

CDSSES 2020**IV International Scientific Conference "Competitiveness and the development of socio-economic systems" dedicated to the memory of Alexander Tatarkin****THE THEORY OF BUSINESS ECOSYSTEMS IN DEVELOPMENT PROGRAMS OF BORDER TERRITORIES**

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timooa@mail.ru**Abstract**

Adopting Russian Federal Law on the Bases of Cross-Border Cooperation and recently implemented by China strategies of trans-regional architectonics of international cooperation require theoretical conceptualization while developing current regional strategies for many Russian Federation regions bordering with the People's Republic of China. The research's relevance lies in combining systems, transdisciplinary, evolutionary, and historical approaches to the business ecosystem in border territories between Russia and China. The novelty of the research comes from identifying the distinctive features of socio-economic business ecosystems on Russian-Chinese border territory, patterns of their emergence and progressing, and the development of an integrated approach to their management. According to its business characteristics, the research's scientific challenge needs to develop an integrated methodology that would allow managing business ecosystems in Russian-Chinese border territory. The scientific result of evaluating a number of the State Federal and regional programs are supposed to develop the recommendations on the improvement of the management of the social-economic ecosystem on the border territory between Russia and China. The outcome of the project has academic and practical significance. It can be used in future research to improve the management of business ecosystems and social-economic ecosystems of business in the border territories and training professionals and executives in various sectors of the national economy.

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1. Introduction

Cross-border cooperation is of particular importance for our state. The Russian Federation has 62 262 km of borders with 16 countries and with 2 partially recognized states. The length of the land border is 24625 km. Russia's unique geographical position allows in today's technological context to look at new opportunities for economic cooperation in border territories. The length of the current Russian-Chinese border is 4209,3 km, including 650,3 km of land, 3489,0 km river, 70,0 km of lake boundary lines. The border territories on the Russian Federation side are Primorsky, Khabarovsk, Altaysky and Zabaikalsky Regions, Amurskaya oblast and Jewish Autonomous oblast. On the side of the People's Republic of China border territories are Jilin, Heilongjiang provinces, Inner Mongolia and Xinjiang Uighur Autonomous Regions (Savchenko & Zuenko, 2020).

2. Problem Statement

The research's scientific inquiry lies in the necessity to develop an integrated methodology that would allow managing the business ecosystem in border territory reflecting specific details of business cooperation between Russia and China. The concept of ecosystem was initially formulated by Tansley (1935), a scientist-ecologist, in 1935 to define a complex ecological system. Freeman et al. (2007); Iansiti & Levien (2004); Iansiti & Lakhani (2017); Isenberg (2010; 2011); Moore (1993; 2006), provided the definition and developed the notion of ecosystem in respect to present-day business. Russian scientists Dementiev (2019); Ermolenko et al. (2019); Karpinskaya (2018); Kleiner (2019); Smorodinskaya et al. (2020), made their contribution in the development of the theory of ecosystems in the economy. There is a number of approaches to the research of ecosystems in contemporary science. The first one places accent on the influence of economic activity on the environment. The second concentrates on the unified digital platform of the business ecosystem participants as its main distinguishing feature. Only the Russian research approach considers ecosystems as a social-economic entity of agents and companies linked by the common location (space), functional relations, and participation in the production of common social-economic values (Ma & Suslov, 2019). Comprehensive analysis of the main factors which influence the management of ecosystem in border region between Russia and China combined with the methodology of the theory of spatial development, is a key element to the authors view for the development of recommendations on the improvement of business ecosystem management in the border area (Minakir & Suslov, 2018).

3. Research Questions

In the classical ecosystem quadrangle of business ecosystem - organizational chart, infrastructure, communication lines, innovations - in cross-border cooperation between Russia and China determining are geographic, historical, technological and economic factors.

