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DESIGNING INNOVATIVE BUSINESS MODEL OF THE REGIONAL SERVICE SECTOR

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Abstract

The object of the study is an innovative business model of the regional service sector (IBMRSS). The article systematizes the IBMRSS management problem. As a result of the study, the following tasks were solved: the necessity of designing IBMRSS was considered and substantiated; the essence and design concept of IBMRSS is revealed; theoretical provisions of IBMRSS design are formulated and the main categories are explained; a procedure for assessing the effectiveness of using the innovative potential of the regional services sector is proposed and the principles of its functioning are formulated; the procedure for performing an expert assessment is proposed; patterns of development of organizational structures of the service sector that affect its functionality are identified; IBMRSS is presented and explained and the general concept of its materialization is formulated. The article proposes to consider IBMRSS as purposeful management of the process of innovative development of business entities, forming together a geographically separate economic space, consisting of an interconnected variety of activities that, consolidated into a single oriented aggregate, ensure innovative development. The proposed procedure for assessing the effectiveness of using the innovative potential of the regional services sector allows us to reflect the state and prospects of the implementation of IBMRSS, and to adjust the dynamics of innovative development of business entities in the regional services sector in accordance with objective economic laws and patterns of organizational development.

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1. Introduction

Design of an innovative business model of the regional service sector (IBMRSS) must be viewed as the optimal sequence of applying scientific knowledge and methods to achieve the intended goal – increasing the innovative activity of business entities in the regional service sector. In this context, it is necessary to perceive the regional service sector as a system of a geographically separate economic space, consisting of interconnected structural entities of different localization, which, consolidating into a single oriented aggregate, provide themselves with an adaptive existence and development. This definition reflects the possibilities of IBMRSS design by highlighting the principle of self-sufficiency.

The result of designing IBMRSS is a business process, as the necessary sequence of actions that combine a set of views, beliefs, ideas aimed at identifying innovative development opportunities for both individual business entities in the service sector and their regional symbiosis. IBMRSS is a “response” to the market conditions for the regional existence, generated by the need for a focused process to ensure the competitiveness and efficiency of business entities in the service sector within a certain territory. The business entity that is most susceptible to innovation is formed and persists, contributing to the expanded reproduction of innovative services and production factors that increase the welfare of the region's population.

The significant asymmetry in the economic development of the Russian regions makes it difficult to pursue an adequate federal and regional innovation policy aimed at creating a national market for innovation in the service sector. There is a need for the design of IBMRSS, contributing to the implementation of the national idea – the innovative development of the Russian economy. The main factors influencing IBMRSS should be systematized in order to formulate a coherent and mutually beneficial federal and regional innovation policy.

2. Problem Statement

Under current conditions of IBMRSS development, a nationwide specificity is highlighted, reflecting the regional structure of the formation of the innovation space (Beqiri, 2014; Johannsson, Wen, Kraetzig, Cohen, & Zhao, 2015). Historically, the conditions for the development of the Russian economy have formed a heterogeneous structure of the economies of the territories that functioned in accordance with the public administrative division of the country (Smirnov, Semenov, Kadyshchev, Zakharova, & Perfilova, 2019). The specifics of building a Russian innovation economy based on the combined functioning of regions, characterized by different levels of development is a hallmark in the design of IBMRSS.

Partial autonomy of regional economies is a condition for the implementation of a unified approach to targeted orientation of economic entities and the formation of regional organizational hierarchies (Khairulloev, 2015), presented in the form of an innovative business model. Organization and ordering, coordinated not only by market economic laws, but also by laws outlining the capabilities and powers of all subjects of the Russian Federation, creating a single legal field defined by regulatory legal acts and the activities of the regional administration.

The current situation, characterized by the imbalance in the development of regional economies determines the imbalance in the development of large cities in the region (Smirnov, Semenov, Zakharova, Kadyshev, & Bondarenko, 2019; Sun, Chen, & Tian, 2018). The imbalance in the development of various subsystems and sectors of the region's economy is due to both external factors that have historically developed in the national economy, and many subjective factors, including those that develop due to the underdevelopment or complete absence of any value, complexity, or systemic scheme, transition or mechanism to streamline the process of governance. This transition will allow us to begin to address the whole list of socio-economic problems and to achieve an approximation to the balanced development of the totality of elements of the region's economy.

