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INTEGRATED MANAGEMENT PARTNERSHIP AS A SYSTEM
FOR MANAGING THE INNOVATIVE BUSINESS
DEVELOPMENT

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Abstract

In the context of globalization, the development nature of all economy sectors, including the agricultural one, is becoming inseparably linked with the active innovative development of economic entities. As the foreign and already Russian experience of high-tech economy sectors testifies, companies achieve innovative development opportunities by involving stakeholders in the creation of joint ventures and products. For the agricultural sector in the most regions of Russia, this approach to the innovative development determines the need to improve the existing management system. This is evidenced, on the one hand, by a fairly steady trend of strengthening financial indicators from economic activities of agricultural entities. As a result, it becomes possible to attract long-term investment sources for financing complex technological projects, including the usage of Internet of Things technologies in such areas as cost optimization, pest control, water saving, storage and processing, logistics, technical equipment, and animal control. Moreover, the results of the All-Russian Agricultural Census show that the level of innovative technologies application for the same period is extremely low. In this regard, the authors explore the experience of integrated management partnerships created in the dairy and food complex of the Perm Region (Russia). And it is substantiated that such and similar network entities should be formed and developed as a system of the corporate management of the innovative development of business entities.

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Keywords: Innovative development, economic entities, management system.



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1. Introduction

In the conditions of the economy globalization, economic entities are increasingly looking for innovative solutions to achieve competitive advantages. The solution of this task, as it is shown by the foreign practice, is achieved by involving stakeholders (suppliers, suppliers and consumers) in the process of creating products and joint ventures, that means joint forming a chain of greater product usefulness for the final consumer (Prahalad & Ramaswamy, 2004; Trachuk & Linder, 2016a, 2016b).

Joint production means interaction, cooperation or partnership for the exchange of products or services between counterparties, based on the long-term cooperation, the practice of joint decision-making, the existence of agreed goals, and trust between partners. Some researchers highlight the following possible benefits from such a partnership for their participants: joint generation of ideas; co-production; joint design development; joint pricing; joint product promotion; resource sharing; joint service; joint outsourcing; co-creation of meanings; joint waste management and others (Payne, Storbacka, & Frow, 2008).

This approach to the joint development is based on H.W. Chesbrough's open innovation idea, namely that manufacturers and consumers in B2B (Business to Business) markets are interested in consolidating resources, creating additional joint benefit, participating in each other's innovation programs (Chesbrough, 2007).

Studies conducted by Russian scientists also indicate that in the agricultural sector of the economy, the development of innovative technologies is a long and costly process, the results of which affect the work of business entities of different industries and complexes. That fact determines the need for the development of long-term business relationships providing innovations transfer and the possibility of public-private partnerships using (Sandu, Butorin, & Ryzhenkova, 2019). This requires improving the management system of economic entities of the agricultural sector.

2. Problem Statement

In the context of a developing innovative economy, the activities of economic entities in the agricultural sector are not possible without the systematic implementation of innovations, which are the most important resource for their sustainable development. Due to the systemic management of the innovative development, the functioning of the agricultural sector as a national economic structure is increased. At the same time, the role of the management mechanisms is increasing, providing access to innovative resources available both by individual organizations and located in the external information field, in particular in the extension service system, which is formed in integrated cluster-type structures and holdings.

3. Research Questions

The development of the Internet of Things technology will acquire a special influence and will only increase in the future, in particular in such areas as: cost optimization, pest control, water saving, storage and processing, logistics, technical equipment, animal control (Beecham Research Limited, 2017; Bogoviz, Sandu, Demishkevich, & Ryzhenkova, 2019).

According to Tractica's (2019) forecasts, the international market for agricultural robots will increase from \$ 3.0 billion in 2015 to \$ 73.9 billion by 2024. The largest sales are projected for tractors without a driver (Driverless Tractors) - up to \$ 30.7 billion by 2024, and agricultural UAVs (Drones) will be the most common in terms of supplies - up to 411,000 units by 2024. Nowadays, there are financial prerequisites for putting into practice such innovations in the agricultural sector of the Russian economy (table 01).

