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**LEGAL ASPECTS OF EXTRAPOLATION NATURAL  
ECOSYSTEMS THEORY TO THE DEVELOPMENT OF  
ENTREPRENEURSHIP**

Curie Kh. Ibragimov (a)\*, T.M. Nintsieva (b), N.Sh. Gaplaev (c), F.K. Ibragimova (d), A.K.  
Ibragimov (e)

\*Corresponding author

- (a) Complex Research Institute named after Kh.I. Ibragimov, RAS, 21 a, Staropromyslovskoye Highway, Grozny,  
Russian Federation,  
(b) Chechen State University, 32, Ulitsa A. Sheripova, Grozny, Russian Federation,  
(c) Chechen Research Institute of Agriculture, Russian Academy of Sciences, Lenin Street. 1 Village Gikalo, Grozny  
District, Russian Federation,  
(d) Kutafin Moscow State Law University, 9, Street Sadovaya-Kudrinskaya, Moscow, Russian Federation  
(e) Moscow Law Office, 15, Siverskaya St., office 3, Moscow, Russian Federation,

***Abstract***

In spite of the fact that the *business ecosystem* concept has appeared in science not a long time ago, this scientific field is dynamically developing in modern entrepreneurial and legal science. The definition of an entrepreneurial ecosystem is given in the article. Both natural and entrepreneurial comparative analysis of the ecosystem peculiarities is presented, which made it possible to identify common and distinctive features of natural ecosystems and business ecosystems. In order to achieve a favorable state of entrepreneurial ecosystems, while minimizing their negative impact on nature, it is suggested to establish the UN integrated systems: planetary economic monitoring, economic audit and total economic control over the operating entities. The article presents the description of these functions. The necessity of developing an international classification of business ecosystems is argued and the criteria for such system-based approach are proposed. The extrapolation of the Liebig's Law of the Minimum to the entrepreneurial activity is shown. It is noted that the presumption of good faith is an element of building trust in business relationships, and therefore is the most important criterion for the classification and efficient functioning of business ecosystems. It was concluded that business ecosystems the quality of which will ensure long term parallel and synergistically combined sustainable functioning of natural ecological and business ecosystems, resulting in the mitigation of negative changes in the environment under the influence of economic activity will be favorable for present and future generations of people and for all biological diversity on Earth.

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**Keywords:** Business, ecosystem, legislation, extrapolation, classification, good faith.



## 1. Introduction

The term *ecosystem* or *ecological system* (from the ancient Greek οἶκος - dwelling, residence and σύστημα - system) used to have a purely biological meaning until recent past and since 1935, thanks to A. Tensley, has literally acquired the meaning of the biological system (biogeocenosis) consisting of a community of living organisms (biocenosis), their habitat (biotope), a communication system that exchanges matter and energy between them. The term *ecosystem*, especially if to take into account the translation, is very well suited to business activities. The first who paid attention to it was an American economist James Moore (1993), who used it as a metaphor in the field of entrepreneurship, and who became the first author of the theory of business ecosystems. Consequently, the concept of *business ecosystem* has recently appeared in science. This scientific field has been dynamically developing in modern entrepreneurial and legal science; however, it needs to be constantly improved. Besides, like any other new scientific field, the science of business ecosystems needs new approaches and descriptions, in particular, to develop a classification of entrepreneurial ecosystems, to further extrapolate elements of the theory of natural ecosystems to the development of the foundations of entrepreneurship ecosystems.

## 2. Problem Statement

Like any other new scientific field, the science of business ecosystems needs new approaches and descriptions, in particular, to develop a classification of the entrepreneurial ecosystems, to further extrapolate elements of the theory of natural ecosystems to the development of the foundations of enterprise ecosystems.

## 3. Research Questions

The subject of the research is ecosystems in the entrepreneurship, which have following definition: it is an artificially created, objectively existing part of real material production, which is in constant motion, acting as a single functional unit within geographically defined boundaries, and in which the connections and relations are developed in the process production, distribution, exchange and consumption of social benefits. Consequently, as in the case of a natural ecosystem, an entrepreneurial ecosystem that claims efficiency is a complex of entrepreneurs, nature and natural and anthropogenic objects, as well as technical and technological means and other resources that are synergistically united by the geographical elements and that form a certain integrity and internal unity on the basis of the norms of legislation.