The basis for the transition of regional economic relations to an innovative path of development is perception of the region as a complex integrated, economic entity, represented as a systemic organization. The goal of the region's economy is to provide conditions for the development of material production organizations, non-material sphere and production and social infrastructure, which is built on the basis of rational, integrated use of available natural raw materials, human, intellectual, geopolitical resources, as well as industrial, production, organizational and managerial potential.

The essence of IBMRSS design comes down to the formation of a focused system of economic activity built on the basis of rational integration of the goals and potentials of business entities within the region, coordinated by the project management system. IBMRSS project management is seen as a form of integration of various organizations on a voluntary basis with the aim of integration of various organizations on a voluntary basis in order to create an environment for their development through participation in regional projects that are consistent with the country's strategic development plan.

To reveal the essence and justify the possibilities of IBMRSS design, in the context of the functioning of the innovation process management model (Lintukangas, Kähkönen, & Hallikas, 2019; Zhang, Deniaud, Lerch, Baron, & Caillaud, 2016) at the regional level, it is necessary to apply a systemic approach. Representation of IBMRSS in the form of a system makes it possible to take into account the multiplicity of goals of business entities acting as an object of project management, to evaluate the influence of external and internal factors, to present all possible linkages and relationships that arise during project management, to determine the reasonable boundaries of the objects, the number of projects themselves and the level their relevance and adequacy to the prevailing conditions (Chofreh, Goni, Malik, Khan, & Klemeš, 2019; de Toledo, Junior, Farias Filho, & Costa, 2019).

Systemic approach is a form of theory of knowledge and dialectics application to the study of processes occurring in nature and society. Its essence consists in the implementation of the requirements of the general theory of systems, according to which each object in the process of studying it should be considered as a complex system and, at the same time, as an element of a large system (Caddy & Helou, 2007; Hofkirchner & Schafranek, 2011).

Recognizing the systemic nature of the IBMRSS design, it is necessary to determine its system properties, forms and operating conditions. The main property that defines IBMRSS as a system is the validity of developmental priorities and the structure of its elements. This is reflected in the design in the form of the need to align the goals of IBMRSS with the goals of the project participants, including at different stages of their development, both individual organizations and at different levels of the hierarchy

within the framework of the regional approach to project management in view of the different importance of organizations in the proposed regional priorities of innovation development. The main problem in the design and implementation of IBMRSS is the coordination of the goals of project participants with different status and level of development, generating multidirectional goals, often contradicting each other. In this aspect, the representation of IBMRSS as a system allows, through the property of purposefulness, to adjust the main goals that are part of the system of elements and coordinate many goals of objects, excluding their alternativeness. Ultimately, the necessary and sufficient number of elements is determined, the goals of which will be consistent with the objectives of the project. дут согласованны с целями проекта.

IBMRSS appears as a set of various organizations within the framework of a project management system that manifests its properties through the differentiation of elements. This is one of the ways to improve the organization of the process of achieving the goals set in the process of designing IBMRSS. This provision is expressed in the unambiguous dependence of the effectiveness of IBMRSS on the clarity and structure of the given final result, described by quantitative and qualitative parameters of the goal. The essence of this property is to search for a specific set of elements involved in the project, based on their goal-setting in the external environment. The more accurately IBMRSS and its target are simulated, the closer the management process is to the goal itself. This property allows the system to get rid of alien elements, from those project participants whose goals turn out to be inconsistent with the project goals.

By reducing the diverse properties of the region's economy, it is possible to formulate a full-fledged concept of the functioning of the regional service sector, thereby defining the goal of IBMRSS, the management system, its components, to outline the sphere of interests, principles and criteria necessary for the formation of its organizational embodiment.

