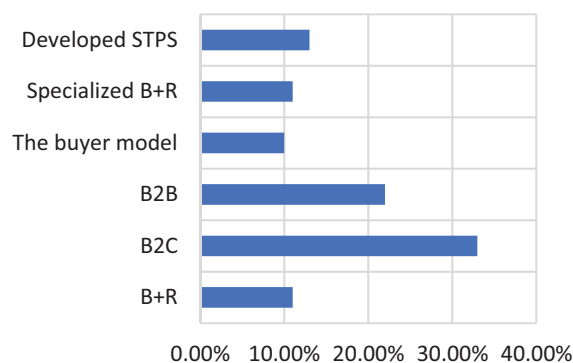


Figure 8. Start-up business models (source: own research)

The highest share of respondents stated that they chose the Business to Customer model as their business model, what is presented at the Figure 8.

At the same time, the respondents were asked whether they know the sustainable development concept. 82% of the respondents stated that they know the concept as a theoretical economic model, while 18% stated that they do not know the SD concept. The respondents were asked about the usefulness of using SD in creating the start-up's strategy and 76% replied that it is useful, wherein 28% deem it as very useful, 17% as useful, 24% as moderately useful and 7% as not very useful. 6% of the respondents stated that they have no opinion on the usefulness of this concept in practice. None of the respondents stated that the concept is not useful in creating a start-up's strategy.

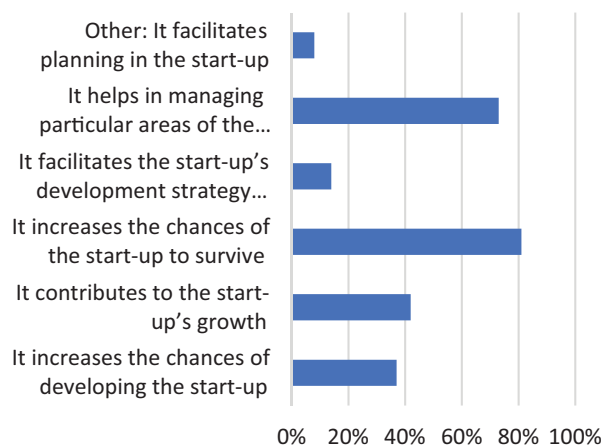


Figure 9. Assessment of the SD concept's effectiveness in STPS (source: own research)

When asked about the use of the SD concept in their own start-up, 62% of the respondents answered in the affirmative, while others replied in the negative. The assessment of the SD concept's effectiveness in own start-ups is presented in the graph below (in terms of methodology, the question was a multiple-choice question which is why the sum of the responses does not add up to 100%). The research results according STPS assessment of the SD concept's effectiveness is presented at the Figure 9.

5. Discussion

The importance of STPS for developed economies and for aspiring economies is confirmed (Breukel & Zeegers, 2017) by a number of experiences. In contemporary literature it is pointed out that the environment could also influence start-ups' success (Passaro et al., 2020; Bergset & Fichter, 2015).

The researched start-up is conscious of its limitations and weaknesses. The functioning in a STPS ecosystem as part of an incubation process is the answer to the needs deriving from an enterprise's initial establishment phases. The existence of places established strictly to support economic initiatives reduces the risk of failure, enables a start-up to enter the market and generate stable revenue thanks to an outstanding business model.

It was found, during academic discussion, that each initiative has advantages with respect to scope and focus for the sustainability dimensions and the company system's elements (Lozano, 2012; Maxwell et al., 2006). Sustainability-driven firms even use more graphs and rely less on photographs – they appear to pursue moral legitimation by reporting more on activities and outcomes. Less sustainability-driven firms tend to rely more on symbolic disclosures to seek pragmatic legitimacy (Hrasky, 2012). According to Jaya et al. (2017) several factors that determine the success of a start-up consist of: timing, team, ideas, business models, and funding. The literature shows that (Petch, 2016) factors such as work experience, age, educational background, and skills of founders affect start-up growth.

The presented research may be classified and fulfill the gap among those research which states that the business model was one of the supporting indicators of start-up success (Salamzadeh & Kirby, 2017; Saura et al., 2019) as well as that sustainable development is the driver of economic development (Skvarciany et al., 2021).

The approach to conducting business following the start-up concept, which adapts and reacts to changes, is implemented in large enterprises from various economic branches. The conducted study demonstrated that building a start-up according to the SD model is the best method of gradual business undertaking establishment and development.

In that dimension, it confirmed the research hypothesis.

Conclusions

The study demonstrated that young people constitute the main group of founders of the analysed start-up initiatives. It is mainly a consequence of their area of activity in which it is mandatory to conduct business based on modern tools intended for creating e-services and Internet marketing.

Acceleration programs also streamline their measures to support the initiatives of people who are ending or have already completed their education by offering preferential support conditions. The main areas of start-up activity include data analysis and education. Functioning in a network enables practically unlimited opportunities of reaching customers; however, big competition makes it key to stand out and be consistent in marketing activities.

Building a start-up means gradual product or service improvement during its creation by obtaining customer feedback, which may be pointed as the market entry. There is also possible to observe the chances commencing the generation of initial revenue. On the other hand, building market recognition provides an opportunity of finding a bigger investor.

SD theory provides answers to practical problems that STPS face during entrepreneurial activity. As the research shown, SD allows to implement theoretical solutions into practice.

The present research is limited because it was led in Opolskie region, mainly quantitative methodology. It concerned a specific foothill region, close to the Czech Republic border, where the socio-economic situation was more complex than in other regions of the country as well as with strong German economy bindings and influence. So in other regions the results may differ from that there is address in future research.

Thus, although also limited by the specificity of the pandemic, when it took place, the present research may be the basis for further, especially comparative, research.

Disclosure statement

Author declares not having any competing financial, professional, or personal interests from other parties.

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