

DOI: 10.15276/EJ.03.2020.6
 DOI: 10.5281/zenodo.4435017
 UDC: 338.439
 JEL: O 32

MANAGEMENT OF INNOVATIVE PROJECTS ON THE BASIS OF A SYSTEM-ORIENTED APPROACH

УПРАВЛІННЯ ІННОВАЦІЙНИМИ ПРОЕКТАМИ НА ОСНОВІ СИСТЕМО-ОРІЄНТОВАНОГО ПІДХОДУ

Nazar Yu. Podolchak, DEcon, Professor
 Lviv Polytechnic National University, Lviv, Ukraine
 ORCID: 0000-0002-0284-9601
 Email: nazar_podolchak@yahoo.com

Veronika Ya. Karkovska, PhD in Economics, Associate Professor
 Lviv Polytechnic National University, Lviv, Ukraine
 ORCID: 0000-0003-0178-4137
 Email: veronika.y.karkovska@lpnu.ua

Yana V. Levytska
 Lviv Polytechnic National University, Lviv, Ukraine
 ORCID: 0000-0001-7133-7602
 Email: yanalevytska5@gmail.com

Received 07.09.2020

Подольчак Н.Ю., Карковська В.Я., Левицька Я.В. Управління інноваційними проектами на основі системно-орієнтованого підходу. Науково-методична стаття.

Стаття доводить, що стартап - це перший необхідний крок у життєвому циклі інноваційних проектів і для створення успішного стартапу необхідний набір інструментів та система. У практичній частині визначено, що запуск стартапу включає декілька етапів, таких як розробка концепції запуску, визначення етапів життєвого циклу, систематизація ключових компонентів успішно реалізованих стартапів та аналіз внутрішнього ринку стартапів. Життєві цикли відомих стартапів, створені українцями, свідчать про необхідність пошуку відповідної ніші на ринку з високим попитом, щоб перетворити стартап на прибутковий бізнес. Це можливо за умови наявності ефективної екосистеми для розвитку стартапів.

Ключові слова: стартап, життєвий цикл стартапу, інноваційна екосистема

Podolchak N.Yu., Karkovska V.Ya., Levytska Y.V. Management of innovative projects on the basis of a system-oriented approach. Scientific and methodological article.

This review article argues that a startup is the first necessary step in the innovation lifecycle and a set of tools is necessary to create a successful startup. In a practical section installed that the implementation startup involves several steps such as generalization of a startup concept, definition of the stages of the startup life cycle, systematization of key components of successfully implemented startups and analysis of the state of the domestic market of startups. The life cycles of well-known startups developed by Ukrainian experts show that it is necessary to find a suitable niche in the market with high demand for the product in order to turn startup into a profitable business. This is possible, provided an effective ecosystem for startups development.

Keywords: startup, startup lifecycle, innovation ecosystem

Nowadays, the topic of startups is very popular in the Ukrainian business area. Experts and entrepreneurs tell each other about their needs and an important role in the development of our country. But unfortunately, it is difficult to recognize their prospects in the flow of startup ideas and innovative projects.

A startup is the first necessary step in the innovation lifecycle. An active working support system for startups is a basis for activating innovation, increasing the volume of innovative products and exporting high-tech goods (Pankov, 2013). Every year, a lot of young companies emerge around the world with high growth potential based on an innovative product and a strategy for gaining profit from innovation (Dannenberg, et al. (2018). They are called startup companies or simply startups.

A set of tools is necessary to create a successful startup. Its basic elements are the original idea, and it is better to have not only one idea; a team consisting of ambitious, motivated people capable of generating unique ideas; an external source of investment, as it is usually absent in startups; as well as professionalism, knowledge, experience and determination to implement the boldest ideas.

Startup project development is widespread abroad. A feature of these successful projects is that they generate significant profits and raise the economy level in their countries. In Ukraine, the development of startups is also increasing. However, it is well known that 97% of startups go bankrupt. Therefore, it is important to research the

issue of successful launch and implementation of a startup. In addition, it is also evident that such projects require a variety of support ecosystems that could offer a number of functionalities to evaluate the effectiveness of startups.

The founders of a startup are trying to guess what will be in trend in the coming decades, and often develop services and high-tech products. Today, the area of increased focus is startups related to the field of information technologies. Thus, significant amount of money are invested in the development of this industry, and the flow of ideas is not limited at all.