The regional service sector is a complex organizational system consisting of a certain number of elements, the combined properties of which are sufficient and necessary to obtain the desired result (Lin & Zhang, 2017; Yang, Yeh, & Wang, 2018; Zhang & Lin, 2018), and also determine the features and establish design requirements for IBMRSS. The concept of the functioning of the regional services sector as an open, self-developing system is oriented in two directions. The first direction of the concept determines the need to focus targeted innovation processes on the potential of the regional economy. IBMRSS should be oriented towards innovative development, taking into account the available resources and potential involved in the implementation of the project. In this case, the consolidation of legally independent organizations is necessary, which will be integrated within the framework of a single project, designated in the ranking of regional priorities. All project participants integrate their potential on the basis of reciprocal, mutual benefit. The idea put forward by Porter (2002) about the approach to creating value chains in complex organizations is very interesting in this regard, also supplementing costing method based on the formation of the final product using the principle of a key resource and the processes associated with it.

The second direction of the concept indicates that IBMRSS creates the conditions for the balanced development of the material and non-material sphere of the region's economy by: setting innovative processes in such a way as to exclude the dominance of some organizations over others; to achieve a

balance of interests of business entities; to increase innovative activity in related industries, creating conditions for the growth of the social status of the region and improving living standards of the population.

3. Research Questions

Designing IBMRSS should be viewed as part of the economy, which includes all types of commercial and non-profit services, that is, a consolidated generalized category, including the reproduction of various types of services provided by organizations and individuals. The content of the research area of the service sector is the analysis of current trends and forecasts for the development of the economy and management; determination of scientifically grounded organizational and economic forms of activity, typologies of forms of the economic mechanism of organizations and industrial complexes; improvement of methods of management and state regulation.

The object of the study is all the organizational and legal forms of organizations that provide the main activity in the service sector, industrial and social infrastructure, personnel training, etc.

In the process of systematizing the factors that determine the possibility of innovative development of economic entities in the service sector of the region, elements of IBMRSS design process need to be identified (table 01).

Table 01. Elements of IBMRSS design process

Elements	Interpretation
Project management	management of activities in the organization that require constant leadership in the conditions of severe restrictions on the timing, cost and quality of work
Development	irreversible, directed, regular change in matter and consciousness
Innovative development	strategic development of economic entities, carried out through the systematic creation and implementation of innovative technologies, products and services, focused on achieving a high material, intellectual and spiritual level of society, a high level of ecology and ensuring the safety of the environment and human health
Region	a system of a geographically discrete economic space consisting of interconnected structural entities of different localization that, consolidating into a single oriented aggregate, provide themselves with an adaptive existence and development
System	a set of elements possessing linkages and relationships with each other, which forms a certain integrity, unity
Economic agents	individuals and legal entities, other subjects of civil law, engaged in entrepreneurial activity or having the right to carry it out, namely those engaged in the production, sale or purchase of goods
Service sector	a sector of the economy that provides tangible and intangible services
Localization	assignment of something to a specific place, restriction of the spread of a phenomenon, process by close borders, territorial limits
Process	successive change of states of an object in time, stages of development
Resources	sources, means of ensuring the production: natural ones (raw materials, geophysical), labor (human capital), capital (physical capital), working assets (materials), information resources, financial (monetary capital)
Structure of the system	organization of linkages and relations between subsystems and elements of the system, as well as the actual composition of these subsystems and elements, each of which usually has a certain function
Economy	the totality of all means of production used by people in order to meet their needs

The result of designing IBMRSS is a protocol for purposefully managing the process of innovative development of service industry entities, which together form a geographically distinct economic space, complementing the interconnected variety of activities of economic entities that, when consolidated into a single oriented aggregate, provide themselves with innovative development.

The solution to the issue of assessing the effectiveness of using the innovative potential of the regional services sector calls for rethinking of the concept of the functioning of the territorial infrastructure.

4. Purpose of the Study

The procedure for assessing the effectiveness of using the innovative potential of the regional services sector is based on a number of principles:

- systematic character – the need to analyze the innovative potential of the regional services sector as a system of interrelated elements: commercial and non-commercial institutions; bodies of federal, regional authorities and local self-government;
- comprehensiveness – assessment is carried out taking into account all external and internal factors;
- durability – the results of the assessment should take into account the principles of strategic development and determine the situation in the future;
- conjugacy – innovative potential is an integral part of economic resources;
- continuous variability – the results of the assessment are applicable for a limited time period;
- the counterintuitive behavior of complex Forrester systems – evaluation, is carried out until it is completely consistent with the ideas of the author;
- sustainable disequilibrium – the potential depends on the degree of variability of individual indicators;
- sufficiency – the choice of indicators is carried out taking into account the degree of their influence on the efficiency of potential use;
- fit – makes it possible to use the pattern of change of sufficient indicators.

