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BUSINESS ECOSYSTEMS OF THE REGION: TRANSITION TO NETWORKING AND SUSTAINABLE DEVELOPMENT PRINCIPLES

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Abstract

The transformations of the Russian economy in the global transition to network platform formats are being carried out simultaneously with most economies, but with some lag behind a number of Western countries, which makes it possible to take into account the successful practices and mistakes of such a transition by leading states to form its own path. In the article, an important resource for new development, rapid transition to new ecosystem formats and entry into competitive positions of regional businesses is determined by weak corporate coherence and the perceived need for these changes. The problems and directions of the transition of the economies of old industrial, incl. of old agrarian regions to development in the context of globalization and digital transformation of the "Industry 4.0" format are studied. A pronounced bi-directional development of businesses is shown - individual vertically integrated all-Russian (or globalized) corporations, as well as many businesses and industries, mainly carrying out their activities in the region. Different opportunities and levels of interactions based on digital platforms for businesses of these different areas are identified. The article proposes some formats for their co-organization and interaction in the interests of sustainable development of businesses and the region.

Keywords: Business ecosystems, sustainable development, platform interactions, vertical integration, networking

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1. Introduction

Thirty years of transformations in the Russian economy, coinciding with a global transition to network platform formats (Industry 4.0 by Klaus Schwab (Schwab, 2017) or coordinated smart businesses by Zeng Ming (Ming, 2019)) have clearly shown that such a transition requires significant changes. It is important that the Russian economy goes through this stage with some lag behind a number of Western countries and almost simultaneously with most economies. This creates opportunities to take into account both the successes and mistakes of such a transition by the United States, Germany, Japan, China and other countries and to pave its own way. The formation of one's own path is constrained both by the lack of theory and generalized experience, and by the internal state of the economy and social sphere. Considering the low rates of development in Russia after 2015, it can be argued that there are deep internal factors holding back such a transition to a new economy. It is important to identify the most significant of them and find ways to overcome them.

The relatively successful results of the main raw material industries - metallurgy, the extraction of carbon raw materials (oil, gas, coal), timber, grain, etc. - did not become a driver for the development of other industries. In particular, this did not become a stimulus for the development of high-tech industries. At the same time, these traditional suppliers of raw materials of the first processing stage (mining, procurement, primary smelting of metal) are carrying out significant internal transformations based on the introduction of digital technologies in business processes and increasing the competitiveness of their products in world markets. These highly integrated corporations, primarily pursuing their own goals, did not become the drivers of new development, transmitting this impulse to the entire economy. Other industries, including machine-building (except for the defense and space), weaving, clothing industry, deep processing of grain, food products, forest products, etc. turned out to be uncompetitive and must also undergo many transformations.

During the period of fundamental shifts in the economies of leading countries, qualitative changes are also observed in Russian practice. This is a massive increase in the use of digital technologies, networking processes and platform technologies, the active development of customer experience through the use of social networks, etc., primarily in the service and infrastructure industries (trade, banking, insurance, logistics), medicine, in the provision of public services and etc.

Given the high level of human development (education, qualifications, active "digitalization" of the consumer), as well as the massive mastery of digital technologies in service industries, it can be argued that the need and potential for the transition to Industry 4.0 formats. or, in the terminology of Ts. Ming, for “coordinated smart businesses” in Russia, they are high. This is also facilitated by the awareness of the urgency of changes to ensure the competitiveness of basic and small businesses, including in the paradigm of the trinity of sustainable development - the formation of an abundant, honest, habitable world (Report of the World Commission on Environment and Development: Our Common Future, 1987; UN GENERAL ASSEMBLY. DECLARATION of 25 September 2015, 2015).

During the recovery of the global economy from the shocks associated with COVID restrictions, new opportunities may open up for a number of Russian businesses from the regions to enter certain niches of world markets. One of the important resources of new development is weak corporate coherence and the

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realized need for changes, which can serve as their rapid transition to new ecosystem formats. The article investigates the practices of interaction and entry into the competitive positions of regional businesses.

2. Problem Statement

Despite the high readiness and motivation, the development of many businesses in Russia is slow. Support measures taken at the state and regional levels are yielding certain results, but the pace of development in most industries is lower than in many countries. This is typical both for enterprises operating in the regions of vertically integrated companies (VIC) (metallurgy, mining, processing of raw materials, mechanical engineering, etc.), and for most enterprises of mass development in the territories of regions of agro- and forest-industrial complexes, construction, as well as a number of areas of the service sector. This means that there is a set of some constraints that lie outside the businesses themselves. The article attempts to identify these factors and the reasons for their development in the regions. At the same time, it is becoming clear what should be changed to ensure sustainable development of businesses and the region.