The subject of our research is federal and regional programs of the development of Russian-Chinese cross-border cooperation in the current context from the point of the theory of business ecosystems. From the mid-1990s of the last century, there have been adopted several normative

documents on both federal and regional levels on Far East and Transbaikalia's economic and social development. In addition a concept was developed and a Federal Law regulating border cooperation with the neighboring states adopted. The Target Federal Program “Economic and Social Development of Far East and Transbaikalia” covers the period of 1996 – 2005”. Then this program was successively extended to 2005, 2010, 2013, 2018. The State Program of the Russian Federation “Socio-Economic Development of the Far East and Baikal region”, Strategy for socio-economic development of the Far East and Baikal region up to 2025. Federal Law № 179 FZ (ФЗ) of July 26, 2017 On the Bases of cross-border cooperation. Russian Federal Space Program for 2016-2025. Programs to provide an integrated system of production, transportation and supply of gas and in Eastern Siberia and the Far East with the potential export of gas to Asia and Pacific markets. All these normative acts require theoretical thought from the point of view of their implementation on the regional level as a link in the paradigm of the contemporary theory of business ecosystem. At the same time it is necessary to consider characteristics of Russian-Chinese cross-border cooperation in every of the listed Federal subjects bordering with China.

4. Purpose of the Study

As was stated above the purpose of our research is to develop recommendations on improving the management of socio-economic business ecosystem of the border territory between Russia and China. In classical ecosystem quadrangle of business ecosystem - organizational chart, infrastructure, communication lines, innovations (Sazanova, 2019), - in the case of cross-border cooperation between Russia and China determining are geographic, historical, technological and economic factors. Russian-Chinese border, unique nature of the Far East, issues of protection of the environment related to the economic development of the region – all these matters have been settled for today between Russia and China and formalized in respective international legal acts (Zhang, 2019). Russian-Chinese relations are more than 400 years old. We suggest to take as the main historic factors shaping today’s agenda of cross-border cooperation between Russian Federation and People’s Republic of China an international treaty, determination of the actual boundary line, migration and populating the border territory, transformation of the land and water (marine and river) infrastructure of trade and economic cooperation, safety provision in the border territory. On July 21, 2008 an Agreement on the regime of the Russian-Chinese State Border was signed between the Government of the Russian Federation and the Government of People’s Republic of China. Contemporary challenges and approaches to cooperation with the neighboring states were defined by Federal Law № 179 - FZ (ФЗ) of July 26th, 2017, On the Bases of Cross-Border Cooperation. In 2019 there have been set 25 international road and rail crossing points. Development, integration of transport infrastructure in border territory between the Russian Federation and PRC is a key condition of economy progress in cross-border region.

Technological factors of cross- border cooperation between Russia and China:

- transport infrastructure (road, rail river, maritime, air infrastructure) including 25 equipped international crossing points we have just mentioned;
- Power of Siberia gas trunk line, Eastern Siberia-Pacific Ocean oil pipeline;
- Zeiskaya and Bureiskaya hydroelectric power stations of the Far East power system;
- coal mining in Amurskaya oblast, Khabarovsk, Primorsky and Zabaikalsky regions;

- Iron and steel and non-ferrous metal industry including gold mining, mining and milling of tin-bearing ore, lead-zinc ore;
- mechanical engineering industries. Including shipbuilding and agricultural machinery;
- metal processing industry includes manufacturing of machines, turbines, diesel-generators, overhead travel cranes, cables, electrical batteries;
- building materials industry including production of cement, brick, reinforced concrete structures;
- Timber and light industries.

Digitalization of economy in recent years (Gibadullin et al., 2020), development of the economy in China in recent years resulted in the emergence of new directions for business, the most promising of them is cross-border electronic commerce between Russia and China (Ayitvey et al., 2020).

Government regulation of foreign economic activity including setting in the region areas for Territories for Special Economic and Social Development provides necessary economic factors for the development of cross-border cooperation:

- direct foreign investment;
- transfer of technologies in being formed and refurbished production entities in the region;
- public-private partnerships in international cooperation;
- leasing of unique industrial equipment, machinery and technologies.

5. Research Methods

Out of common methods which are necessary to determine for our research we need to single out monitoring, comparison, analysis and induction. We had to search domestic (Rumyantseva et al., 2020) and foreign (Iwasaki et al., 2016) sources of information on cross-border cooperation with regard to the development of the management of business ecosystem. From a line of special techniques we used systems analysis, interdisciplinary approach, organizational modelling and analogies. The research presents universal approaches to the classification of development factors of cross-border cooperation between Russia and China.