Assessment results should display the status and prospects of implementation IBMRSS. The result of evaluating the effectiveness of using the innovative potential of the regional service sector is presented in the form of an “hourglass” with a certain bifurcation point (figure 01).

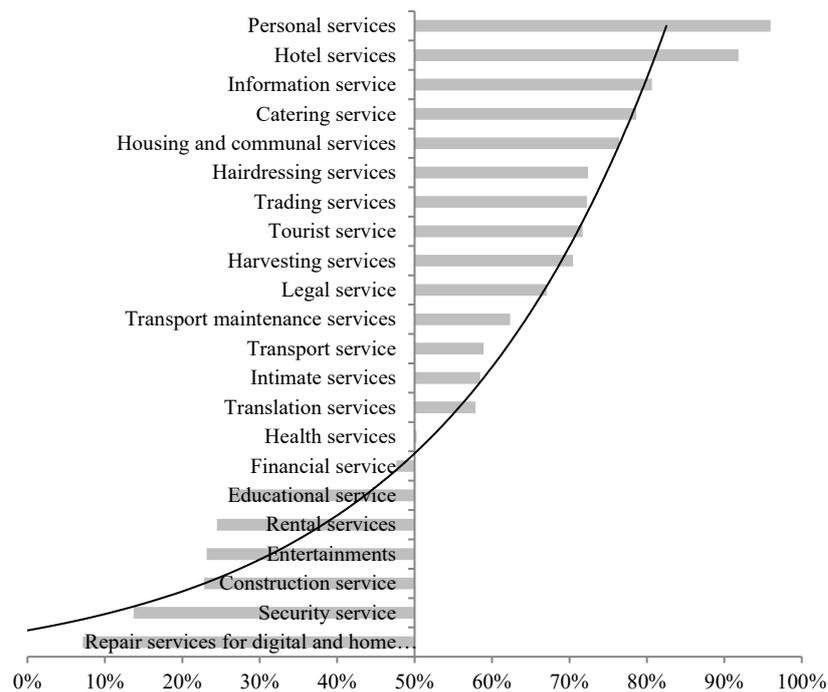


Figure 01. Effectiveness of using the innovative potential of the regional service sector

The assessment is based on the formula

$$E = \sum_{i=1}^n X_n \cdot k_n ,$$

where X_n – innovative potential of the regional services sector; k_n – weighting factors; n – number of sufficient indicators.

$$X_n = \sum_{i=1}^m O_m \cdot \omega_m ,$$

where O_m – reference indicators; ω_m – importance factors; m – number of reference indicators.

The structure of reference indicators is determined on the basis of the analysis of domestic and foreign scholarly literature, as well as on the basis of scientific research conducted in practice. The choice of reference indicators can be carried out by the researcher himself, depending on the goal-setting of the study and her individual capabilities.

It is possible to choose a system-forming indicator, which is dominant under appropriate conditions, and an assessment using this indicator reflects the specifics of the regional service sector more accurately.

The definition of reference indicators depends on the type of assessment – comparison of statistical data of the studied regional services sector relative to other regions of the Russian Federation: catering services, financial services, information services, housing and communal services, domestic services, rental services, sexual services, travel services, legal services, hotel services, security services, translation services, trade services, transportation services, entertainment, medical services, construction

services, hairdressing services, transport maintenance services, educational services, repair services for digital and household appliances, cleaning services (figure 1). Reference indicators are defined as follows

$$O_m = \frac{O_p}{O_x} \cdot \beta,$$

where O_p – basic indicator for the region; O_x – basic statistically average or reduced indicator for compared regions; β – reduction to points-based system coefficient.

