EFFECTIVENESS OF THE ECOSYSTEM APPROACH TO BUSINESS DEVELOPMENT*

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Abstract

The authors of this article analyze the ecosystem approach to organizing businesses in the context of networking and digitalization of the economic landscape. Through their study, they analyze why entrepreneurship ecosystems are more effective than other types of integrated entities, identify factors that lead to the transformation of network entities into business ecosystems, and propose an approach to evaluating the overall effectiveness of entrepreneurial ecosystems. This approach takes into account the economic, social, and environmental components of efficiency, while considering the contributions of all members of the ecosystem, regardless of their individual contribution shares to the overall outcome of the ecosystem.

The study's findings highlight that team productivity is a multidimensional concept with economic, environmental, and social aspects, while the results of individual participant's contributions can be evaluated in one or more dimensions.

Keywords: business community, effectiveness, entrepreneurial ecosystem, network entity, technological platform

1. Introduction

The concepts of entrepreneurial ecosystems have been actively developing in recent decades. The concepts of entrepreneurial ecosystems have been actively developing in recent decades (Setyani et al., 2021). Globalization, digitalization and the crises faced by companies require new tools to stimulate entrepreneurship. In the context of the Covid-19 coronavirus pandemic, the economies of most countries are faced with the need to reorganize enterprises, as well as to revise entrepreneurial activity regulation. In addition, economic agents work in conditions

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of widespread information and communication technologies introduction in all spheres of activity, including the public sector (Masrour, 2021; Van Hoa et al., 2022). Today, business activity, in addition to contributing to aggregate income formation, plays a significant role in solving social problems: ensuring employment, meeting its needs for tangible and intangible benefits, and also reflecting the ideas and values of business communities. Thus, an entrepreneur making managerial decisions has to take into account various, sometimes inconsistent, interests of various economic agents.

The ecosystem approach to the business organization takes into account the importance of interactions between economic agents as a source of economic and innovative value-added growth and the development of their location territory. The entrepreneurship development ensures the stability of the economic system, increasing its innovation level, as well as the creation of innovative infrastructure facilities - business incubators, special economic zones, technology parks, engineering centres, prototyping centres etc. Entrepreneurship ecosystems are characterized by a set of economic, institutional, infrastructural and other features, the combination of which determines the specifics of each integrated entity (Meyer and Hamilton, 2020; Shibli et al., 2021). This creates difficulties for developing a common understanding of their essence and differences from other forms of network associations with the participation of business entities, as well as for forming theoretical and empirical foundations of the ecosystem concept of business, which would allow confirming its legitimacy along with other theoretical constructions that include cluster theories or regional innovation systems. In this regard, it seems necessary to analyze the reasons for the effectiveness of entrepreneurial ecosystems, taking into account their differences from other types of integrated business entities, as well as to identify the epistemological potential of the overall efficiency concepts concerning economic agents groups.

2. Methods

The theoretical and methodological basis of the study is the provisions of various economic schools and trends, including the institutional theory of the firm (Bruton, et al., 2010), cluster theory, the theory of entrepreneurial networks, the concept of national and regional economic systems (Lundvall 2010), alternative management theories, etc. The content of the effectiveness of the entrepreneurial ecosystem is investigated using the principles of dialectics. Logical and empirical methods were used to achieve the research goal.

In the process of preparing the work, monographs, collective works, publications in periodicals, materials of scientific and practical conferences, Internet resources, as well as data from rating agencies, applied research were used as information sources.

3. Results and discussion

The term "ecosystem" was introduced into the conceptual apparatus of scientific research by the English botanist J. Tansley in 1935 for denoting a dynamic set that includes the natural environment or biotope (water, soil, climate and other inorganic elements), as well as living beings or biocoenoses (animals, plants, microorganisms) located in it (Danilov-Danilyan and Reif, 2010). Ecosystem studies have made it possible to understand the mechanisms of their functioning, including metabolic processes between living organisms and the environment. In economics, the terminological construction "entrepreneurial ecosystem" is used for explaining the phenomenon of startups as a result of the potential entrepreneurs' relations, their immediate surrounding and current market conditions. In addition, a structural approach to the study of entrepreneurship has been
The effectiveness of the ecosystem approach to business development

developed in economics, which is reflected in the works of Andreeva et al., (2018). Following its provisions, the properties of entrepreneurial ecosystems were considered as forms of their components structural features realization.

