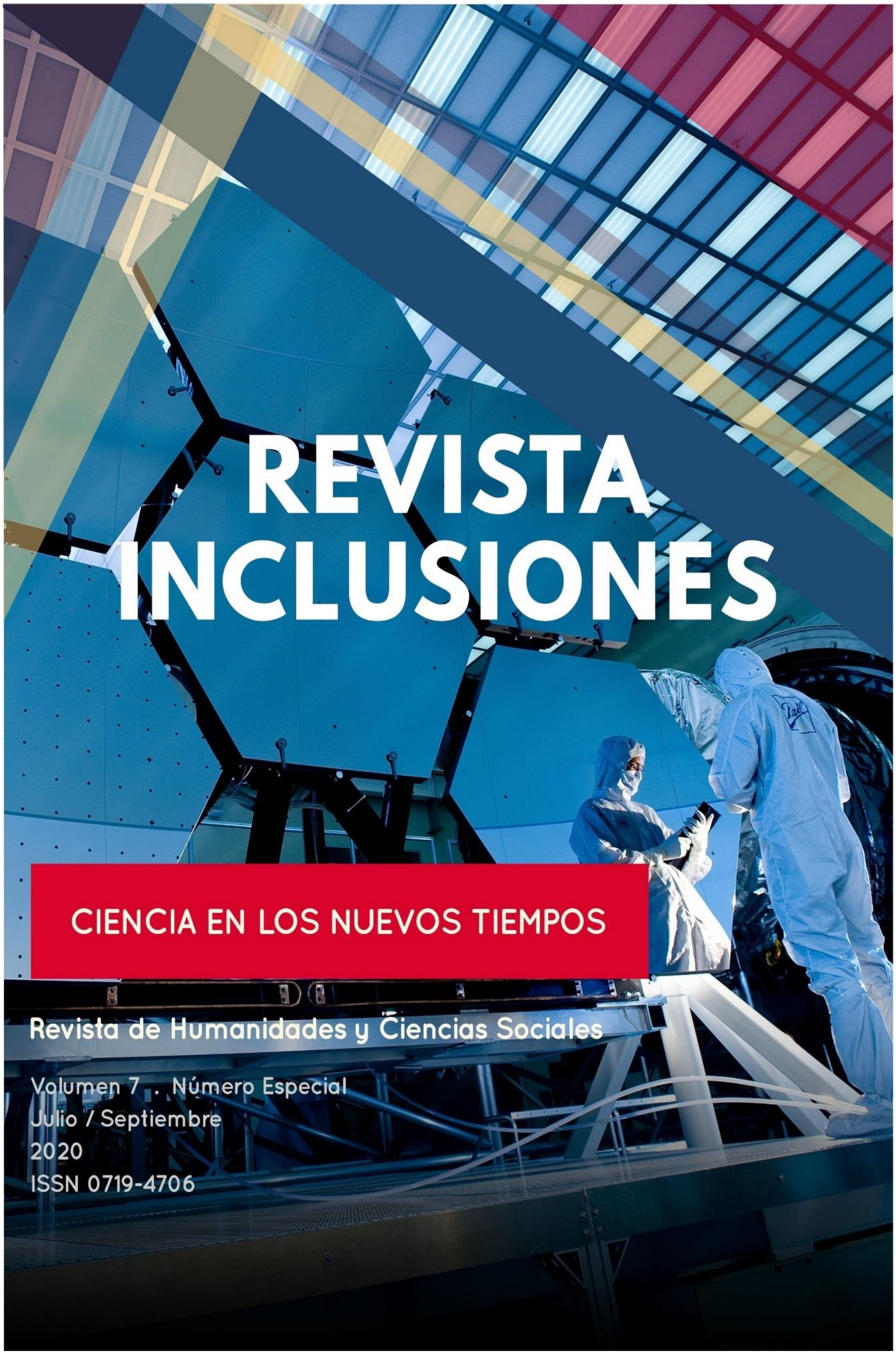
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THE METHOD OF ASSESSING THE QUALITY PARAMETERS OF INTERORGANIZATIONAL COORDINATION IN SUPPLY CHAINS

