



Kateryna Orlova

IDENTIFICATION OF THE ROLE OF INTELLECTUAL PROPERTY IN THE STARTUP PROJECTS MANAGEMENT SYSTEM

The object of the research in the paper is intellectual property as one of the key resources of startup projects. The research is aimed at providing the understanding of intellectual property role in ensuring the efficiency of startup projects management and overcoming its undervaluing. Current conditions of Ukrainian enterprises functioning demand the search of effective tools for forming competitive advantages and ensuring the recovery of economy, that emphasizes the necessity of innovation activity activation. The study focused on startup projects as one of the forms of activation of innovation activity. The author proposed the definition of a startup as a temporary structure (organized in the form of a business entity and/or project), which has innovative characteristics of the business model, generates an innovative product and is aimed at significant growth and scaling. Startup projects have their peculiarities which influence the respective management system. On the basis of the conducted research the directions of startup projects management were identified, one of which is the management of startup project resources. Intellectual property, in its turn, is one of the key resources of startup projects considering the innovative nature of their business models. Efficient management of the intellectual property objects is capable of forming significant advantages for the startup project, which will result in its performance indicators. The main directions of intellectual property management in startup projects include development of intellectual property, market analysis, protection of intellectual property rights, commercialization of intellectual property rights. Ensuring the efficiency of the intellectual property management provides for the observance of relevant principles, the main of which include the principles of systematicity, reasonableness, efficiency, alternativeness, ensuring development, adaptability, social responsibility. The obtained research results will contribute to increasing the awareness of startup founders regarding the role and peculiarities of management of intellectual property.

Keywords: entrepreneurship, innovation activity, startup, startup project management, intellectual property, intellectual property rights.

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1. Introduction

The exacerbation of crisis trends in the development of Ukraine's economy as a result of the full-scale invasion of the Russian Federation puts special stress on the issue of finding effective tools for anti-crisis management and subsequent recovery of the economy. Ukrainian business entities are faced with a number of complex problems caused by the security situation, disruption of logistics chains, decrease in solvent demand, lack of resources, including human resources, etc. The mentioned problems lead to a significant worsening of the financial condition, as a result – to bankruptcy and business liquidation. Thus, according to the Youcontrol company analysts, in the first half of 2024, almost 92,000 individual entrepreneurs, as well as over 1,500 enterprises, ceased their operation [1]. Considering the aforementioned, Ukrainian economic en-

ties face urgent need to search for new technological solutions, often of an innovative nature, which will provide an opportunity to effectively counteract crisis phenomena and to ensure stable functioning in today's realities. Startup projects are one of the forms of realization and implementation of such technological solutions. The research [2] defines startup as a temporary structure, which is created with the aim of search of renewable, profitable, and scalable business-model. The specificity of startups is the focus on innovative solutions, disruptive technologies, which gives the corresponding projects risk characteristics and potential opportunities for significant growth. Considering the technological and innovative orientation of startup projects, an important place in the system of their implementation is occupied by those solutions that form the basis of the respective business model. Such solutions represent intellectual property, which is often one of the

most important resources in the startup projects management system. In the view of this, studying the role of the intellectual property in the startup projects management system is an important and relevant task.

Accelerated development of technologies, decrease in their implementation and spread time, digitalization of social and economic relations, and the emergency effect in the technical and technological sphere has led to a significant increase of the startup projects' role, which, in its turn, defined strengthening of the scientific interest to the corresponding sphere. Recently, there has been a significant increase in the number of publications, dedicated to the issues of creation, development, and management of startup projects. According to the analytical data of Scopus database, as of July 2024 there were 7232 documents indexed in the database, which included the concept «startup» in their titles. Besides that, a clear trend towards the increase of the number of such publications is observed since the beginning of the XXI century. If from 1971 to 2000, inclusive, 972 such publications were indexed, then in 2023 alone, the number increased to 669 [3]. Each year the number of indexed publications dedicated to the respective sphere increases, which defines the growing relevance and importance of this scientific direction.

In particular, the issues related to the formation and protection of intellectual property rights (IPRs) are considered in works [4–6]. The role of trademarks, which are one of the elements of the IPRs protection, in ensuring the stability of development and performance indicators of social startups is defined in [4]. As a result of analysis of 485 social startups of Germany, the scientists concluded that startups, which registered trademarks within first three years of functioning, had better indicators of performance and functioning stability. The study [5] is dedicated to the definition of the peculiarities of intellectual property management in startups. According to the authors, IPR protection should be one of the key components of startups business strategy, as intellectual property is one of the important legal and financial assets of business entities. The paper [6] considers the role of patent rights in the innovations development system. On the basis of the conducted research, the scientists define that patents play an important role in the system of business competitive advantages protection.