The aim of the article is to form a methodological model of the main characteristics of startup's success. The implementation involves several steps such as generalization of a startup concept, definition of the stages of the startup life cycle, systematization of key components of successfully implemented startups and analysis of the state of the domestic market of startups.

Analysis of recent researches and publications

There is no specific definition of this concept in domestic scientific sources. The word “startup” comes from the English concept of start up and it means just created company or a company that is still in the process of creation. However, there are many definitions from practitioners who have directly turned startups into a profitable business.

Table 1: Generalization of the startup concept

Startup is	
a process	<i>a structure</i>
to implement brand new business ideas in the short term with minimal financial resources	a recently established company (perhaps, it is not officially registered yet but it plans to become an official company) that builds its business on the basis of innovations or innovative technologies, has not entered the market or started to enter it and has limited resources (Alexandrovna, 2018);
to enter the market of a newly created company in a short time and, as a rule, with minimal investment having an innovative project (Mrykhina, et al. 2015).	an organization established in the short term for the implementation of a non-standard project that is different in novelty;
	a temporary structure that looks for a profitable, resilient and scalable business model (Blank 2018);
	a short-term project that implements a business idea in accordance with the contemporary needs of society. It is a project that aims to grow and profit.

Source: compiled by autor on materials [1, 3, 8].

The scientists outline the novelty of the idea, the short time to enter a market and limited resources in each of these definitions of the startup concept (Blank, et al. 2018). Therefore, it is advisable to highlight the main characteristics of a startup, in particular they are a new structure, an initiative team (optimum number of 5 people), a creative idea, a periodicity of existence, a lack of resources, a risk, etc (Kasich, et al. 2019).

The main part

Every startup that appears on the market, like any product or firm, is destined to go through several stages of the lifecycle from initial to final one (from the moment of launching the startup to the moment of the investor's entrance) (Blank, et al. 2018). The length of the market period largely depends on the effective marketing support of a startup, the essence of which must be relevant to the characteristics of each stage. The characteristics at different stages of the startup lifecycle is the following ones:

- Creation. At this stage, an idea is being looked for and technical ways of its realization are being developed. The initiative group conducts market analysis, develops a business plan as well as technical tasks. The next step is to make a product prototype, test its versions, study demand, and search for funding sources. If the investor cannot be found, the project “declines”. Unfortunately, it happens to most startups.
- Launch. This stage can only be realized if there is an investor, which will allow the product to be launched on the market. The importance of this stage is an absolute competitiveness of a product. Therefore, the startup creators are required to implement such features as persistence, endurance, intuition, creative thinking, entrepreneurial talent as well as instant ability to improve the product, both in technical and business characteristics. Meanwhile, the project is in the highest risk zone at this stage.
- Growth. This stage is characterized by the success of launching a project (product) in the market, namely market demand, market share and profit.

- Expansion. One of the results at this stage of the life cycle is an effective implementation of the business plan. Increasing market share by attracting new customers, entering new territorial markets or new uses of goods causes income to be gradually growing.
- Exit. When a company reaches its peak, investors who have financed the project abandon their stake in the business and sell it to big players. This step brings them good profits. However, individual investors keep their share and use it as a source of constant income. Another alternative of this stage is bankruptcy of the company and business breakup. This stage of the life cycle usually describes the financing of a startup. However, this stage should be described as initial (final) for the startup as a product. The peculiarity is that this stage will describe the process of transitioning a startup product into the mass production category. Also, the exit stage has a feature that it may precede the creation of a new startup (a product). This will confirm the startup lifecycle.

Distinguishing the life cycle stages gives an opportunity to evaluate the success of the startup implementation and setting time criteria shows the effectiveness of passing each of these stages during the startup development.

In the course of this research, the examples of the life cycle of successfully implemented startups were analyzed to confirm the isolated timeframes of individual stages in the startup lifecycle.