The recommended reduction coefficient is determined in the interval of $0 < \beta < 1$. Importance factors are determined by expert evaluation method. Stages of an expert evaluation are as follows:

- 1) experts are divided into groups by the level of competency;
- 2) formulation of the problem and construction of the structure of the evaluated indicators;
- 3) description and classification of the problem situation – goals, criteria and limitations;
- 4) a list of measures is formulated, the implementation of which leads to a solution to the problem;
- 5) a system of criteria for evaluating measures is defined;
- 6) a database of expert ranking of indicators is created;
- 7) Each expert uses the method of paired comparisons to evaluate the criteria (in the form of weighting and importance coefficients from 0 to 1) and using the point-based system of ratings ranks the selected groups of events;
- 8) calculation of group assessments of events, expert competency factors and concordance coefficient;
- 9) when the concordance coefficient reaches more than 80%, experts deliver results.

In the process of evaluating the effectiveness of using the innovative potential of the regional services sector, it becomes necessary to correct the activities of business entities in accordance with objective economic laws and patterns of development of organizations. As a result of the development of various types of ownership in the organizational structures of the service sector, certain patterns are observed that affect its functionality. These patterns are a consequence of the general managerial features of the implementation of IBMRSS and include:

- lag. The needs of society are dynamic and spontaneous.
- inadequacy. The presence in the organizational system of an individual who, refracting in her mind the meaning of the functions performed by him, always introduces her own interpretation of the procedure for their implementation;
- incompetence. This property manifests itself in full or partial isolation and attempts to adequately respond to all external disturbances.

As a result of the above regularities, the IBMRSS implementation process initially bears signs of inefficiency, due to the many residual elements that are inappropriate to operate in the organization structure

5. Research Methods

In order to reduce the effects of negative factors induced by patterns of functioning of the external environment, it is necessary to optimally organize IBMRSS implementation process, i.e. to approach the

solution of the problem of effective management of innovative development of business entities in the regional service sector. This approach is based on the strategy of forward-looking design of functional management structures while ensuring systemogenesis from the existing systemic gene pool. This strategy corresponds to the concept of a tiered organizational system making it possible to concentrate at various levels of the system a sufficient number of elements that have the necessary properties, the vertical and horizontal integration of which will allow it to acquire systemic properties that are able to perceive market changes in advance and adequately rebuild its functional structure. This approach is based on the principles of functional differentiation of elements, a clear distribution of functions by levels and elements, followed by the distribution of tasks in accordance with the goal-setting of each element.

The general IBMRSS implementation concept is based on the following principles:

- comprehensiveness – the presence in the system of a complete set of management functions;
- adequacy – a necessary and sufficient set of elements for environmental conditions;
- integration – allows using vertical and horizontal integration methods to define flexible organizational forms within the system;
- economy – the distribution of tasks among specialized control elements;
- adaptability – the restructuring of the organization under the influence of external and internal factors.

The concept of IBMRSS reflects the conditions for the formation of a problem-oriented system, built on the basis of a rational combination of innovative, resource-based organizational and managerial potentials of business entities in order to achieve the objectives in the regional economy using exogenous and endogenous resources. The development of such a system is coordinated by state authorities with the aim of orienting the efforts of project participants to regional goals and their consolidation through government measures to stimulate the activity of economic entities.

The optimal implementation of the concept of IBMRSS is made possible by the tiered model of the management system, which allows concentrating at various levels a sufficient number of elements whose goals and objectives are capable of realizing the traditional sequence of the management process.

Correspondence of the set of elements that make up the system at all levels of its consideration to the essence and nature of the innovation process itself as an object of management, the policy of which adequately reflects the sequence of the target-oriented reproduction cycle – innovative development.

The tiered implementation model of IBMRSS is presented as a composition in the form of localized hierarchical tiers, each solving its own separate management tasks and having a complex structure of horizontal connections and vertical relations.

The first tier is setting goals for IBMRSS. The first level elements capable of adopting and shaping the goals of IBMRSS are state and legislative authorities, as well as regional administration structures that have the corresponding status and powers.

The development of IBMRSS management goals can involve both individual stakeholders and various public organizations that determine the management policy in the region and are either objects of such management or individual elements of the innovation process. Such a conglomerate makes it possible to consolidate the goals and objectives of individual innovative projects integrated within the framework of the IBMRSS concept, allowing them to focus on solving key tasks.