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Abstract

This article is aimed at studying the impact of logistical coordination frameworks — coplanning, harmonization of ruling documents, mutual approval of operational procurement procedures, resource integration — on the dynamics of quality indicators related to the procurement activities of supply chain participants. A method of assessing the quality parameters of interorganizational coordination in supply chains has been proposed, and the prospects for developing partnerships among the procurement process participants have been shown in conjunction with the comprehensive use of joint activity framework within integrated supply chains. Conclusions have been drawn on the impact of coordination framework on improving the competitiveness of partner enterprises: suppliers, manufacturers, transport, forwarding, and trade organizations. Comparative analysis, peer reviews, factor, and statistical analysis have been used in this study.

Keywords

Procurement strategy – Information transparency – Supplier integration

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Introduction

Classical and modern research in logistics coordination demonstrates the need to develop supply chain partnerships through the formation of effective interorganization relationships between enterprises in the procurement of goods and services. Procurement is known to be one of the most important functional areas of logistics, on which the end result of the entire supply chain depends to a large extent. In that context, to date, scientists and practitioners both in Russia and abroad have proposed many approaches based on the idea of integration and development of cooperation among the procurement process participants — suppliers, manufacturers, logistics providers of different levels, warehouse operators, and trading enterprises. At the same time, the main idea is to implement a systemic approach, to achieve the unity of the goals of the procurement enterprises, namely: maximum commitment to consumers while optimizing costs within the supply chains. According to most experts, the main means of achieving this goal is to use coordination framework in the relations of counterparties to regulate in the best way the interaction of partner enterprises. However, the opinions of management experts on the effectiveness of the use of different coordination framework in supply chains, including procurement, vary to a certain extent.

In particular, D. Johnson and D. Wood see the role of coordination in “the sustainable and efficient management of the inventory flow in the seamless mode”[1]. At the same time, they consider the use of a sustainable organizational structure to be one of the most effective ways of coordination. R. Sloan, D. Dittman, D. Menzer identify opportunities for the logistical coordination development through the flat organization, the building of a training system for process-oriented managers, the improvement of information technology, and, what is most relevant, the continuous support for positive changes taking place in supply chains. In “The New Supply Chain Agenda: the Five Steps that Drive Real Value” the authors consider logistical coordination in terms of end-to-end control, from procurement, through production, transportation and storage (at all stages of the material resources movement), to the final distribution and organization of after-sales services to consumers. At the same time, scientists prove that “the supply chain is a flat end-to-end process, a flow of goods continuously moving through the enterprise” that includes “external relationships with suppliers and buyers, i.e., an “extended enterprise”[2].

George Gattorna assigns a special role to the development of partnerships in the evolution of interorganizational coordination (including in the procurement activities of enterprises). At the same time, he notes the inevitability of new risks in the relationship between suppliers and customers, calling it a “cooperation paradox.” In his view, “Global optimization often leads to local suboptimization; individual companies in the supply chain union must recognize the decline in value internally to add value within the entire union... Disagreements often arise over how to measure shared benefits and how those benefits should be shared among participants”[3].

The authors of the well-known purchasing maturity model Arjan van Weele, as well as the KPMG experts believe that joint development of companies on the partnership principles is justified only in relation to strategic suppliers and, in its own terms, indicates the

[1] D. Johnson y D. Wood, Sovremennaya logistika (Moscow: Williams Publishing House, 2002)
[2] R. Slone; J. P. Dittmann y J. T. Mentzer, The New Supply Chain Agenda: Five Steps that Drive Real Value (Moscow: Alpina-Publisher, 2015)
[3] D. Gattorna, Upravleniye tsepyami postavok (Moscow: INFRA-M, 2008)

high purchasing maturity. At the same time, the strategically significant are those suppliers "failure to meet obligations to which carries for the company the risks having significant impact on the business"[4]. However, this approach seems somewhat limited, since far from always and not at every stage of the life cycle of relations with suppliers, interaction with a narrow circle of strategic suppliers provides companies with the best final result.