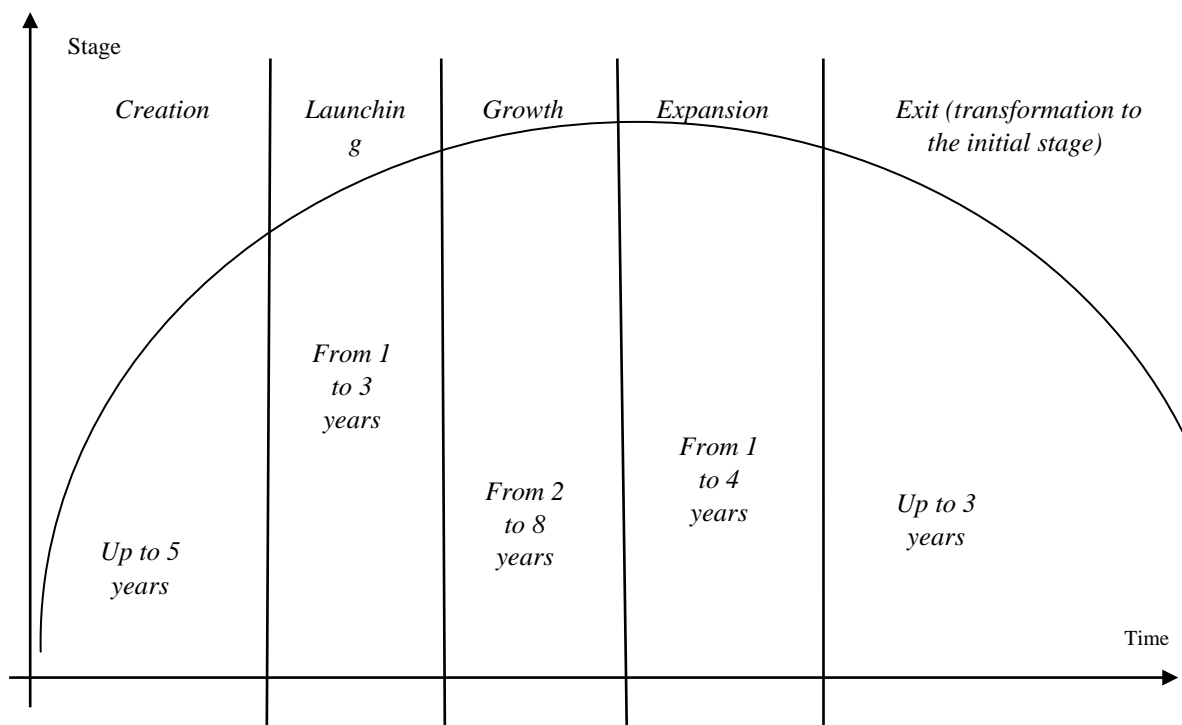


Figure1: Successful startup lifecycle stages
Source: authors' own development

The practice of launching startups in the world shows that it is possible to distinguish the features of a successful project. In particular, it is motivation, a simple idea, a team, global thinking, customer search and turning an idea into a main business.

The most popular industry for startups is information technology (IT). Confirmation of this is the data from the global ranking of IT startups, which determines the place of startups in the world by the number of requests on the Internet. An analysis of the global rankings of registered IT startups in Startup Ranking service shows that the most successful startups are created in the USA.

Fig. 3 shows the number of Top-100 startups around the world due to the importance of online startups and their social impact. The maximum rating is 100,000 points. Almost every second startup in the Top-100 rating is owned by the United States. All Top-100 startups received a score over 88,000. If we analyze the number of registered startups according to countries (Fig. 3), the USA is also in the leading position. The 2019 rating includes about 100,000 startups from 137 countries.

If you compare the Top 100 startups by geography with the number of registered ones by country, then only one startup has the greatest social impact per 1000 registered IT startups in the USA. In Japan, every 80 startup reaches the Top 100 per 550 registered IT startups. Canada, Australia and Russia are on the third position in the Top 100, and they have 2400, 1540 and 580 registered startups, where accordingly each 600, 400 and 145 project has the largest social impact. The last group of countries in the Top 100 has an average of 100 registered projects, and it includes countries with one socially influential startup.