3. Research Questions

Modern directions of development of the Siberian old industrial region of Russia and the formation of its new economic policy in the context of networking and the development of digital technologies.

The formation of network interactions of businesses, massively developing in the territories of the region.

Directions and opportunities for the formation of modern business development practices in certain territories and mega-districts of the region.

4. Purpose of the Study

The aim of the study is to identify and substantiate the directions and possibilities of interaction between enterprises in the region in digital ecosystem formats.

5. Research Methods

The study uses the methods of systemic, comparative, logical analysis, generalizations, groupings, comparison and generalization.

Transformations in the economy of one and the old industrial regions with highly developed agricultural and timber processing industries, with a sufficiently developed infrastructure and social sphere, of the Siberian region - Krasnoyarsk Territory are investigated. Here, on the territory of 236 680 thousand hectares, 2866 350 inhabitants live. The main concentration of both the number of residents and mass businesses is located in the southern and middle parts of the region, with focal vertically integrated industrial development in the Norilsk industrial region and oil and gas fields, in the lower Angara region, as well as in the center of the region. The regional gross product (GRP) is 2,280 million rubles, the foreign

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trade turnover is 9268.7 billion dollars. USA, incl. export - 6787.9 billion US dollars (Krasnoyarsk Territory Statistical Yearbook, 2020).

Modern views on the development and placement of productive forces, basically, were formed on the theories of competition Smith (2007), Ricardo (1955), Schumpeter (2008) were based on the theory of optimization of placement of Tyunen (1926), Weber (1926) and the economic zoning of Krzhizhanovsky (1989). Their development was significantly influenced by the theories of spatial organization by Perroux, (2007), Reeves and Bernhardt (2011), and the theory of interregional integration by Porter (2005). The theories of Granberg and Suslov (2010) and of many other scientists were the framework for the development of the productive forces of the USSR and Siberia.

In order to identify the constraining factors of development, the research uses relatively new concepts of territory marketing, including the development of the creative class of Florida (2007), the dominance of the service approach of Vargo et al. (2006), as well as the theory of vertically integrated and network approaches of Shchedrovitsky and Knyaginin (2004).

5.1. Vertically integrated, network and business ecosystem practices of territorial development

In accordance with the purpose of the research, the main approach is determined by the analysis of the role and development opportunities in digital ecosystem formats of industry businesses in the region.

The analysis gives grounds to single out three different approaches to the development of a group of enterprises. So, enterprises or groups of them are concentrated in the region. They are vertically integrated into industrial groups (corporations) (VIC) with decision-making centres outside the given territory. At the same time, a large number of enterprises working in the agro- and timber-industrial complexes, in the social and industrial-production infrastructures are concentrated to ensure the vital activity of the population of these territories. Also, in the general system, we regard the state and municipal systems of the sectors of human development (social infrastructure - SI) and the sphere of ensuring the life of the population and businesses - industrial infrastructure (II) as the most important development components. Some elements of this approach are indicated in the work by Shchedrovitsky and Knyaginin (2004), who assert that in the regional revolution ... there are two main models of spatial organization of territories - integrated (centralized) and network. At the same time, integrated enterprises produce in the region a product that is consolidated into the main result of their activities through processing centres located outside this region. Thus, highly integrated corporations actively use the resources of the territories, but the centres that form the main innovations and profits are located in other, often foreign or offshore centres. Network organization of the regional space (Networks of Place) includes autonomous and interchangeable links - industrial complexes and enterprises. Research by Powell and Smith-Door (2003) showed that such territories are formed by a multitude of socially integrated, small, decentralized production units, building their work on the basis of numerous agreements and contracts. Such structures included in the network of cooperation and interaction form dense networks (clusters). They are characterized by internal competitiveness, flexible specialization, the ability to innovate.

Our studies (Kuimov, 2019; Kuimov, et al., 2020) show that at present, the types described above, both vertically integrated corporations and especially mass businesses, are developing business ecosystem

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formats of interaction in value chains based on digital technologies. A qualitatively new phenomenon is the activity directly related to the development and distribution of digital technologies adapted to most business processes and social practices of the territories. It is digitalization that is becoming the driver of innovative transformations, including a qualitatively new business ecosystem format for development in the territories. All this significantly changes the production and social landscape of the regions and must be taken into account in its development.