The second level is the design of IBMRSS and the organization of the functioning of the innovation process. At this stage, the problem of optimal design of innovation management processes is solved by presenting a structural model of project management at the regional level. The main stages of model design will be: setting a generalized project management task based on the formed goal of managing innovative projects, assessing the external and internal factors of the functioning of the innovation management process, determining direct and feedback functional dependencies of parameters that reflect the main characteristics of innovative processes as a project management object.

Structurally, the second tier can be formed on the basis of identifying the main group of organizations or the leading organization in the region for innovation management, which fulfills the goals and objectives of the stages of the reproduction cycle.

The third tier is the implementation of IBMRSS, in which a balanced model of project management of the innovation process is designed taking into account the potential of a real innovative object, in real time, taking into account the action of external factors and existing conditions and prerequisites. The task of the third tier is to optimally adapt the design goals and objectives developed at the second tier to the conditions of the real economy. At the same time, the possibilities of absorbing innovative objects, possible deviations from the design conditions are evaluated and corrective actions are established.

In the framework of the third level, control procedures are implemented to realize the goals of the project management of innovations, assess non-compliance and develop preventive measures to coordinate the innovation process. In practice, this is expressed in the form of the implementation of innovative projects or business plans for innovative development at the level of production, technological and organizational-managerial processes, realized within the framework of individual organizations included in the object of the innovation process.

The resulting organizational structure in the form of a level model for achieving the established goal, in accordance with the level of complexity and responsibility of the tasks being solved, is the functional content of IBMRSS, the implementation of which is possible through the organizational structure of project management.

6. Findings

The theory of designing IBMRSS is based on the conceptual foundation of the theoretical principles of growth and development of the regional economy. Theoretical positions are revealed in three main and sufficient directions: classical, neoclassical theories and cumulative growth theory. These theories orient the process of functional structuring of the region's economy towards the efficient use of the region's innovative potential and, as a result, the creation of an infrastructure capable of generating competitive advantages that meets market conditions.

The process of IBMRSS design should be considered as a complex process of a tiered model, requiring the organization of a variety of business entities and generating services that are different in their types of activities and legal forms. This aggregate is finite, and its number is determined by the boundaries of the region. Organizations and processes that emerge in the region are the objects IBMRSS.

In order to study the processes taking place in such an organizational association and to develop methods for the optimal use of the properties that make up the elements of an object, it is necessary to consider this totality using a systemic approach. A systemic representation of the object is also necessary to study ways to eliminate the negative effects of factors of the external and internal environment.

The implementation of IBMRSS affects the organizational development of a geographically distinct economic space and its acquisition in the process of evolution of the necessary and sufficient innovative potential at each level of the tiered system and by each of its elements, capable of creating the conditions for economic growth through effective management of innovative processes. This development implies an evolutionary synthesis of the functions performed by the studied economic entities in order to increase their adaptability in the external environment, reduce costs and losses from external factors and mobilize innovative potential.

The process of implementing IBMRSS is associated with the features of the functional interaction of business entities and is a comprehensive, interconnected mechanism with a complex system of horizontal and vertical links. From the perspective of a systemic approach, this mechanism can be represented by a stratified conceptual model in the form of three interpenetrating tiers of function performance. The criteria for the differentiation of functions by tiers are the categories of complexity and scale of the tasks to be solved, as well as the goals of economic entities and the possibility of achieving them.

7. Conclusion

In the process of designing IBMRSS the following key points should be taken into account:

- the basis for the formation of the structure of the regional system of project management should be a previously identified set of functions of the designed object;
- the new structure is the result of the evolution of the development of the previous one, the first inheriting all the positive characteristics accumulated earlier, the second one obtaining new development under the influence of new conditions and progressive trends in social development;
- among the many alternatives for the development of the structure of the designed object, the best option is that which to a greater extent resolves the contradictions between the desired and the achieved.

The process of implementing IBMRSS is associated with the synthesis of the structure of the designed IBMRSS, the content of which is pursuing a focused search for organizational solutions based on the analysis of the decompositional set of functions of economic entities in the region and the selection of structural implementation options formed by their reduction. By combining these options, you can get some set of alternatives for building IBMRSS. The choice of the preferred combination is based on current restrictions and baseline conditions taken into account.

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