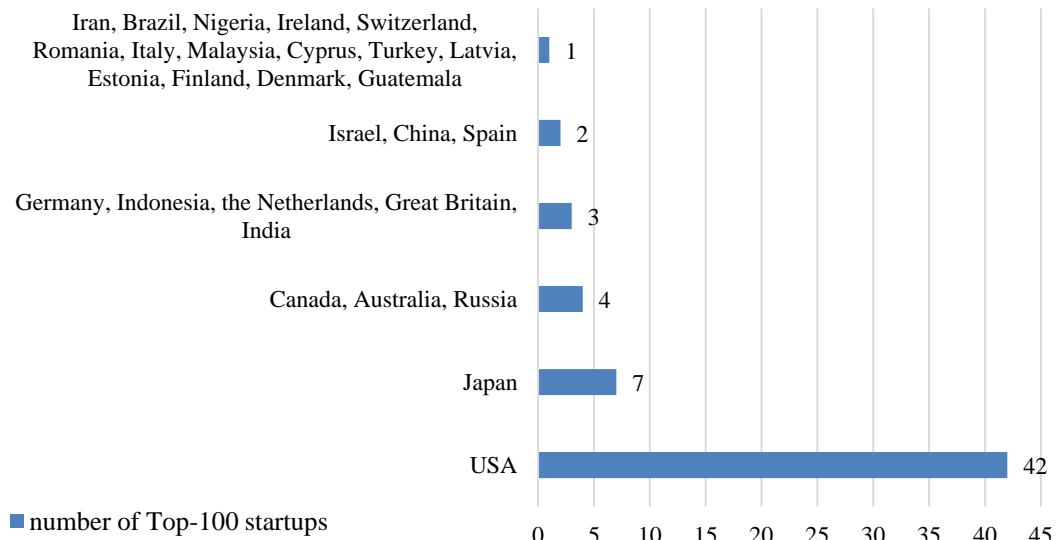


Figure 2: Share of Top 100 startups according to countries
 Source: compiled by autor on materials [11].

More than 250 national developments have reached the Startup Ranking service of IT world startups. Due to the annual ranking of the most favorable countries for startup development, Ukraine is the 43rd out of 62 analyzed countries considering five features. These features are investment in human capital, research and development (R&D), business infrastructure, technical workforce and policy dynamics.

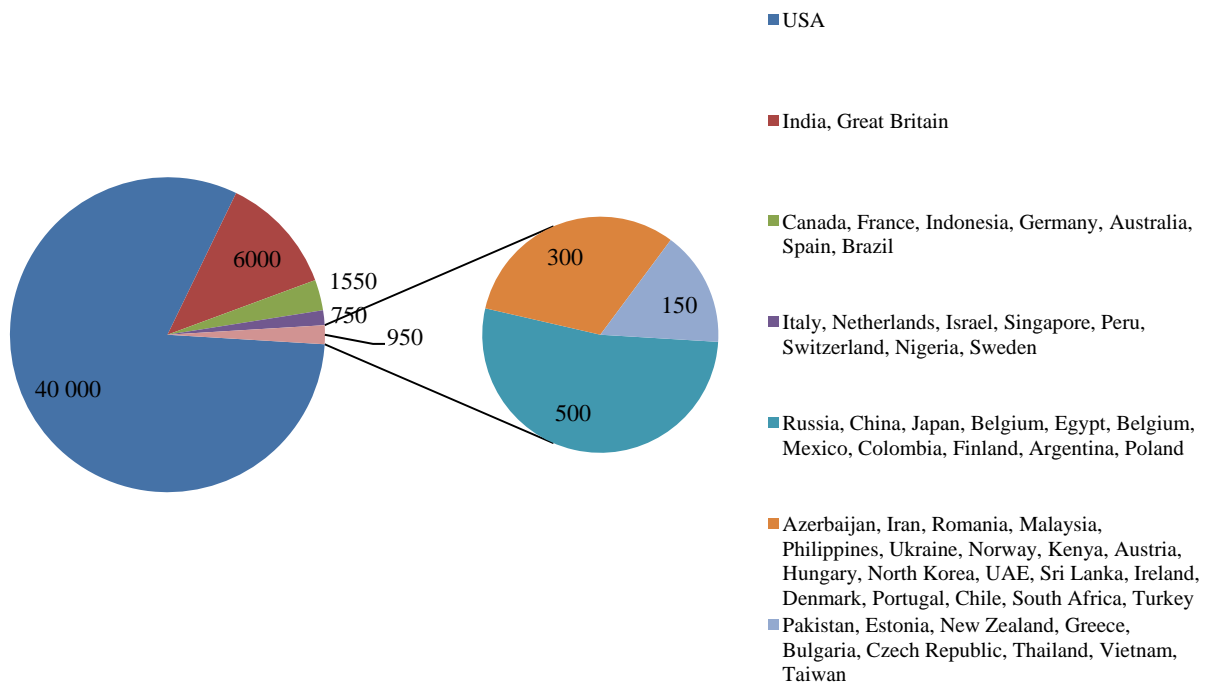


Figure 3: Number of registered IT startups according to countries*
 Source: compiled by autor on materials [11].

Ukraine has already established itself as a country that can give the world a high-quality and necessary product. However, today there is a tendency that all successful Ukrainian startups are only created in Ukraine. It means that this idea is produced by Ukrainians, but they launch the project with further development, production and workplaces abroad (Table 2).