5.2. Modern approaches and practices for the development of business ecosystem formats

To identify this relatively new phenomenon, we will investigate the basic definitions and characteristic features of ecosystems. Consulting firm McKinsey (The Ecosystem Playbook: Winning in A World of Ecosystems, 2019) defines an ecosystem is an interconnected set of services that enable users to meet different needs in a single integrated experience. At the same time, the characteristic features of ecosystems are: their role as gateways that reduce friction during interactions; achieving network effects that give advantages to companies; fast dissemination of the best experience of the participants. McKinsey company also emphasizes that traditional companies tend to be product and distribution oriented, while ecosystem players are more customer oriented. BCG Henderson Institute (Lang et al., 2020) uses the following definition: a business ecosystem is a dynamic group of largely independent players who create products or services to solve the same goal. At that each ecosystem can be characterized by a certain value proposition and a specific, albeit sometimes changing group of subjects with different roles. The company also refers to business ecosystems trading platforms (association of manufacturers of goods, services and customers, hospitality services), technological and other projects that, within the framework of one task, collect several narrowly focused manufacturers, offers combining services from different suppliers (wholesale logistics centres, payment systems, etc.). As characteristic of ecosystems, BCG (Lang et al., 2020) refers to their ability to connect a wide variety of participants through the sharing resources and expertise to collectively deliver products, what they do breaking down industry barriers to create cross-functional products and services, mixing previously segregated markets, as well as their ability to transform not only sectors, but also wide areas of the economy. In the further presentation of the research results, we will analyze the presence of these characteristics in regional business groups. One of the largest corporations Alibaba (Lang et al., 2020) defines itself as a business ecosystem from merchants to software solution providers and logistics partners that uses technological solutions to implement and coordinate the efforts of thousands of companies, creating a unique virtual business ecosystem, which is faster, smarter and more efficient than traditional business infrastructure. Our researches (Kuimov, 2019; Kuimov, et al., 2020) show that the interactions of participants in business ecosystems are characterized as interpenetration and harmonization through the simultaneous action on the digital platform of producers, consumers, intermediaries and are carried out on the basis of recognition of common goals, cooperation of resources, while maintaining the independence and leadership of the participants, observing voluntary connectivity and interaction with government and public structures, based on the use of information technology and communications, including social networks. When analyzing the factors of regional development, given that the GRP is more than 70% formed by the service sector, it is important to take into account and study the special role of its development. In the concept of service dominance (SDL) (Service Dominating Logic),

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proposed by Vargo et al. (2006), exchanges of intangible resources - knowledge, experience, information, technologies, relationships - are highlighted in the analysis. In this case, communication becomes an important factor, incl. virtual, social networks, etc.

A significant part of businesses in the region forms a service block that serves all or most of the businesses and the population. These are, first of all, all enterprises and institutions of social and industrial-production infrastructure, developers and suppliers of digital software products, which, for the most part, are also vertically, but in network formats integrated with global or national corporations, however, they are tuned to the needs of business and social sphere of the region.

6. Findings

These theoretical approaches were the basis for the study of the region's economy from the standpoint of the presence in it of groups of such types of businesses and their role in its development. Further in the text of the article, a generalization of the data of the main sectoral distributions of businesses in the region and an assessment of their involvement in vertically integrated corporations, networkization and the formation of the service component of the region are presented (Table 1). The analysis of its data shows that in the investigated "old industrial" region and its territories there are significant enterprises of the mining and metallurgical directions of activity, construction, agrarian and timber industry complexes. There is also a developed network of organizations and enterprises of social infrastructure (SI) focused on services for the development of human potential and production infrastructure (PI), which form the conditions for doing business, the work of organizations and serving the population.

Table 1. Enterprises of the region by main types of activity (units) *, and expert assessment of their involvement in vertically integrated corporations, networkization and formation of the service and service component of the region.