## 4. Purpose of the Study

The goal of the work is to deepen the process of extrapolating elements of the theory of natural ecosystems to the development of the foundations of enterprise ecosystems and to develop an international classification of business ecosystems.

## 5. Research Methods

The methods used in the article: scientific abstractions, general analysis and synthesis, induction and deduction, comparative analysis

## 6. Findings

The term ecosystem or ecological system (from the ancient Greek οἶκος - dwelling, residence and σύστημα - system) used to have a purely biological meaning until recent past and since 1935, thanks to A. Tensley, has literally acquired the meaning of the biological system (biogeocenosis) consisting of a community of living organisms (biocenosis), their habitat (biotope), a communication system that exchanges matter and energy between them (Klimenko, 2018). The term ecosystem, especially if to take into account the translation, is very well suited to business activities. The first who paid attention to it was an American economist James Moore (1993), who used it as a metaphor in the field of entrepreneurship, and who became the first author of the theory of business ecosystems. Consequently, the concept of business ecosystem has recently appeared in science. This scientific field has been dynamically developing in modern entrepreneurial and legal science. Nevertheless, in the issue related to further development of this new scientific field the palm belongs to D. Moore. In one of his latest works, Moore argues that the business ecosystem is an important unit of analysis for competition law, economics, sociology and management — a concept and unit of analysis that has been found necessary and helpful in business strategy and practice for many years. (Moore, 2006).

In his works, J. Moore noted that the business ecosystem is “... an economic community supported by a foundation that makes up the interacting organizations and individuals - the organisms of the world of entrepreneurship ... The ecosystem of any enterprise includes consumers, market intermediaries (including agents and supply channels, as well as those who sell related products and services), suppliers and, of course, the company itself ... But the ecosystem of any enterprise also includes owners and other interested persons and, besides ... public and regulatory agencies, associations and organizations that enforce standards and represent consumers and suppliers. To some extent, ecosystems include direct and potential competitors, as well as any other important members of society”. Besides, J. Moore claims that “in the new world, advantages in competition arise from knowledge of when and how to build ecosystems, from the ability to manage ecosystems, ensuring their continued growth and continuous improvement”. Regarding the structure of the business ecosystem, J. Moore, laying the foundations of the theory of business ecosystems, proposed to consider the main business ecosystems with regard to direct suppliers, distribution channels, direct users, etc.; as well as expanded ecosystems of producers, consumers, markets, products, processes, industry associations and agencies, organizations, risks, power, and other aspects (Moore, 1998).

In Russia and other countries of the post-Soviet space, the term entrepreneurial ecosystem is rather new and developments in this area rely on foreign research. At the same time, experts are trying to clarify, add, and expand the results obtained earlier, primarily by taking into account the specifics of their countries (Doroshenko & Shelomentsev, 2017).

For example, Kopeikina (2008), in relation to the economic conditions of Russia, believes that an innovative or entrepreneurial ecosystem should consist of four main components: ideas (presence of researchers and companies involved in developing advanced technologies in the field of specific knowledge), entrepreneurial experience, developed financing system (availability of a network venture companies, clubs, business angels, etc.) and community, which brings them together. In her opinion, if there are concerted efforts to develop the process of commercialization of innovations, then the time needed