It is shown some startups that have been recognized abroad and are now popular, but in fact, an idea and a project prototype are created in Ukraine (Table 1). Petcube is considered to be the most famous Ukrainian startup. The company is manufacturing gadgets for pet owners.

Table 2: Examples of life cycle of startups that are created in Ukraine but are implemented abroad

Startups	Developer country	Head Office	Launch Stage (year)	Growth stage (years)	Extension stage (years)	Exit Stage (years)
Petcube	Ukraine	USA	2011	2	4	2
Passiv Dom		USA	2016	2	-	-
Grammarly		USA	2009	1	4	2
Kwambio		USA	2013	1	3	-
LaMetric		Ukraine	2013	1	2	1

Source: compiled by autor on materials [12-16].

The first product is a device that allows you remotely to monitor, talk and play laser games with your pet using a mobile application. The project was funded through the Kickstarter crowdfunding platform, where a startup raised the necessary amount of money in the first week to release the first set of gadgets. It took 2 years to launch a successful production company, and the project expanded its product line with additional capabilities during 4 years. Today, the company has offices in San Francisco, Kiev and Shenzhen, and it has turned into a successful business. Passiv Dom is a technological startup that creates independent modular homes with a 3-D printer that use only alternative energy to meet all needs. This is the first invention in the world, as customers of this product are concentrated in the USA, so the production launch began there as well. Now, the startup is undergoing expansion. Grammarly is a project that was founded ten years ago and is currently valued at \$ 1 billion. It is an online service for checking the spelling of English texts, as well as grammatically and stylistically changing it. Nowadays, 20 million people use the service. Kwambio is 3D printer development for printing designer accessories. Due to market needs, the company has offices in the USA, the UK and Ukraine. LaMetric is a smart watch designed to display information from the Internet (weather, news, exchange rates, temperatures, etc.). On Kickstarter, the project raised the required amount of money in record time of two days. During 6 years of the company's existence, the production was opened in China, and watches are successfully sold in the USA and other countries.

The life cycles of well-known startups developed by Ukrainian experts show that it is necessary to find a suitable niche in the market with high demand for the product in order to turn startup into a profitable business.

It can be stated, based on the lifecycle of a successful startup, that investment support is required to launch and scale up the startup production. Also, the investment support period lasts from 4 to 10 years for each startup, then the successful startup leaves the concept of a startup category and transforms into a business.

However, as the life cycle analysis shows, the implementation of a startup at each stage is accompanied with a number of problems, so it is advisable to consider these problems in more details.

The problems of the domestic market for the development of startup projects should be attributed to the lack of support from potential investors and the state as well as skilled personnel (Podolchak, et. al 2019). Domestic entrepreneurs, as potential investors, are not interested in investing in the development of new projects with long-term profit. They find them not very profitable and even risky.

Despite the large amount of information, industry meetings, educational support measures, startup founders continue being light-minded to attract investors. Only some founders can get external financing. This is because founders believe in the uniqueness of their idea at the early stages and they can't properly evaluate their company. For example, investors in Ukraine are not ready to fund startups that do not show sustainable development and real business results. Therefore, startups should carry out a thorough research what kind of project it should be like to get a venture investor money.

However, there are currently several options for financing startups in Ukraine, such as venture funds, crowdfunding, accelerators, business angels, grants. And this opportunity is most relevant for developers in order to attract investors. The updating of the relevant programs for the startup support affirms it.

After the changes in the political and economic space of Ukraine, the attitude towards innovation has changed too. The program of creative entrepreneurship among young people, in particular among students, has gained popularity. This contributed to the creation of startup schools and incubators at educational institutions of Ukraine. Such centers exist in Kiev, Odessa and Lviv according to the data in 2019. An example is Tech Startup School at Lviv Polytechnic National University (Information portal of Lviv Polytechnic National University, 2019)

The Tech Startup School Business-Innovation Center was created to activate innovative activity at Lviv Polytechnic National University, develop startup projects, transfer technology into business, adapt and prepare students for entrepreneurial and business activities.

The mission of Tech StartUp School is to create a comfortable innovation environment for the production and implementation of creative ideas and successful startups to help innovators, led by business coaches and mentors, go from the idea of a startup to building a business model, finding investment and commercializing an innovative project.

The purpose of Tech StartUp School is to innovate, organize a school of entrepreneurs and innovators, as well as provide the conditions for training coaches and mentors, creating and developing coworking at the university, conducting competitions for innovative projects and startups, developing student innovation projects, opening and organizing work of specialized laboratories and spaces of innovative development, organization of crowdfunding platform.