In its turn, a significant number of scientific works is dedicated to identifying of startup projects management foundations. The work [2] considered the essence, key problems and perspectives of startups development. The authors also provided a list of activity spheres, where startup projects are the most spread, as well as they defined sources of startups financing. In the paper [7], the peculiarities of the strategic management of a company's startup activity are considered, the components of the technology of strategizing of startup activity are defined, and the startup activity management model at the example of National Technical University of Ukraine «Igor Sikorsky Kyiv Polytechnic Institute» is revealed. The research [8] studies the role of corporate accelerators in the system of startup management, as well as the impact of corporate accelerators on the startups performance indicators. On the basis of the conducted research of 223 startups-graduates from 15 accelerators of Germany, the authors define the impact of the accelerator configuration design on the startups' performance indicators. In the paper [9] the research of startup success understanding from the founders' perspective is provided. The authors define that subjective perspective of startup success is based on

five dimensions: firm performance, team, personal fulfilment, community impact and personal financial reward.

Noting the significant contribution of these and other researchers, it is possible to mention that the field of startup project management is relatively new in the system of scientific research. This and the complexity and multifacetedness of the analyzed sphere define the relevance of the article.

Considering the above, *the aim of research* is to define the role of intellectual property in the startup projects management system. The practical value of the research is the identification of significance and key directions of intellectual property management, which will provide an opportunity to form the respective vision among existing and potential startup projects founders.

2. Materials and Methods

The methodological basis of the research is the system approach, which considers startup projects management system as a component of an overall management system of business subjects, which, at the same time, has its own complex structure. In addition, the following methods were used during the research:

- monographic – to study scientific publications dedicated to the startup and intellectual property management issues;
- generalization – to form research conclusions;
- deduction – to substantiate directions of intellectual property management;
- graphical and tabular – to visualize the research results.

3. Results and Discussion

The crisis operating conditions faced by many Ukrainian business entities today require an immediate search for mechanisms and tools that will provide the opportunity to adapt, overcome negative phenomena, and ensure sustainable functioning and development. Activation of innovation activity is one of such tools, which, according to scientists, is a key factor of ensuring economic development and increasing competitiveness of individual business subjects, as well as of country as a whole [5]. Innovation activity is a powerful driver of development, which ensures the transition to qualitatively new conditions of social and economic relations, raises the standard of living of the population. Activation of innovation activity can happen in different forms, from the implementation of innovative projects on the basis of operating business subjects to the startup projects, from insignificant improvements to radical innovations and massive changes in the business model. Today startup projects are one of the most powerful and modern tools for activation of innovation activity.

Considering the complexity and comprehensiveness of the «startup» concept, there are a lot of approaches to its definition. The research [5] proposes to consider startup as an enterprise, which main components of business model are information processing and derivative technologies. It is possible to believe that this approach somewhat narrows the content of a startup, reducing it to the IT sphere, while the basis of a startup can be any innovative technology. According to [10], startup is a newly created organization engaged in the development of new goods or services under conditions of extreme uncertainty. Startup is also considered as temporary, innovative incentive for the economy, which accumulates financial and intellectual resources for the further growth to a stable business [2]. According to another

approach, startups are relatively new companies (which operate less than 10 years) with an innovative product, service or business model, targeted at scaling their activity, i. e. rapid growth and expanding in the international aspect [9]. Generalizing the aforementioned definitions, it is possible to form our understanding of a startup as of a temporary structure (organized in the form of a business entity and/or project), which has innovative characteristics of the business model, generates an innovative product and is aimed at significant growth and scaling. Considering the essence of startup, it is possible to define its key, in our opinion, characteristics.

The peculiar features, which define the difference between startups and traditional business projects, include the following:

- startups usually base their competitive advantages on the innovations and intellectual capital [5];
- startups are more efficient within an appropriate ecosystem. According to the Global Startup Ecosystem Ranking, the key success factors for the startup ecosystem are performance; funding; connectedness; market reach; knowledge; talent and experience [11];
- startups are usually way more efficient if they participate in the acceleration programs (cooperate with accelerators) [8];
- orientation on globalization and significant scaling of activities, with possible prospects for international growth [9];
- team is one of the critical success factors [9];
- startups are usually associated with the higher risk, than traditional business models;
- financing of startups can be formed from various sources, in the structure of which venture capital, funds from angel investors, and crowdfunding often prevail.

Therefore, the key defining characteristics that distinguish startups from traditional business models or small businesses are innovation orientation and ample opportunities for scaling and growth in favorable conditions. The high level of risk, in turn, causes differences in financing of startups and traditional business models.