6. Findings

As a scientific result of the evaluation of federal and regional government programs, the distinctive features of the socio-economic ecosystems in Russian-Chinese boarder territory and the regularity of its formation and development have been identified, which require the development of an integrated methodology of socio-economic business ecosystem management in boarder territory. The main natural and geographical feature of the ecosystem under study is the Amur River, which flows for 2,824 km along the border between the Russian Federation and the People's Republic of China, the basin of which covers an area of more than 1.8 million square kilometres. The Amur waters are situated in three countries: Russia, China, and Mongolia. The Amur River has a special border position, which causes environmental problems. The ecological problems of the river in the border area of our countries are related to the low capacity of the water basin for self-purification. The main cause of the surface water pollution of the Amur is the emissions from Chinese and Russian enterprises into the river. Concrete

solutions are needed to improve the waters of the Amur basin. We suggest the development of recommendations on how to control the permissible level of water pollution in the Amur basin. There should be objective monitoring of the environmental impact of the Russian and Chinese sides. For this purpose, in our view, it is necessary to establish fixed posts to supervise and monitor the situation of the waters of the Amur basin, including the volumes of sediments at the bottom, as well as fish stocks and sewage discharges into the Amur River. The observation from space of the Amur River, begun in 2018, should be developed by satellite, monitoring the activities of Russian and Chinese enterprises, especially gold miners. The next feature of the business ecosystem of the border territory between Russia and China is the technologically backward, historically developed industrial structure and infrastructure. There is a need to harmonize inter-State cooperation programs, federal, regional and territorial programs for the modernization of industry and the development of all types of infrastructure, including the construction of modern international crossing points, which currently number 25 according to the documents studied. In this context, another crucial feature of the business ecosystem of the border territory, including the Russian-Chinese research area, emerges. There is a need to improve institutions to attract investment to economic development. Harmonization of the existing legal framework is not possible without considering the best practices of such work at the international and national levels.

In 2022 jointly with the related bodies of local governments and based on the results of the research it is expected to prepare recommendations on improving the management of socio-economic business ecosystem in border territory between Russia and China (Ivanov, 2018). This is supposed to be an output of the performed evaluation of a number of federal and regional programs. The recommendations should take into account the results of a study of the evolution of business ecosystems of the Russian territory bordering China; the establishment of a classification of business ecosystems in the Russian territory bordering China; the identification of factors (economic, technological, information, institutional, etc.) which affect the formation and development of business ecosystems of the Russian territory bordering China; the research on Russian-Chinese business relationships (field studies); and the identification of international environmental factors affecting the Russian business ecosystems of the territory bordering China (field studies). The results of the project has academic and practical significance and can be used in coming researches to improve the management of business ecosystems and socio-economic ecosystems of business in border territories as well as in training experts-managers for different industries of the national economy. Institute of development of cross-border cooperation is possible with the support of the current region management system and available up-to-date knowledge management tools – professional databases, for the exporters, sites of expert communities, secured price policy databases, product lines, suppliers and buyers (Bratersky & Kuttyrev, 2019).

7. Conclusion

Great challenge posed to the world economy, including Russian-Chinese business cooperation is COVID-19 pandemic. It is difficult to evaluate the consequences today, but it can be assumed that they will be very significant. Nevertheless, Russian-Chinese relations, including economic cooperation, are of fundamental, long-term nature (Chohan, 2020). They are supported by the present Treaty on Good-Neighborliness, Friendship and Cooperation signed on July16, 2001 in Moscow by Vladimir Putin – the

President of the Russian Federation and Jiang Zemin, PRC President. Our countries are making great effort to develop cross-border cooperation: harmonization of customs clearance procedures for goods and services, issuing of related certificates, licenses and other documents of supervisory bodies (Jordà et al., 2020). We need a new approach to the knowledge management in foreign economic activity between Russia and China using the latest developments of digitalization, establishing the latest state-of-the-art cross-cultural communication and training fresh professionals for the Russian-Chinese cooperation (Savchenko & Zuenko, 2020).

We suggest the following categorization of business ecosystems of Russia-China cross-border trade:

- trade operations, including cross-border electronic commerce;
- attracting foreign direct investment;
- technology transfer, cooperation in setting up innovative production in the border territory;
- rail, road and river traffic as international shipping services;
- construction, including civil, industrial and highway;
- agriculture. including processing of agricultural produce;
- scientific research activity and education.

All that does not appear feasible without harmonization of federal and regional programs for the development of border territories on the directions indicated in the above categories of business ecosystems employing institutes of development which evolve in these regions (Gralinski & Menachery, 2020).

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