Particular interest in the context of the study of business ecosystems provides the innovative approach presented by the works of Fukuda and Watanabe, (2008) and others. Its developers considered the entrepreneurial ecosystem as "a dynamic system of complex relationships formed between all business entities to create innovative technologies and develop breakthrough ideas" (Andreeva et al., 2018). The patterns of formation and development of business ecosystems were studied by Brown and Mason (2012) within the framework of the Organization for Economic Co-operation and Development program. In 2013 The World Economic Forum presented its concept of an entrepreneurial ecosystem as a network entity (World Economic Forum “Entrepreneurial Ecosystems around the Globe and Early-Stage Company Growth Dynamics”). The analysis of the works of Russian authors shows that in recent years the ecosystem approach to entrepreneurship has become one of the dominant ones. However, unlike foreign researchers, Russian scientists mainly deal with the problems of the functioning of innovative ecosystems, which is due to the increased attention of the state and the business community to innovation as a factor of competitiveness of the state and business entities. At the same time, individual elements of network entities (research and educational organizations) that play an important role in the generation and diffusion of innovations become the subject of research. The problems of the business ecosystem are reflected in the works of Ovchinnikova and Zimin (2021), Popov and Simonova (2020), Ponomareva (2020).

Regardless of the aspect that the researchers are analyzing, they proceed from the recognition of some essential features of entrepreneurship ecosystems. Firstly, they distinguish many elements in their composition that are interconnected with each other. In particular, in D. Eisenberg's works, such elements include politics, finance, markets, culture, human capital, support, each of which includes sub-elements that influence the formation and trajectory of entrepreneurship development within the territorial boundaries. Koltai's (2016) works provide the "six + six" model, which includes six pillars (identification, training, communication, conservation, finance, empowerment of entrepreneurs) and six types of entities involved in eco-system activities (government, universities, investors, non-profit organizations, foundations, companies). Secondly, the researchers point to an active process of knowledge production and transfer within the ecosystem as an interactive community, which can contribute to the innovations generation and new enterprises creation. Thirdly, the researchers emphasize the diversity of the subject composition of entrepreneurship ecosystems, in which potential and existing enterprises of the real and financial sectors of the economy take place; non-profit organizations represented primarily by research and educational institutions. Thus, the definitions of business ecosystems indicate the diversity of components, as well as the interaction between them. The peculiarity of the interactions between the participants is their consistency, cohesion, the presence of feedback at certain time intervals, regardless of the sign of territorial affiliation, as well as the ability to initiate qualitatively new characteristics of the system that are not inherent in its elements. Combining all these elements in one geographical space creates a favourable climate for taking advantage of opportunities and taking risks.

It should be mentioned that at the present stage, a feature of entrepreneurial ecosystems is the use of technological platforms by participants. It allows them to benefit from the contribution of other network participants. The creation of these platforms is a factor in the transformation of network entities into business ecosystems. At the same time, companies that have such platforms play a key role in ensuring the participants coordination and promoting value creation. A technology
platform consists of several physical and/or software modules connected to each other by interfaces. It provides access to resources and creates prerequisites for the formation of value in the ecosystem. The design of open technological platforms is based on the use of open and publicly available standards that facilitate interaction between them. In the second version, the design is associated with the use of proprietary standards that limit compatibility between platforms. One of the examples illustrating this confrontation in the "mobile ecosystem" is Android (Google) and iPhone (Apple). For example, the Canadian company Research in Motion (RIM), founded in 1984, was part of an information and communication cluster that was created in the late 1950s. The BlackBerry Mobile Fusion platform developed by the company, which allows managing mobile devices running on different operating systems, has become the basis for uniting many players (operators, Internet service providers etc.) from different sectors. The platform was developed to control smartphones and tablets with different operating systems - BlackBerry, Android and iOS. Thus, the concept of a platform refers not only to technical elements but also includes an economic component, which is fundamental. The creation of a technological platform makes it possible to develop a new type of interaction between network participants, ensuring its transformation into an ecosystem.

Despite the diversity of entrepreneurship ecosystems theories, it should be recognized that its authors follow one of two traditions. The first tradition is associated with the study of the mechanisms of spatial agglomeration and, therefore, focuses on the territorial dimension, and the second - with the study of the impact of ecosystems on innovation and relational dimension. However, following these traditions, researchers cannot answer the question about the reasons for the relatively higher efficiency of entrepreneurship within ecosystems. Indeed, the cooperation goes beyond the territory in which the participants of the network entities are located. On the other hand, the relations underlying the production and transfer of knowledge that promotes innovation can bind economic agents regardless of their network affiliation and location. Consequently, the ability of business ecosystems to develop multi-level cooperation beyond geographical boundaries contributes to its effectiveness. In turn, the effectiveness of network formations depends on the nature and frequency of interactions that arise between the participants. At the same time, the efficiency indicator in accordance with the traditions laid down by J. Schumpeter is largely determined by the contribution of the business ecosystem to the dynamics of local indicators of socio-economic dynamics. However, the concept of overall efficiency is broader and integrates economic, social and environmental aspects, which implies the need to study the relationships of ecosystem participants with economic agents pursuing often contradictory goals (capital owners, customers, suppliers, non-profit organizations etc.). However, the development and implementation of competitive strategies by ecosystem participants should proceed from an understanding of the overall effectiveness at the inter-organizational level, which necessitates the formation and support of symbiotic relationships that allow the realization of the expectations of integrated entities members.