As any other business project, startup envisages the formation of an appropriate management system. Startup project management is a targeted influence of the founder and/or startup project team on its functioning with the aim of reaching the set goals. Startup project management is a complex process, which involves the synergy of a set of directions (Fig. 1).

Thus, according to the Fig. 1, let's note the key startup projects management directions, which include formation and assessment of business model, its reengineering if needed (so called pivot), attraction and management of resources (primarily, human and financial), management of other resources, marketing and positioning, as well as further scaling of the startup.

Each of the defined management directions can be deepened and detailed considering the complexity of the set tasks. In its turn, one of the significant management directions, which provides functioning and further development of the startup project, is its resources management.

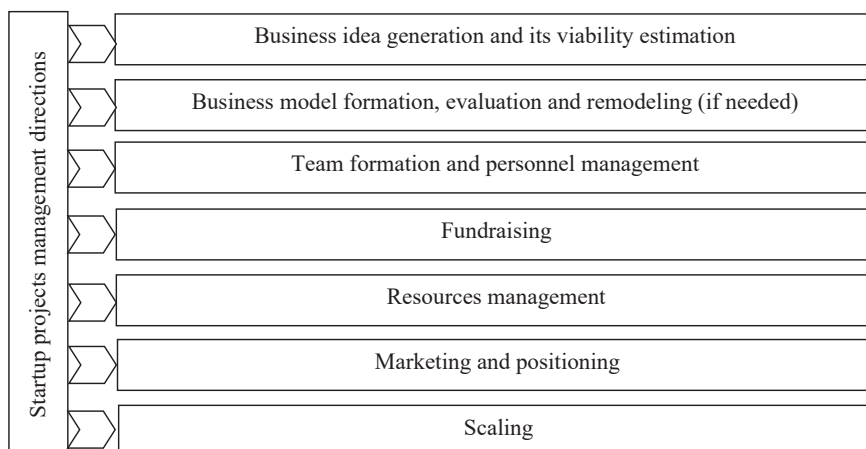


Fig. 1. Startup projects management directions

It is expedient to include human resources (team) and intangible resources (technologies, solutions, intellectual property) to the key resources of startup projects, considering their specificity.

Intellectual property is one of the determining factors affecting the success of innovation activity, thus, of startup projects as well. According to [12], intellectual property is one of the six key factors of innovative development of a country.

According to the World Intellectual Property Organization definition, «intellectual property refers to creations of the mind, such as inventions; literary and artistic works; designs; and symbols, names and images used in commerce» [13]. The Civil Code of Ukraine states that intellectual property right is a person's right to the result of intellectual, creative activity or to the other object of intellectual property right [14]. In Ukraine IPRs are regulated legislatively, besides the Civil Code there is also a set of specific legislative acts, which define social, economic, and legal relations in the sphere of creation and use of appropriate objects of intellectual property. As a rule, objects of intellectual property, which are associated with startups functioning, belong to the category of objects of industrial property law, in particular, objects of patent law (inventions, utility models); means of individualization of participants in economic relations (trademarks, industrial designs, etc.).

The role of IPRs in the startup projects management system is defined by the following:

- IPRs contribute to the scaling of the business model [4];
- IPRs increase the level of interest of external investors in the case of IPRs registration due to the reduction of information asymmetry [4];
- IPRs registration in the form of patents contributes to increasing the number of jobs, to the growth of sales and activation of innovation activity [4];
- IPRs registration protects innovation activity of startups from stealing by competitors [5];
- presence of registered IPRs increases the market value of the company [5, 6];
- IPRs provide an opportunity to receive additional income from the sale of permits for the use of intellectual property objects (licenses, franchises, etc.);
- IPRs provide better positioning and recognition of startups due to the individualization of trademarks, designations, markings, etc.;
- IPRs are one of the key resources of the development and scaling of startups.

So, considering the aforementioned, it is possible to conclude that intellectual property plays an important role in the startup projects management, which is emphasized by the innovative nature of the corresponding type of activity. Therefore, ensuring the understanding of the role of intellectual property and respective management of intellectual property objects is an important task for founders and managers of startup projects. Generalizing the results of the research, it is expedient to form directions of intellectual property management in startup projects (Table 1).