Activity areas of the school:

- market monitoring and identification of major market trends in innovation and production area;
- conducting consumer behavior research and identifying relevant consumer needs;
- assistance in the development of market prototypes;
- conducting thematic competitions of business ideas and projects;
- development of student innovative projects;
- opening and organizing the work of specialized laboratories and spaces for innovative development;
- search for investors and sponsors for the implementation of innovative projects;
- solving current scientific and technical problems of economy;
- cooperation with enterprises, higher educational institutions, companies;
- conducting market trends analysis of innovative projects and startups;
- expert evaluation of innovative projects and startups.

During the short period of existence, Startup School has become a formative city subject, as evidenced by the following facts (Lviv City Information Portal, 2018):

- The Lviv Development Strategy to 2027 states that Tech StartUp School is a key place for innovation development in the city.
- The startup school became one of the top 10 organizations that changed the city in the first year of its existence.
- Most domestic and international competitions in Ukraine are won by startups of Startup School.

The following list of Tech StartUp School activities indicates a comprehensive support for the development of successful startups in the domestic market. The gained knowledge is of greatest value and applicability when they are implemented in the practice of real cases. Tech StartUp School offers these practical tools. In addition, some experienced entrepreneurs are involved as mentors. Experience and real-life situations are best perceived and have value for entrepreneurs.

Conclusions

The state should support the development of the startup market. The task of the country is to make this part of the shadow economy turn to the bright side and work for the country, including the development of a new economy, when startup is the driving force. It is necessary for the Ukrainian investor to become more public and invest startups so as to stimulate investment, and this is possible only if the capital goes out of the shadows. In the modern world, proof of the money origin is a major factor, as in the case with startups. Just as it is difficult for startups to use money of questionable origin.

Despite the difficulties, there is already a positive successful experience of implementing Ukrainian startups in both national and international investment markets. Accordingly, the startup model as an effective business building model can be successfully used in Ukrainian practice for sustainable business projects. Thus, it can be distinguished the following prerequisites for successful startup implementation:

- the relevance of a product to the market (substantial marketing research, search of the right target audience, demand for the proposed product);
- purposefulness and concentration (attention to business processes and problems of the company, organization of the whole company, startup development plan, team problem solving);
- fast business growth (growth leads to even more growth, which encourages investment in startups, increases team and profit. The startup performance criteria should not meet the marginal growth rate after several months of implementation. If growth does not occur within a specified time, growth will not occur at all. Rapid early growth is a sure sign of future success);
- universality of the startup team (the ability to change products, adapt to different conditions, introduce a new approach to marketing, be mobile; it ensures the success of the startup).

No matter how many startups fail, the startup team can succeed following the right principles. It is impossible to foresee everything, so it is very important to keep the team spirit, the belief in success and to be flexible and ready for changes. Teams that follow these characteristics will be able to market their product and be successful. Furthermore, their startup ideas will gain a niche in the market.

Startup projects lasting from 4 to 10 years are the most attractive for investors. If these terms are not increased due to lack of funding, then the innovators need to think about the profitability and project success and look for new ideas. At the moment, the market requires more and more new ideas and projects. And the main task of an innovator is to assert themselves and find support as soon as possible. This opportunity can be found at Tech StartUp School (Information portal of Lviv Polytechnic National University, 2019), which creates a comfortable, innovative environment for producing and implementing creative ideas and successful startups.

Список літератури:

1. Александровна А., (2018) Що таке стартап. Binar. Option.com. <https://uk.binaroption.com/stati/590-chto-takoe-startap-prostymi-slovami>.
2. Баб'ячок Р. І., Кульчицький І.І.: Основні тенденції розвитку стартапів в Україні – проблеми, перешкоди і можливості. [Електронний ресурс] – Режим доступу: <https://www.civic-synergy.org.ua/wp-content/uploads/2018/04/Osnovni-tendentsiyi-rozvytku-startapiv-v-Ukrayini-1-1.pdf>.
3. Стів Бланк. Священна книга стартапера. Як збудувати успішний стартап / Стів Бланк, Боб Дорф / пер. Наталія Валецька. – К.: Наш Формат, 2018. – ISBN 978-617-7552-67-2.
4. Dannenberg, P., Diez, J.R., Schiller, D. (2018): Spaces for integration or a divide? New-generation growth corridors and their integration in global value chains in the Global South Zeitschrift für Wirtschaftsgeographie, Volume 62. Online erschienen: DOI: <https://doi.org/10.1515/zfw-2017-0034>.
5. Інформаційний портал Національного університету «Львівська політехніка» (2019): Команда від Tech Startup School перемогла на всеукраїнському відборі конкурсу Big Idea Challenge. [Електронний ресурс] – Режим доступу: <http://p.edu.ua/news/2019/komanda-startap-shkoly-universytetu-peremogla-na-vseukrayinskomu-vidbori-big-idea>.
6. Касич, А.О. Стартапи як форма підприємницької діяльності: поняття, значення, зарубіжний досвід / А. О. Касич, А. М. Джура. // Інвестиції: практика та досвід – С. 24-31.
7. Інформаційний портал міста Львова (2018): 15 львів'ян та організацій, що змінювали місто у 2018. [Електронний ресурс] – Режим доступу: <https://www.032.ua/news/2276594/15-lvivan-ta-organizacij-aki-zminovali-misto-u-2018-mu>.
8. Мрихіна О. Б. Перспективи стартап-компаній у контексті конкурентоспроможного розвитку українського ринку високих технологій / 4 О. Б. Мрихіна, А. Р. Стояновський, Т. І. Міркунова // Актуальні проблеми економіки. – 2015. – № 9. – с. 215-225.
9. Панков А.В. Особливості ведення інноваційної діяльності в умовах впровадження парадигми відкритих інновацій / А. В. Панков // Актуальні проблеми економіки. – 2013. – № 9 (147). – с.113-118
10. Подольчак Н.Ю., Прокопишин-Рашкевич Л. М., Карковська В. Я. Вплив коучингу на розвиток лідерських умінь менеджера / Н.Ю.Подольчак, Л.М.Прокопишин-Рашкевич, В.Я. Карковська // Науковий вісник Національного гірничого університету. – 2019. - №4. – с. 107-113.
11. Startup Ranking. Countres Ranking. [Електронний ресурс] – Режим доступу: <http://www.startupranking.com/countries>.
12. Історія успіху Petcube. [Електронний ресурс] – Режим доступу: <https://www.the-village.com.ua/village/business/buisness-interview/287145-interv-yu-zi-spivvlasnikami-petcube-pro-nove-pokolinnya-gadzhativ-i-maybutne-domashnih-tvarin>, <https://opinionua.com/2019/02/11/ukra%D1%97nskiy-startap-petcube/>.
13. Історія успіху Lametric. [Електронний ресурс] – Режим доступу: <https://lametric.com/uk-UA/time/overview/smart-home>, <https://mc.today/chasy-lametric-sobrali-na-kickstarter-370-tys-i-prodayutsya-na-amazon-istoriya-sozdatelya-nazara-bilousa>.
14. Історія успіху Grammarly. [Електронний ресурс] – Режим доступу: https://24tv.ua/techno/ru/grammarly_kak_rabotaet_kak_ustanovit_perevodchik_grammarly_istorija_n1_218031, <https://mc.today/istoriya-grammarly-kak-troe-kiyvlyan-sozdali-servis-proverki-pravopisaniya-stoimostyu-1-mlrd/>.
15. Історія успіху Passiv Dom. [Електронний ресурс] – Режим доступу: <https://ukrainian.voanews.com/a/passivdom-ukraine-us/4504831.html>, https://euukrainecoop.net/2018/02/05/ukrainian_startup_passivdom/, <https://www.radiosvoboda.org/a/28997630.html>.
16. Історія успіху Kwamboi. [Електронний ресурс] – Режим доступу: <https://nachasi.com/2018/05/25/volodymyr-usov-kwambio/> <https://shotam.info/vid-hlechykiv-na-3d-pynteri-do-druku-liuds-kykh-kistok-istoriia-startapu-kwambio-z-odesy/>.

References:

1. Alexandrovna A., (2018): What is a startup. Binar. Option.com. <https://uk.binaroption.com/stati/590-chto-takoe-startap-prostymi-slovami>.
2. Babyachok, R., Kulchytsky I. (2018): Main trends of development of startup in Ukraine – problems, obstacles and opportunities. Retrived from: <https://www.civic-synergy.org.ua/wp-content/uploads/2018/04/Osnovni-tendentsiyi-rozvytku-startapiv-v-Ukrayini-1-1.pdf>.
3. Blank, S., Dorf, B., Valevskaya, N. (2018): The Holy Book of the Startup. How To Build A Successful Startup. K.:Our Format, ISBN 978-617-7552-67-2.