Table 01. The financial result of activities of economic entities in the agricultural sector of the Russian economy

Indicators	Years						2017, in % to 2013	
	2005	2013	2014	2015	2016	2017	2005	2013
Balanced financial result, million rubles	27524	51637	160936	256838	266590	270106	9,8	5,2
The proportion of unprofitable business entities,% of the total number	42,3	30,4	27,6	24,1	17,2	18,9	(-23,4) p.p.	(-11,5) p.p.
Profitability of goods sold,%	6,7	5,2	17,4	20,7	16,8	17,3	10,6	12,1
Return on assets,%	2,8	1,7	4,9	6,9	6,8	6,4	3,6 p.p.	(-0,4)

Moreover, as it follows from the preliminary results of the 2016 All-Russian Agricultural Census, the scale of application of innovative technologies in the agriculture during this period remains extremely low (table 02).

Table 02. The proportion of agricultural enterprises, peasant (farmer) farms and individual entrepreneurs who applied innovative technologies, according to the All-Russian Agricultural Census – 2016, %

Innovation technologies	Agricultural enterprises*	Peasant (Farmer) Units and individual entrepreneurs
Integrated Irrigation System	4,7	3,7
Biological methods for protecting plants from pests and diseases	10,3	9,3
Individual livestock feeding system	8,1	4,7
Poultry Biological Methods	1,5	1,6
Wastewater treatment plants on livestock farms	4,8	1,2
Wastewater and sewage treatment system	9,9	3,7
Renewable Energy Sources	1,9	1,8
Accurate driving system and diagnostic quality control of technological processes	7,1	0,8

* - excluding subsidiary agricultural enterprises of non-agricultural organizations

Source: author according to the 2016 All-Russian Agricultural Census (Petrikov, 2016)

The foreign experience shows that in order to stimulate the introduction of innovative technologies, people, process and environment (place) are necessary. Workers must have the necessary skills and mentality. The new economic conditions require managers who know how to generate ideas and how to turn them into really working technologies. To make business entities more innovation-oriented, to change the situation, to activate and increase the effectiveness of the innovative development, it is necessary to create conditions and provide support from relevant, innovation-oriented, specially

created (for these purposes) structures. Accordingly, to ensure innovative activity in the agricultural sector, there is a need for organizational, structural and managerial decisions that ensure the intensification of the innovative activity.

The analysis of the foreign practice of the innovative development in the agricultural sector of the European Union countries allows us to distinguish between two main models of organizational and economic relations (systems) that take into account the above principles in whole or in part (European Communities, 2006).

The first model is the unification of the majority of producers in the agricultural sector of one administrative-territorial formation and the creation of a diversified commercial association. The second model is the creation of industry systems within the framework of a single administrative entity, as well as inter-territorial ones.

These models reflect the possibility of forming links between various agribusiness structures (agricultural producers, service and service organizations, logistics centers, processors and trade). At the same time, all participants included in such systems retain legal independence.

It can be summarized that the creation of such business entities allows us to achieve the following goals:

- to create a management system that is adaptive to the innovative and rapidly changing environment. This system should be created for the most business processes;
- to more effectively regulate industrial and commercial relations between producers within the same territorial entity;
- to interest business entities in optimizing production volumes, reducing losses, improving the product quality and the assortment;
- to highly efficient use the equipment for the production, storage and processing of agricultural products;
- to ensure sustainable development of the territory of these agro formations, etc.

As a basis of such foreign agricultural corporations (farmers' associations), which distinguishes them from Russian ones (the Russian agricultural companies own huge land), is considered the so-called incomplete integration, when an independent business process is carried out at the initial stage of the agricultural production, which is implemented by farms. Their integration into large business is carried out through service cooperation, or through contracting in a system of rigidly executed long-term contracts for the sale of products that processors or purchasing companies conclude with them.

4. Purpose of the Study

The subject of this study covers organizational and economic relations emerging in the process of the joint innovative development of economic entities in the agricultural sector. The research topic is the improvement of inter-farm relations in the agricultural sector of the regional economy. The purpose of the study is the development of innovative organizational and economic forms of interaction between business entities in the agricultural sector of the regional economy.

5. Research Methods

The authors used the dialectical and empirical methods, systemic and situational analysis, general methods of analysis, synthesis, and a statistical method of extrapolation. The territorial objects of this research were the Russian Federation as a whole and the Perm Region in particular.