Further study of the above models allows noting that the authors take such criteria as the state of the organizational structure of enterprises, the price formation principle, the attitude towards competition, the procurement planning horizon, the share of virtual purchases, etc. as the basis for purchasing maturity assessment. Of course, these issues are important in procurement activities organization and management, but not all statements and conclusions can be fully accepted. In particular, in the KPMG model, the formation of a procurement strategy at four to six maturity levels covers a five-year period, which, according to the authors, is true only in a close, regulated and fully controlled relationship with a small number of strategic partners in the developed stages of relations with them. In the case of managing basic and uncritical suppliers, especially in the initial and final stages of relations with them, this approach is unlikely to be justified, as it increases the risk of possible losses. In such circumstances, the larger the forecast horizon is, the less accurate the definition of the need for physical resources is.

Well-known Russian scientists also pay significant attention to the study of coordination frameworks in the procurement activities of companies. However, most of them consider only a few aspects of the problem. In particular, V.I. Sergeyev identifies logistical functions that are directly related to the "coordinating and integrating role of logistics, and then the SCM." These functions include managing the order execution cycle[5]. Many Russian specialists, such as B. Anikin, V. Dybskaya, D. Ivanov, A. Shpak[6], etc., consider logistical coordination in relation to the use of resource integration framework, in particular, the development of *information technology* in supply chains, and draw a parallel between coordination and "rapid-response logistics." In particular, speaking about the formation of a new concept of logistical coordination of merchandise flow, A. Shpak singles out "the growth of the use of information systems and telematic applications" as one of its features, pointing out that "in Russia, such ideas are only in their infancy…"[7].

Thus, the majority of both Russian and foreign authors explore only certain aspects and mechanisms of coordination in the procurement activities of enterprises and, to a greater extent, at the interfunctional interaction level. In this regard, it is difficult to talk about the formation of a holistic concept of interorganizational coordination of the supply chains participants in the procurement sector.

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[4] KPMG in Russia and the CIS, 2011, Model zrelosti zakupok. Analiz funktsii zakupok v rossiyskikh kompaniyakh. Moscow. Retrieved from: https://assets.kpmg/content/dam/kpmg/ru/pdf/2016/8/ru-ru-procurement-survey.pdf

[5] V. I. Sergeyev, Korporativnaya logistika v voprosakh i otvetakh (Moscow: INFRA-M, 2018) y V. I. Sergeyev, Upravleniye tsepyami postavok (Moscow: Yurait, 2015).

[6] A. Shpak, "Osobennosti logisticheskoy koordinatsii regionalnoy sistemy tovarodvizheniya", Sever i rynok: formirovaniye ekonomicheskogo poryadka Vol: 1 num 22 (2019): 47-52.

[7] KPMG in Russia and the CIS, 2011, Model zrelosti zakupok. Analiz funktsii zakupok v rossiyskikh kompaniyakh. Moscow. Retrieved from: https://assets.kpmg/content/dam/kpmg/ru/pdf/2016/8/ru-ru-procurement-survey.pdf

Methods

The study was conducted by the authors between the end of December 2019 and the end of February 2020, for several groups of Russian and foreign enterprises operating in the Russian market, namely manufacturing (automotive, food, construction, and medical equipment), commercial (wholesale in light industry, pharmaceutical distributors, and Internet trading companies), transport and expedition companies, maintenance and vehicle repair companies, and warehouse operators. A comparative analysis of the results of peer review of specialists from 52 companies revealed the relationship between the dynamics of quality parameters of interorganizational coordination and the degree of using the supply chain participants' joint activity framework.