Industry orietation	Number of enterprises in the region, units	Expert characteristic: Integration as part of a corporation / Propensity for network integration and the formation of services in the region	
		Vertically integrated	Regional, territorial networking
1. Organizations and enterprises of social infrastructure (SI) in total, incl.:	15560	SI Institutions (education, health care, sports, culture, social policy are organized according to the vertical network (region) principle, adapted to the provision of services in the region, districts, cities	Organizations of housing and communal services, trade, catering, tourism, etc. partly develop as business networks adapted to the services of the region, districts, cities, mega-districts
Education	2072	Provide education at all levels, adapted to the conditions and take into account the tasks of the region, districts, cities	A network of interacting regional organizations, in districts, cities
1.2. Health care	187	Health care services are adapted to the conditions and take into account the tasks of the region, district, city	A network of interacting organizations in the region, in districts, cities with access to federal medical centers
1.3. Culture	2914	The services of institutions in the field of culture and art are adapted to the conditions and take into account the tasks of the region, district, city	A network of interacting organizations in the region, in its districts and cities. Developed relationships with other industries
1.4. Sport	318	The services of sports institutions are adapted to the conditions and take into account the tasks of the country, region, district, city	A network of organizations of the region, its districts and cities, interacting with the sports centers of the country
1.5. Social policy	240	The services of organizations and institutions in the field of social protection are adapted to the conditions and take into account the tasks of the region, its districts, cities	A network of interacting organizations of the country and the region, in its districts and cities

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1.6 Housing and communal services	278	Maintenance services, manifested by the concentration in the VIC. Most businesses are SME. The interests of the region are taken into account	SME businesses in the housing and communal services sector develop in part as entrepreneurial networks. Service networking potential is high
1.7. Trade and catering	8435	Several large VIC retail chains, incl. foreign. Insufficient share of sales of products manufactured in the region	SME businesses, regional trade networks are developing as entrepreneurial networks. Networking potential is high
1.8. Tourism	1116	Outbound tourism firms are integrated into the VIC of Russian and global business. The interests of the region are not taken into account	Firms of local and inbound tourism are partly developed as entrepreneurial networks Potential of networking is high
2. Mechanical engineering and metalworking	130	All large enterprises are members of the VIC. SME have been created in the territories. The interests of the region are not sufficiently taken into account	Weakly integrated into the territories with the active use of the resources of the social and industrial-production infrastructures of the region
3. Construction complex (construction and building materials)	9447	A number of state orders are won by VICs from other regions (bridge construction, etc.). One-time projects are being carried out. The interests of the region are not sufficiently taken into account	The main enterprises have formed regional VIC network formats, actively interact in the territories. SMEs are actively subcontracting companies Potential of networkization is high
4. Agro-industrial complex	10746	Several VICs for processing, servicing the agro-industrial complex, are actively integrated into the region, purchase raw materials. Develop sales networks, without integration with local manufacturers	The initial stage of the formation of network value chains with the participation of businesses of the territories. Potential for networking and platform interactions is high
Timber and wood processing complex	1373	A number of large VICs, with centers in Moscow or offshore. The interests of the region are not sufficiently taken into account	More than 1,150 SMEs, created in the territories, are poorly integrated into the region and territories. The principles of networking are underdeveloped
. Mining and metallurgical complex	607	All large businesses in VIC incl. offshore zones. Internal innovations of the VIC are actively developing. The interests of the region are not sufficiently taken into account	A number of SME businesses for the extraction of coal, gas, nonmetallic minerals created in the region. Their potential for networking is growing
Industrial infrastructure (II) including:	1558	Most of the VIC companies, including natural monopolies. **Form the service resources of the region.** They use local raw materials and infrastructure. The interests of the region are not sufficiently taken into account	Regional and territorial SME businesses. They form the service resources of the territories. They use local raw materials and infrastructure. The interests of the region are not sufficiently taken into account.
7.1. Transport and logistics	866	A number of VIC companies (railways, roads, pipelines, sea transport). The interests of the region are taken into account	Most of the businesses in the region and its territories. The potential for networking of platform interactions is high.
7.2 Energy, heat supply, water supply and sewerage	218	A number of companies within the VIC (energy, electricity and heating networks, etc.). State tariff regulation takes into account the interests of the region.	Sectoral SME businesses (heat and water supply, wastewater disposal) are classified as natural monopolies. There is a potential for networking and platformization.
7.3Communication, mail, Internet, etc.	283	All VIC companies. Active work with customer experience. The interests of the region are taken into account.	Form services for mass personal and commercial use and application of digital platforms and social media channels.
7.4Cleaning and processing of TC and household waste	118	Federal VICs have been formed. Long-term interests of the region are poorly taken into account	The primary link (collection and concentration of TC and HW) is in the housing and communal services of the region and households. Networking potential is high.
7.5Financial and legal services	73	Taking into account the interests of the region in the branches of large banks and insurance companies is low	Branches of small banks and local banks and insurance companies aim to operate in the region, but have few resources

An expert assessment of the development of structures and businesses in the region from the standpoint of their integration within the corporation, their aspirations and propensities towards network integration and the formation of services in the region made it possible to summarize the following conclusions:

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Vertically integrated corporations and their role in the development of the region. On this basis, two groups of businesses can be distinguished:

Vertically integrated within the global and country groups, organizing production of a primary nature in the region, not forming in the region the consumption and sale of other resources in the region, weakly connected with the interests of the region and its development.