to create such a system can be reduced (Kopeikina, 2008). Dubina and Kozhevina (2016) note that an innovation and entrepreneurial ecosystem is a multi-layered, multi-modal and multilateral system, encompassing mutually complementary and mutually reinforcing innovation institutions and knowledge clusters that are based on human and intellectual capital, formed under the influence of social capital and supported by financial capital. On this basis, there given a definition of the concept of a spatial innovation-entrepreneurial ecosystem as a complex open dynamic system, within which a specific institutional environment of an adaptive type is formed, taking into account the strategic objectives of this system and contributing to activating the processes of expanded reproduction of innovations, technologies and human capital. Such a spatial approach, according to the researchers, allows the concept of ecosystem to be applied to entities at various levels (state, region, cluster, enterprise). These authors have also identified exogenous and endogenous factors affecting the behavior of economic entities operating in the framework of the spatial innovation and entrepreneurial ecosystem: direct government support and innovation management at macro and meso levels; preferences in the early stages of creating a business; support of R&D and innovative entrepreneurship in the framework of public and private partnerships; financial risk insurance; benefits for investors (business angels); legal field of startups; self-organization of processes and relationships; development of business competencies; decision making modeling in the business system; consistency with sustainable development trends; entrepreneurial climate formed on the basis of infrastructure development and entrepreneurial culture. According to researchers, the impact of these factors leads to an increase in the components and connections of the system, complicating the environment and infrastructure. There is a need to coordinate interests and decision-making process, taking into account the limited resources, the mismatch of expectations and a high level of uncertainty, which ultimately reduces the adjustment of innovation and entrepreneurial system.

According to Isenberg (2011), to build an effective entrepreneurial ecosystem, six main things (lessons) should be taken into account: 1) to develop all elements of the entrepreneurial ecosystem: politics, financial industry, culture, infrastructure to support entrepreneurship, human capital (including education), markets; 2) to change the elements of the ecosystem step by step; 3) to study world best practices, not imitate the successes of others; 4) to develop an ecosystem at local levels, i.e. only some elements of the business ecosystem (such as policies) should be created at a national level; 5) to create independent entrepreneurial teams with special skills and energy to influence stakeholders, while developing all the elements of the entrepreneurial ecosystem; 6) to use successful entrepreneurial experience to support beginners. Isenberg (2011) notes that entrepreneurial ecosystems are becoming relatively self-sustaining. Since success creates a success, a crucial moment comes when the involvement of government can and should be significantly reduced, i.e. not eliminated, but reduced. When these six positions get strong enough, they mutually reinforce each other (the synergy effect. - Auth.), and the state leaders do not need to invest so much money to support them. In fact, it is very important for entrepreneurship programs to self-destruct in order to focus on creating sustainability in the environment.

According to Molina and Maya (2017), the entrepreneurial ecosystem is a set of interrelated economic elements that form certain integrity. Entrepreneurship ecosystems are a new trend topic in the entrepreneurship research: Until now, the entrepreneurship ecosystems have been studied from a managerial and economic point of view, ... however, business ecosystems are more than numbers; cultural,

social, and humanitarian aspects are generally underestimated. ... Therefore, it is necessary to put prejudices and conventional management approaches aside in order to understand the system design and entrepreneurial ecosystems as a complex system that is developed to encourage interaction between agents. The fascinating part of it (system design - Auth.) is that all these new interactions change the ecosystem and rebuild it every time. An understanding of the entrepreneurial ecosystems from a design perspective can help us bridge the gap between theory and practice when we are trying to create an entrepreneurial ecosystem in a region. If to add a design approach, it could help policymakers and stakeholders of business ecosystems around the world develop more efficient methods and practices for describing, modeling, proposing and changing ecosystem configurations (Molina & Maya, 2017).

Xiaoren, Lingand, and Xiangdong (2014) first used the concept of ecosystem in the innovation management. Their theory of business ecosystems provided a general framework for the exploration of new ideas in the group of cooperation of environment competitors. Within the framework of the theory, it was emphasized that cooperation, competition and co-evolution in the system are based on innovation. The theory of business ecosystems solved the problem of achieving synergistic effect through interaction in an open network environment and break through the limitations of traditional analytical methods. The concept of business ecosystems has become a new theoretical base for innovation (Xiaoren, Lingand & Xiangdong, 2014).

In accordance with Article 1 of the Federal Law of the Russian Federation (hereinafter – FZ RF) of 10 January 2002 N 7-FZ “On Environmental Protection”, the natural ecosystem is described as an existing part of natural environment, which has spatial and territorial boundaries and where its living (plants, animals and other organisms) and non-living elements interact as a single functional unit and are interconnected by the exchange of matter and energy (Federal Law, 2018).