The authors' position is that the formation of partnerships in the procurement sector is based on the integrated application of seven main coordination frameworks, namely coplanning, harmonization of ruling documents, mutual approval of operational procurement procedures, staff motivation for joint activities, and resource integration. At the same time, an assessment of the extent of using each of these frameworks is possible based on qualitative performance parameters and possible losses of joint activities in the planning of the need for the products and services procured, the implementation of basic procurement processes and procedures (from selecting suppliers, entering into a contractual relationship with them and agreeing on operational functions to forming a partnership strategy).

Results

As the study has shown, in general, the heads of more than 80 % of the companies were aware of the benefits of a partnership with suppliers and planned to develop it (Figure 1).

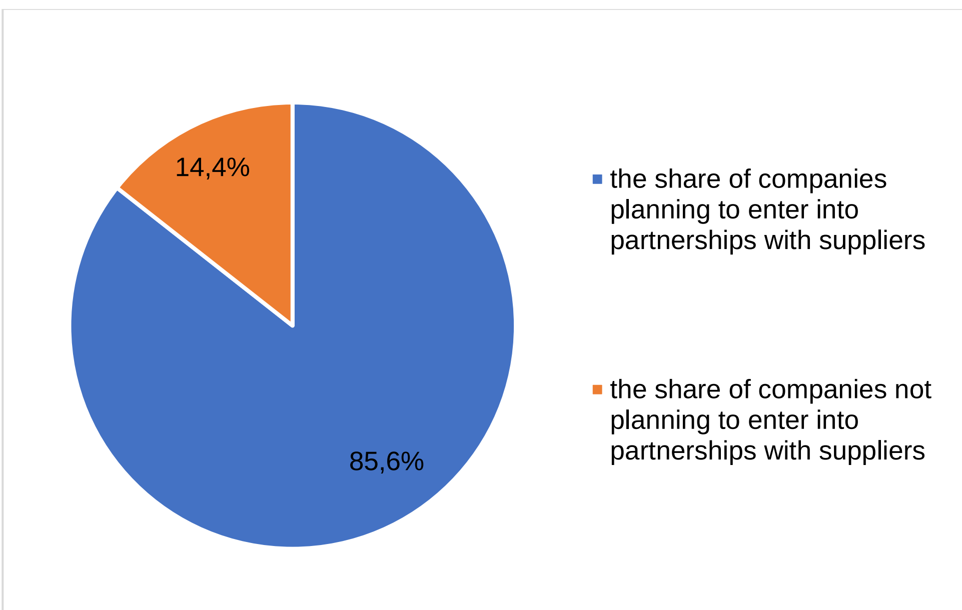

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Figure 1
The share of companies planning to enter into partnerships with suppliers (average as of 01.03.2020)

At the same time, although over the past three years, about 50 % of the surveyed companies have shown an increase in the number of partner suppliers (on average, by 23 %) (Figure 2), the share of such strategic partners in the total supplier pool of most enterprises was still not too large and averaged about 24.3 % (Figure 3). Among other things, 14 % of the companies have no partners at all, 22 % have no more than 10 % of partners in the total base of suppliers, and in the remaining 64 %, the share of partner suppliers ranges from 20 to 50 %.