This group includes enterprises of the mining, metallurgical, mechanical engineering and individual enterprises of the timber industry. The group also includes businesses engaged in the development of oil and gas fields on a rotational basis. Their main processing centres are located in the capital of the country, as well as in the centres of large trade in manufactured goods, including in offshore zones. The businesses of this group actively consume the resources of the social and industrial infrastructures of the region, but they are practically not included in the solution of regional problems. Large-scale digitalization of business processes is characteristic of such structures and businesses. They are major investors in the development of their enterprises and the main taxpayers who determine the regional budget. The active introduction of innovations, mainly foreign developments, is weakly connected with the scientific and educational complex of the region. Involvement in the problems of the development of the region, as a rule, is limited to the arrangement of the territories of its location.

Vertically integrated both in the global country and, to a greater extent, in the regional economy, whose business is based on the consumption of regional resources and the sale of their products in its territory.

This group includes some SMEs in the mining complex, mechanical engineering and metalworking industries, most industrial businesses and all social infrastructure organizations, as well as some agricultural, timber and construction enterprises. Using the resources of the region for production and selling their goods and services on its territory, these businesses are active in solving regional problems, they are systemic taxpayers. Businesses and organizations of this group are actively developing digital technologies, incl. improving business processes and creating digital channels of interaction with consumers. They show moderate activity of innovative activity, which is weakly connected with the scientific and technical complex of the region. The tasks of increasing the efficiency of resource provision and sales of products form the readiness of businesses and organizations of this group for network interactions with regional business partners.

II. Networking, cooperation-network platform interactions. Our research shows that, on this basis, it is also possible to distinguish groups of organizations and businesses in the region with different levels of readiness to work in new business ecosystem formats and approaches to achieving competitiveness:

1. Businesses and organizations that have created or are involved in entrepreneurial (trade and sales) networks, building interactions based on digital, including platform technologies.

The most developed, including at the world level, according to the analyzed criteria in the studied region are trade (a number of retail chains, both global, federal and regional), financial and economic businesses (banks, insurance, factoring, leasing and other companies); communications enterprises, individual logistics enterprises (wholesale distribution centres), tourism organizations, some groups of agricultural enterprises (in cooperation with processors and retail chains), as well as businesses for the development and supply of software products. Active representatives of this group, working in areas

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strategically important for the development of the region, are educational organizations (schools, colleges, universities), institutions of employment, social protection, pensions, as well as the organization of the system of state and municipal services. All of them are active in innovative activities, incl. development of experience in platform formats.

2. Businesses and organizations mastering new digital technologies, incl. in cooperation and network interactions with partners, state-municipal control and supervisory bodies and state reporting institutions.

As a result of mandatory digital reporting to government agencies with actively developing e-commerce, the use of digital banking and insurance technologies, most businesses (including small and medium-sized businesses, farms and households) are included in the country-wide system in their business practice. As our research shows, the use of this kind of digital technologies necessary for mandatory actions creates the possibility of these businesses and individual entrepreneurs entering networked business structures, including designed digital business systems. The growing readiness for cooperative-network business-ecosystem formats can be noted among small and medium-sized businesses in trade and public catering, agriculture, transport and logistics, tourism, healthcare organizations, and culture. A new trend is the growing readiness and developing involvement in business ecosystem formats of interaction between businesses, consumers directly, - active participants in social media.

III. Opportunities and readiness to form the service and service direction of the region development

Services incl. service sectors are becoming the most important segment of employment, the realization of human potential, the formation of incomes of the population and the gross regional product (GRP). At the end of 2020, almost 70% of the GRP was formed through services. The analysis shows that two groups of service and service development directions in the region can be distinguished.