4. Dannenberg, P., Diez, J.R., Schiller, D. (2018): Spaces for integration or a divide? New-generation growth corridors and their integration in global value chains in the Global South Zeitschrift für Wirtschaftsgeographie, Volume 62. Online erschienen: DOI: <https://doi.org/10.1515/zfw-2017-0034>.
5. Information portal of Lviv Polytechnic National University (2019): The team of University StartUp School won at the All-Ukrainian competition Big Idea Challenge and will go to London Retrieved from: <http://lp.edu.ua/news/2019/komanda-startap-shkoly-universytetu-peremogla-na-vseukrayinskomu-vidbori-big-idea>.
6. Kasich, A., Dzhura, A. (2019): Startups as a Form of Entrepreneurship: Concept, Meaning, Foreign Experience. Investment: practice and experience. Volume 2. P. 24-31.
7. Lviv City Information Portal (2018): 15 Lviv peoples and organizations that changed the city in 2018 Retrieved from: <https://www.032.ua/news/2276594/15-lvivan-ta-organizacij-aki-zminuvali-misto-u-2018-mu>.
8. Mrykhina, O., Stoyanovsky, A., Mirkunova, T. (2015): Perspectives of start-ups in the context of competitive development of the Ukrainian market of high technologies. Current problems of economy. Volume 9, 215-225.
9. Pankov, A. (2013): Peculiarities of innovation activity in the context of open innovation paradigm. Current problems of the economy. Volume 9 (147), P. 113-118.
10. Podolchak, N.Y., Prokopyshyn-Rashkevych, L.M., Karkovska, V.Y. (2019): "The influence of coaching on the development of manager's leadership skills", Naukovyi Visnyk Natsionalnoho Hirnychoho Universytetu, Volume 2019, no. 4, pp. 107-113.
11. Startup Ranking. Countres Ranking. (2018): Retrieved from: <http://www.startupranking.com/countries>.
12. Success story Petcube. Retrieved from: <https://www.the-village.com.ua/village/business/buisness-interview/287145-interv-yu-zi-spivvlasnikami-petcube-pro-nove-pokolinnya-gadzhetiv-i-maybutne-domashnih-tvarin>, <https://opinionua.com/2019/02/11/ukra%D1%97nskij-startap-petcube/>.
13. Success story Lametric. Retrieved from: <https://lametric.com/uk-UA/time/overview/smart-home>, <https://mc.today/chasy-lametric-sobrali-na-kickstarter-370-tys-i-prodayutsya-na-amazon-istoriya-sozdatelya-nazara-bilousa/>.
14. Success story Grammarly. Retrieved from: https://24tv.ua/techno/ru/grammarly_kak_rabotaet_kak_ustanovit_perevodchik_grammarly_istorija_n1218031, <https://mc.today/istoriya-grammarly-kak-troe-kiievlyan-sozdali-servis-proverki-pravopisaniya-stoimostyu-1-mlrd/>.
15. Success story Passiv Dom. Retrieved from: <https://ukrainian.voanews.com/a/passivdom-ukraine-us/4504831.html>, https://euukrainecoop.net/2018/02/05/ukrainian_startup_passivdom/, <https://www.radiosvoboda.org/a/28997630.html>.
16. Success story Kwambio. Retrieved from: <https://nachasi.com/2018/05/25/volodymyr-usov-kwambio/>, <https://shotam.info/vid-hlechykiv-na-3d-prynteri-do-druku-liuds-kykh-kistok-istoriia-startapu-kwambio-z-odesy/>.

Посилання на статтю:

Podolchak N.Yu. Management of innovative projects on the basis of a system-oriented approach / N. Yu. Podolchak, V. Ya. Karkovska, Y. V. Levytska // Економічний журнал Одеського політехнічного університету. – 2020. – № 3 (13). – С. 47-54. – Режим доступу до журн.: <https://economics.opu.ua/ejoru/2020/No3/47.pdf>. DOI: 10.15276/EJ.03.2020.6. DOI: 10.5281/zenodo.4435017.

Reference a JournalArticle:

Podolchak N.Yu. Management of innovative projects on the basis of a system-oriented approach / N. Yu. Podolchak, V. Ya. Karkovska, Y. V. Levytska // Economic journal Odessa polytechnic university. – 2020. – № 3 (13). – P. 47-54. – Retrieved from <https://economics.opu.ua/ejoru/2020/No3/47.pdf>. DOI: 10.15276/EJ.03.2020.6. DOI: 10.5281/zenodo.4435017.