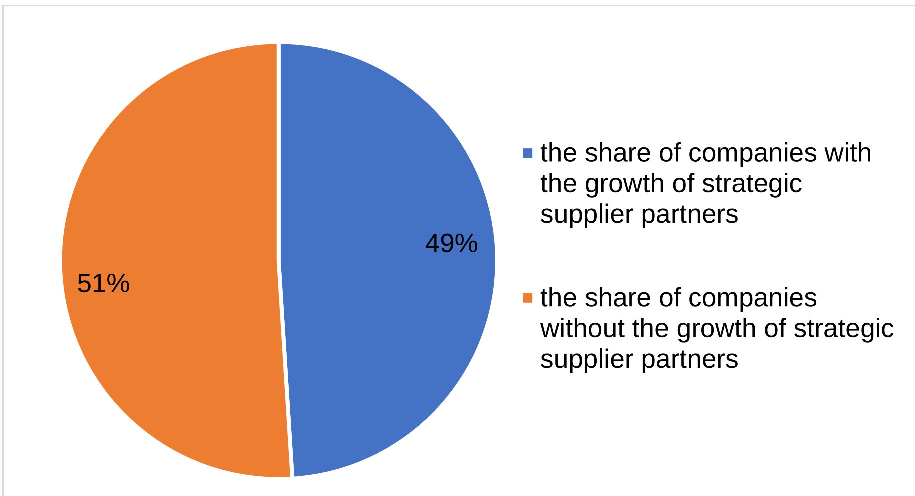

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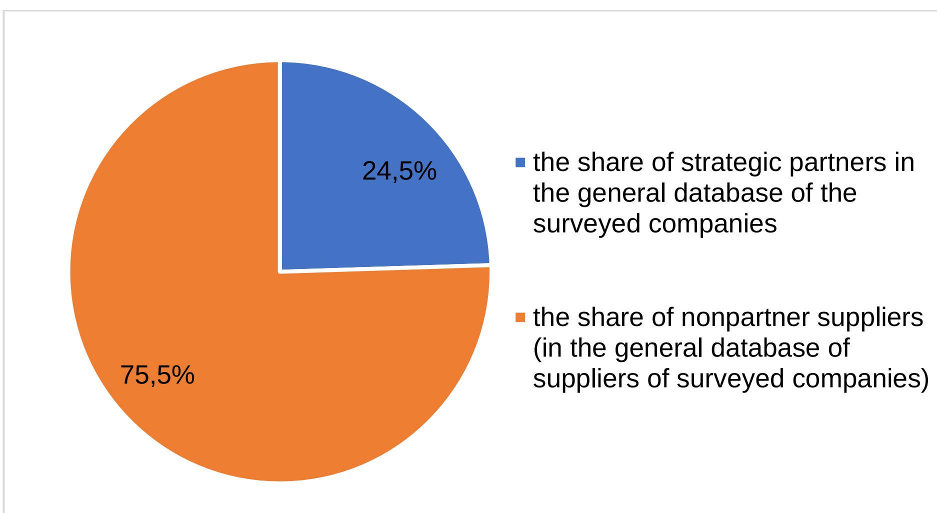
Figure 2
The share of companies with the growth of strategic supplier partners over the last three years (2017 – 2019)



Note: Compiled by the authors

Figure 3
The share of strategic partners in the general database of suppliers of the surveyed companies (average values as of 01.03.2020)

Mainly foreign manufacturing (automotive, food, and pharmaceutical industries) and trading companies operating in the Russian market have the maximum share of strategic partners (Figure 4).