At another point, the ecosystem in entrepreneurship is an existing part of real material production, which is in constant motion. It acts as a single functional unit within geographically defined boundaries with the relations that are formed in the course of production, distribution, exchange and consumption of social goods. Consequently, as in the case of a natural ecosystem, an entrepreneurial ecosystem is a complex of intentionally and often functionally, as well as synergistically interconnected entrepreneurs, natural and natural-anthropogenic objects, technical and technological means united by geographical, human and other relevant elements that are interconnected and on the basis of norms of the legislation form a certain integrity and internal unity.

A comparative analysis of these two ecosystems (in biology and economics) reveals the presence of other common features, which are, firstly, the possession of specific internal relations of individual elements, whether biological or business, peculiar to this ecosystem; secondly, the presence of not only needs, but also of the ability to change, which is the most important parameter of stability of both types of ecosystems; thirdly, the presence of openness in relation to the external environment in the production of energy and matter (resources); fourth, the presence of such a feature as expediency and regularity (that is, the interrelationship of the elements of these ecosystems are not random, and in the business ecosystem, as a rule, these connections are legally regulated); fifth, the formation with the help of these elements of relatively stable in time integrity with a significant functional dynamism in the medium term and in the long term; sixth, mastering a certain niche in a specific geographical space.

With such similar features, these ecosystems also have differences. It seems that the most important distinctive feature of the ecosystems under consideration is their final resulting multidirectionality: if the study of natural ecosystems is mainly focused on the preservation of nature, even from the anthropogenic impact of human economic activity on it, then the “tip” is aimed at destroying human environment. Today, on 13 October 2018, when this article is being prepared, a rally of anti-globalists environmentalists with more than 100,000 participants, demanding greater attention to the environmental protection from the world’s governments, is broadcast on the television channel EuroNews. They declare that the complete destruction of nature is not expected by 2050, as was previously erroneously stated by scientists, but 12 years after.

Another distinguishing feature of two ecosystems is the primacy of unpredictability which is observed in business ecosystems, while in natural ecosystems almost everything is determined by initial expediency, and, consequently, is characterized by greater reliability and stability.

In order to achieve a favorable state of entrepreneurial ecosystems there should be established the following UN integrated systems: planetary economic monitoring, economic audit and total economic control over the operating entities in the world. It should be assumed that their establishment should be accompanied by carefully developed scientifically-based legislation, taking into account local peculiarities. At the same time, the economic monitoring should be based on ongoing long-term scientific integrated observations of the state of economic ecosystems, of the processes occurring in them followed by assessment and prediction of expected negative changes for the state of the environment. An economic audit of ecosystems should involve various types of documented assessments that allow identifying deviations in the process of economic activity carried out by a legal entity or an individual entrepreneur from the requirements in compliance with environmental, sanitary and hygienic, fire-fighting, construction and other norms of international law, which, as noted above, are necessary to develop at the UN. It should be focused on the prevention or reduction of production risks that can cause adverse effects on natural and human-made environment.

In turn, the economic control of entrepreneurial ecosystems should be a system of measures aimed at preventing and detecting violations by legal entities and individual entrepreneurs of norms of international legislation in the field of compliance with environmental, sanitary and hygienic, anti-fire, construction and other standards.

In our opinion, it is high time we should develop an international classification of business ecosystems. In its hierarchical basis, the following criteria should be devised:

- availability of sufficient natural resources available for exploitation;
- manifestation of comprehensive political will of the state to motivate the development of entrepreneurship. This is also confirmed by Doroshenko and Shelomentsev (2017) noting that the structure of any business ecosystem, whether it is a university, region, city, etc., must contain the so-called “political” elements, i.e. strategies, programs, concepts of entrepreneurship development, which set the tone for further interaction of the rest of entrepreneurial elements ecosystems;
- availability of necessary amount of finance;
- business and general culture in the society, including trust in business relations;
- availability of business leaders;

- availability of business-friendly total human capital;
- independent markets and free competition, both technologically and technically formed enterprises and start-ups, etc.