The identification and classification of various approaches to overall effectiveness can be interpreted as the beginning of the process of conceptualizing ideas about the performance indicators of integrated entities. In this regard, it seems necessary to investigate the mechanism of the influence of cooperation between business ecosystem participants on various aspects of productivity in conditions when such interaction can take various forms depending on the subspace structure, the institutional environment, the content of the absolute and relative advantages of the economic agents' territory etc. This, in turn, requires the allocation of attributive features of various types of identification of such collaborations and their identification. In addition, there is a question about the system of overall efficiency indicators, as well as about the tools for managing it. An
The effectiveness of the ecosystem approach to business development

important methodological problem is the development of an ecosystem performance monitoring panel, the complexity of which is due, among other things, to the ambiguity of defining the network formations boundaries. At the same time, the overall performance can be considered as the main indicator of their functioning effectiveness. The diversity of forms and subject composition of ecosystems, as well as the obsolescence of traditional indicators due to rapid changes in the situation, creates additional obstacles to assessing the overall effectiveness of integrated business entities. Besides, it should be based on the thesis that the existence of a relationship between the participants and, consequently, between the aspects of productivity (economic, social, environmental) necessitates the consideration of cause-and-effect relationships instead of overall productivity segmentation.

4. Conclusions and perspectives

Since the beginning of the XXI century, marked by the emergence of entrepreneurial ecosystems, interaction and interdependence between the participants of inter-company entities have intensified, which led to a transition from strategic actions to the ecosystem level. In these conditions, the company developing a competitive strategy is forced to proceed from taking into account productivity at the inter-organizational level while simultaneously finding a compromise between the goals and expectations of stakeholders. However, currently, there is no common understanding of the determinants of productivity at such a level, as well as indicators for its assessment in economic science.

The research available in this area is limited to the economic aspects of productivity and takes into account the position of suppliers, but ignores the diversity of expectations and contributions of other participants. In this regard, it seems possible to use a different interpretation of the team performance, moving the level of analysis of the company overall efficiency into the ecosystem. This position allows us to consider various components of efficiency (economic, social and environmental), taking into account the targets and the contribution of the ecosystem all members, regardless of the contribution share to the overall result of the ecosystem functioning. They are an important prerequisite for the development of management tools. Since the processes of production and implementation of open innovations unite various actors (ecosystem participants, third-party organizations, industries), overall productivity should be evaluated at the network level and cannot be focused on a specific participant.

However, this expansion of the overall productivity boundaries does not mean that all ecosystem members will be affected by all three components. Thus, on the one hand, the productivity of a community is a multidimensional quantity with economic, environmental and social aspects. On the other hand, the results of the individual participants functioning can be evaluated in one or more dimensions. At the same time, the set of economic indicators includes indicators of financial and economic activity and is determined by the participant's role in the creation of the aggregate product. The composition of environmental indicators is determined by the participation of economic agents in the implementation of innovation-oriented projects in the field of climate, environmental pollution, and safety. Indicators of social efficiency for business ecosystems are assuming paramount importance and reflect the results of collective actions aimed at the development and implementation of joint innovations. The latter is largely determined by the innovation level of the organizational culture of the business ecosystem and its participants, the lack of competition between members and the intensity of interactions.

The conducted research has shown that entrepreneurship ecosystems are a modern form of inter-company entities characterized by a variety of participants who differ in the type of economic
activity, organizational and legal form and form of ownership. At the same time, the interactions between the business ecosystems participants turn into a source of synergetic effect of the addition in total economic and social value.

Developing a three-dimensional view of the overall performance of the enterprise ecosystem, accounting for the goals and expectations of all its participants, has paramount importance for understanding the performed functions, as well as the reasons for their success or failure. The solution to this problem will not allow overestimating the role of startups in the development of ecosystems. And it will also create prerequisites for accounting for their role in the progressive dynamics of the indicators of the placement territory of a new type of network entities. However, the formation of methodological approaches to performance assessment at the inter-organizational level does not exclude the need to raise issues of participants actions coordination in business ecosystems that are objectively focused on various components of productivity. In this regard, the definition of targets should lead to the fact that the diverse expectations of participants will be coordinated and will meet the expectations of users, i.e. will ensure the harmonization of diverse individual expectations to realize the common goal of the ecosystem.

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References
The effectiveness of the ecosystem approach to business development