6. Findings

Summarizing the foreign and Russian experience of improving the management system in this direction, it can be stated that these are always certain partner communities built on the network principle: a simple partnership, a joint venture, a functional management company. Without disclosing the essence of each of these partnerships in the framework of this study, it should be noted that for any form of partnership organization, the mutual obligations of participants are regulated by the agreement on joint activities, provision of management services and the functions transfer from the sole executive body of a legal entity (chairman, director, general director) to a control structure. In their scope, integrated management partnerships can be different and operate at different levels - from district to regional and even interregional. A very important sign of partnerships is the development degree of internal integration ties. The simplest systems are systems of a consulting type, when the leading organization's specialists on a mutually beneficial basis provide assistance to the partnership participants in introducing innovative technologies. In other cases, the delivery of special equipment, herbicides, training of specialists, etc. are also provided. As a practical example of constructing such a system for managing business entities, we can consider integrated management partnerships in the dairy and food subcomplex of the agricultural sector of the Perm Region between the group of enterprises of Nytvensky Creamery LLC (production capacity is 250 tons per shift) and Yugovsky Dairy Plant LLC (production capacity - 450 tons per shift) and 64 agricultural producers. The goal of the partnership is formulated as ensuring the sustainable activity of dairy farming in the Perm Region through the implementation of joint innovative projects. Assessing the five-year period of functioning of the considered integrated management partnership in the dairy and food complex of the Perm Region, we can conclude that such a management system ensures the development of economic entities in its composition. The development of agricultural organizations – participants of the integrated management partnership led to an increase in the number and productivity of cows, to an increase in the labor productivity. All this led to an increase in self-sufficiency in milk and dairy products in the Perm Region, which increased from 66.3% in 2013 to 73.8% in 2017 (table 03).

Table 03. Indicators of development of economic entities of the dairy-food subcomplex in the Perm Region

Indicators	Years					
	2013	2014	2015	2016	2017	2017 in % to 2013
The number of cows, thousands	72,0	72,3	74,1	74,8	75,2	104,4
Cow productivity, kg / cow	5 008	5 411	5 612	5 840	6 075	121,3
Labor productivity, thousand rubles / person	619,2	797,7	985,4	1095,2	1160,3	187,4
Self-sufficiency in milk and dairy products,%	66,3	67,8	70,3	71,6	73,8	7,5 p.p.

Based on the results of our own research, we can conclude that a steady growth of these indicators is ensured by a single coordinating technological work and strategic management of supply and marketing processes, R&D and innovation activities delegated to management structures as part of an integrated management partnership.

Due to this, in the considered integrated management partnership, in order to increase the milk production and improve its quality from 2013 to 2017, the following main investment projects were implemented: 84 dairy farms were reconstructed, with funding from all sources – 1370 million rubles; construction of 7 dairy farms, with a total capacity of 1900 cows, with funding from all sources – 230 million rubles; the construction of 11 reproduction workshops, with funding of 95 million rubles; construction and reconstruction of 23 calves, with funding – 190 million rubles and others.

7. Conclusion

Summarizing the results of the study, in order to duplicate the functioning practices of the considered integrated management partnership as a system for managing the innovative development of business entities in its composition, we propose a system of integrated management partnership functions and their distribution between the main groups of participants in such a network structure (table 04).

Table 04. The matrix of functional differentiation between the main groups of participants in integrated management partnerships (the example of economic entities of the dairy specialization)

Operational level (cluster management department))	Production level (business entities)	Technical and technological level (service organizations)	Products level (finished products workshops)
<ul style="list-style-type: none"> - business planning - reporting - improving the efficiency of production and investment activities - normative - methodological support of bidding - procurement analysis and control - commodity and warehouse logistics - formation of product and pricing strategies - marketing activities - product branding - formation of investment programs of additional production capacities - coordination of capital construction, technical re-equipment and reconstruction 	<ul style="list-style-type: none"> - milk production - cow milking - getting offspring - veterinary services - obtaining crop products - feed production 	<ul style="list-style-type: none"> - ensuring reliable technical condition of equipment and machinery - technological control and parameterization of an automated production and process control system - reproduction of young animals, including a genetically embryonic type 	<ul style="list-style-type: none"> - quality control and selection of commercial milk - milk cooling and storage - milk transportation - primary milk processing - deep milk processing - disposal of by-products and waste

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