1. Organizations and businesses providing services for the development and support of human potential

These include educational organizations of all levels, physical culture and sports, recreation and tourism, culture and art, social protection, employment, pension provision and legal support. Most of them are state-municipal. At the same time, small and medium-sized businesses are actively developing in these areas. In addition to them, this group also includes businesses and life support organizations. Among them are the businesses of housing and communal services, landscaping, trade and public catering, passenger transport, energy supply, heat and water supply and disposal, organization of communications, mail and delivery of goods, cleaning and processing of solid waste. It is fashionable to include in this range also businesses and organizations of protection against emergencies, etc. Qualitative activities of these groups of enterprises and organizations contributes to the growth of the quality of life of the population, the growth of its number and the attractiveness of the region's territory for living and personal development.

Businesses and service organizations for enterprises and organizations, cities and towns.

These include businesses that we have referred to the industrial infrastructure group and service enterprises of vertically integrated corporations. In the region there are vertically integrated businesses of corporations for the production and sale of electricity and heat energy, regionally or territorially integrated businesses for the supply of water and sewerage, road maintenance, the supply and sale of fuel, etc. In the Norilsk industrial region, the production, supply and sale of electricity, heat, sea, river, rail and road transportation is carried out by specialized enterprises of the corporation of the vertically integrated

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corporation of aluminium production. Similarly, the services in the field of mining, including oil and gas, and for its (aluminium production) division have been resolved. All businesses of this group have developed intranets, actively use digital technologies in business processes, including in work with consumers and the public. They have reserves for servicing new businesses and territories.

IV. Potential and drivers of digital business ecosystem development in the region.

The research of the state and an expert review of the potential for the transition to a business ecosystem format for the development of the region shows:

a) real coordination by the region of innovative development of global and national vertically integrated businesses is minimal. The region records and takes into account (including in mandatory reporting) as its own developments, innovations and investments implemented by these businesses, potentially improving the living standards of the population of the territories where they are located. Taking into account the developing logistics (deliveries to new development sites in the territories of the former oil and gas development, etc.), these territories become autonomous. This determines the need to find ways to transfer experience and individual innovative technologies from vertically integrated businesses to the experience of regions and their territories. One of the possible directions is the formation of a cluster of SMEs in the region for servicing the basic or auxiliary functions of such vertically integrated corporations.

b) vertically integrated businesses of the country, region and individual corporations oriented and coordinating their development (including goods and services), taking into account the interests of the region, have the basis and aspiration for the formation or entry into the business ecosystem formats of interactions in the region;

c) all state and municipal organizations and enterprises are vertically oriented in the business space of the region / municipality and are coordinated with the needs of specific territories of districts and cities. They have a high potential for entering the business ecosystem formats of interactions in the region, including the platform type;

d) more than 84% of small and medium-sized businesses (SMEs) and households in the agro-industrial complex, 56% of SMEs in the timber industry complex, 87%% of SMEs in the construction complex, as the most massive businesses in the region, actively use certain digital technologies, incl. for tax, statistical, insurance, pension, personnel and other types of reporting, they have websites, use mobile applications, channels of interaction with consumers in social media, i.e. shape and develop digital experiences by applying digital business solutions and being willing to work in ecosystems.

7. Conclusion

The researches allow us to conclude that the main internal regional factors constraining the economy's transition to a new business ecosystem format can be determined by:

- Overestimation of the role and significance of the presence of vertically integrated global corporations in the region, which are really weakly connected with the goals of the development of the region, massively consume the resources of social and industrial infrastructures, practically do not form orders for enterprises in the region, its sphere of science

and education, and innovations of such corporations are not spread for mass use by the businesses of the region.

Insufficient attention to:

- further rooting into regional practices of vertically integrated businesses operating and selling their goods and services, both in the country and in the region of location;
- to the networking of interaction practices and the consolidation of business processes for the promotion of products of the region's widespread businesses to the inter- country and global markets. Agro-industrial business, timber processing, construction and resource-supplying complexes, as well as organizations and businesses of social and industrial infrastructure are among them.
- rejection, lack of understanding of modern approaches in regional programs to the development of the region as a service center that achieves the result (first of all, high-quality living conditions and the prestige of places of residence and activity) in the close interested interaction of its main participants - businesses, authorities and the population.

The researches have shown that the region has formed the foundations for development in the new ecosystem digital paradigm of sustainable development. Most businesses, state and municipal bodies and organizations, as well as the population have the necessary competencies to work and live in new formats. They can be included into business ecosystem formats of interactions as a sectoral, cluster or region-wide scale in the presence of appropriate government programs and the development of network methods of enforcement.

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