And here, as in the case of natural ecosystems, the Liebig's Law of the Minimum (otherwise, the concept of limiting factors) will manifest its determining influence. This law is one of the fundamental laws in nature. It is likely that the extrapolation of this law to the economy will mean the following: for a successful business of the above mentioned and other factors of economic, political and cultural environment, the most significant at any given moment of a business operation will be the one that will be the weakest, the most fragile, and therefore, the most sensitive and vulnerable. In other words, it will be the most important for business activity. For example, even if there is a comprehensive political will of the state to motivate the development of entrepreneurship, the absence or insignificance of at least one of seven criteria will significantly restrain or even limit the ability to conduct business effectively. However, in the entrepreneurial activity at one stage of a business transaction one criterion may be vulnerable, while at the other stage another criterion may be vulnerable. Consequently, in accordance with the Liebig's Law, when extrapolating it to the economy, it can be assumed that the criterion (condition, factor) that is in the lowest optimality of its quantitative and qualitative expression has the greatest significance for successful business.

Obviously, the most important feature determining business activity is the availability of natural resources. Therefore, it seems that it is necessary to adjust the classification of business ecosystems to the classification of natural ecosystems. Then, biotopes will act as an identifying feature of business ecosystem, as in the case of natural ecosystems (Ivanov, 2018). According to the gradation of the latter, business ecosystems can be classified according to the operation intensity of forest resources, river, sea or ocean resources, urban or rural resources, subsoil resources, resources of agricultural lands or resources of wild animals, etc.

A classification model of business ecosystems can also be developed on the basis of business credit criterion. Then, taking into account the data provided in Table 1 (Ivanov, 2018), the best condition for the development of business ecosystems will be New Zealand, the USA, Latvia, Georgia and Canada, which occupy the first seven places in the ranking of countries; the second place will take Singapore, Hong Kong, Germany, Armenia and Lithuania; other countries can claim the last place, including Russia, Kazakhstan, Belarus and Norway.

One of the seven possible criteria for classifying business ecosystems outlined above was identified as the necessity of having trust in business relationships. Only in the first part of the Civil Code of the Russian Federation (Civil Code, 2017), the norms with the term "in good faith" are found 39 times. According to paragraph 3 of Article 1, part 1 of the Civil Code of the Russian Federation, when establishing, exercising and protecting civil rights and performing civil duties, the participants in civil legal relations must act in good faith (Civil Code, 2017). By virtue of clause 4 of Article 1 of the Civil Code of the Russian Federation, this also means that no one has the right to take advantage of their illegal or unfair behavior. As noted in the Resolution of the Plenum of the Supreme Court of the Russian Federation of 23 June 2015 N 25 "On the application by courts of certain provisions of section I, part one of the Civil Code of the Russian Federation": When evaluating the actions of the parties as fair or unfair, one should proceed from the behavior expected from any participant in civil turnover that takes into account the rights and legitimate

interests of the other party that assists it, including the obtaining of necessary information”. Indeed, according to the general rule of clause 5 of Article 10 of the Civil Code of the Russian Federation, the good faith of participants in civil legal relations and their reasonable actions are presumed until otherwise proved.

As Kozlova (2017) has rightly noted, the presumption of good faith is an element of the development of trust in business relations. Trust is necessary not only in the relations between individuals, but also in the relations between the state, state bodies and individuals, primarily those who carry out entrepreneurial activity. The rules of conduct established by the state should not be radically changed, they should be stable and consistent.

Only by proclaiming the principle of good faith and establishing the presumption of good faith, it is impossible to gain the trust of subjects in relation to each other: trust must be built up over the years and confirmed repeatedly. At the same time, the establishment of this principle in a normative act, as well as its consistent implementation, seems to be a necessary step towards trust as an element of stability of civil relations.

## 7. Conclusion

Based on the above, it can be concluded that business ecosystems the quality of which will ensure long term parallel and synergistically combined sustainable functioning of natural ecological and business ecosystems, resulting in the mitigation of negative changes in the environment under the influence of economic activity will be favorable for present and future generations of people and for all biological diversity on planet Earth. In this regard, among the above criteria for classifying business ecosystems, two criteria that determine business activity from above and below can be identified as priority: the political will of the state to organize and develop business ecosystems and to observe the presumption of good faith in business relationship.

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