Table 1

Directions of intellectual property management in startup projects

Directions	Description
Development of intellectual property	Consists in forming the necessary prerequisites for the creation of intellectual property, such as the formation of an appropriate team, employee motivation, access to information resources, necessary infrastructure, etc.
Market analysis	Envisages the study of existing trends in the market with the aim of conduction of competitive analysis, identification of competitive advantages and potential threats in the sphere of intellectual property management
IPRs protection	Applying for relevant legal documents that ensure the protection of intellectual property rights, tracking cases of improper use of objects protected by intellectual property rights
Commercialization of IPRs	Exchange of IPRs objects, sale of rights to use such objects, receiving income, transfer of technologies

Note: generalized by the author on the basis of [5, 15]

So, management of intellectual property in startup projects is an important direction of the overall management, which is defined by the role of intellectual property in ensuring of efficient functioning, development, and scaling of startup projects. Accordingly, it is important to provide the efficiency of the corresponding management process. It is possible to believe that the efficiency of such process can be provided through the compliance with the relevant principles. The most important, in our opinion, principles of intellectual property management in startup projects are the following:

- *systematicity* – this principle involves considering all components and directions of management of the startup project as a whole when making decisions regarding intellectual property objects;
- *reasonableness* – any decisions made in the field of intellectual property management must be justified by relevant calculations, data, etc.;
- *efficiency* – the potential benefits from the use of intellectual property objects should be greater than the expenses associated with creation/acquisition of intellectual property objects;
- *alternativeness* – while making managerial decisions, it is advisable to use a scenario approach, which involves identifying various alternative solutions and choosing the most optimal of them;
- *ensuring development* – considering the specificity of startup projects, it is expedient to observe the principle of ensuring development which is aimed at formation of prerequisites for evolutionary improvement of intellectual property objects, as well as of a startup project as a whole;

- *adaptability* – ensures flexibility of intellectual property management system in view of complexity and variability of startups functioning conditions;
- *social responsibility* – envisages taking into account the basics of environmental friendliness, social orientation, and balance.

It is clear that the given list of principles is not exhaustive, however, in our opinion, compliance with these principles will make it possible to ensure the efficiency of the intellectual property management process, which, in turn, will contribute to the functioning and development of the startup.

Thus, the results of the conducted research provide theoretical basis for ensuring the understanding of role of intellectual property in the system of startup projects management and define the key directions of management in the respective sphere. At the same time, the provided recommendations and conclusions are of universal nature, so in practical activity there may be need for their adjustment to the specific conditions.

The martial law introduced in Ukraine as a result of the full-scale invasion of the Russian Federation determines certain difficulties associated with ensuring the effective development of startups, from finding funding to ensuring effective protection of intellectual property rights. Today, the mechanisms for protecting intellectual property rights are imperfect, which causes corresponding difficulties in this area.

The relevance of both efficient and effective management of intellectual property in startup projects management is beyond any doubts for Ukrainian enterprises due to the necessity of searching ways and directions for ensuring survival, stability, and competitiveness of economic entities. At the same time, startup projects are perspective forms of business acceleration and innovative development in any country which aims at improving technical and technological solutions, as well as at high pace of digitalization. Such trend of increasing importance of startup projects in different countries can be observed in the scientific publications [4, 8, 9]. Considering the fact that effective and efficient intellectual property management is an important component of startup projects management, it is possible to believe that the findings of the research are relevant not only for Ukraine, but also for other countries. Startups as a specific business model are characterized by peculiar features, which are similar in Ukraine and other countries, thus, the considered directions of startup projects management, directions and principles of intellectual property management in startup projects can be applied in different countries with minor adjustments, if needed.

The perspectives of further research are in the sphere of determination of practical recommendations regarding formation of prerequisites for activation of intellectual property objects creation, as well as their commercialization.

4. Conclusions

The study shows that Ukrainian business subjects functioning conditions emphasize the necessity of search of new ways of ensuring the efficiency of functioning. Activation of innovation activity is one of the tools of forming competitive advantages, which can be performed in the form of startup projects. Startup projects are temporary structures (organized in the form of a business entity and/or project),

which have innovative characteristics of the business model, generate an innovative product and are aimed at significant growth and scaling. Intellectual property, in its turn, is one of the key resources considering the innovative nature of startups. Efficient management of intellectual property in startup projects provides an opportunity to form their competitive advantages, scale their activity, generate additional income. Intellectual property management in startup projects envisages a set of measures, aimed at creation, protection, and commercialization of intellectual property objects. Ensuring the efficiency of the respective management process involves using the system of appropriate principles. The recommendations determined within the research will contribute to increasing the awareness of startup founders and will prevent the devaluation of the role of intellectual property, which, in turn, will ensure an increase in the efficiency of the functioning and development of startups.

Conflict of interest

The author declares that she has no conflict of interest in relation to this study, including financial, personal, authorship, or any other, that could affect the study and its results presented in this article.

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Data availability

The manuscript has no associated data.

Use of artificial intelligence

The author confirms that she did not use artificial intelligence technologies when creating the presented work.

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Kateryna Orlova, PhD, Department of Management, Business and Marketing Technologies, Zhytomyr Polytechnic State University, Zhytomyr, Ukraine, ORCID: <https://orcid.org/0000-0002-9985-0210>, e-mail: orlova_ekaterina@ukr.net