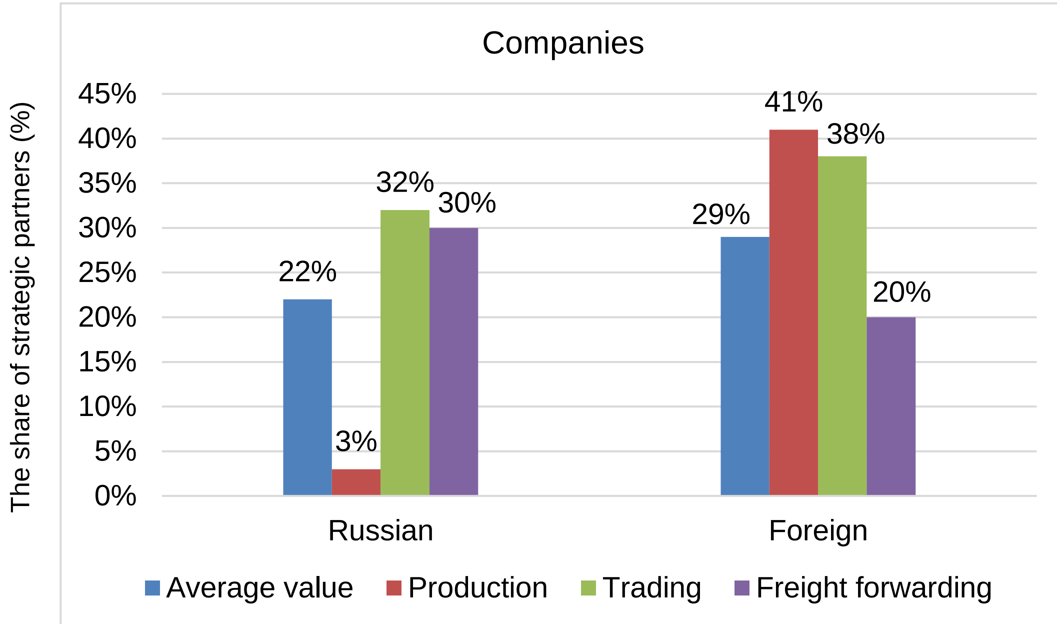


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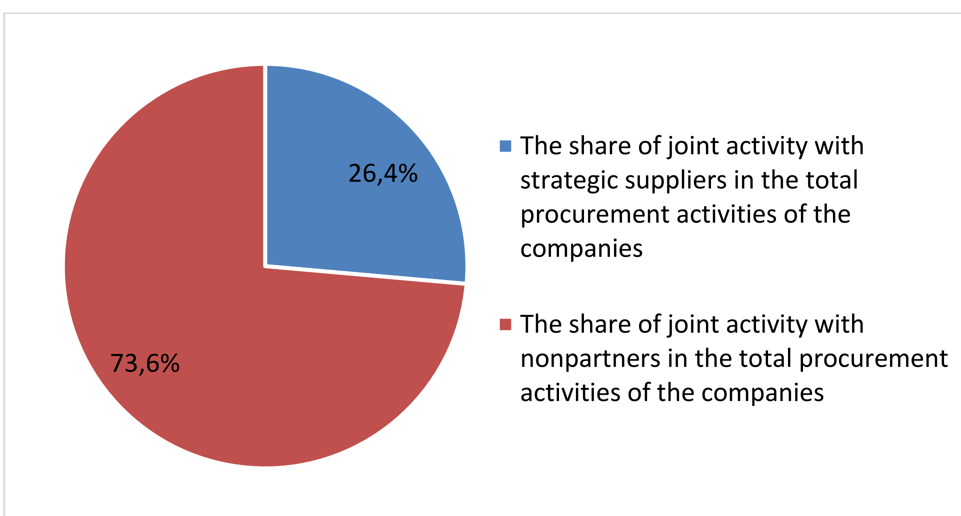
Figure 4

The share of strategic partners in the common database of suppliers of Russian and foreign companies (average values as of 01.03.2010)

At the same time, as the study has shown, the share of strategic suppliers of production, transport, and trade enterprises was roughly proportional to the volume of joint procurement activities. In particular, according to the results of 2019, the share of joint activity with partner suppliers is, on average, 26.4 % in the total volume of procurement activities of the surveyed companies, including Russian — 18.7 %, and foreign ones — 34.2 % (Figure 5).



Note: Compiled by the authors

Figure 5

The share of joint activity with strategic suppliers in the total procurement activities of the companies (average values as of 01.03.2020)

The examples of some companies show that integration with only a few strategic suppliers provides for a significant amount (and quality) of procurement activities. For instance, several foreign food companies operating in the Russian market have about 40 % of the partner suppliers ensuring more than 80 % of the total purchases. 20 % of the partner suppliers of the Russian pharmaceutical distributor form more than 40 % of the company's purchases. At the same time, the trend of abandoning “noncritical suppliers” and developing mutually beneficial relationships with the company's key partners is becoming increasingly obvious.

The effect of integration with suppliers can be assessed by comparing data on successful and risky companies' joint activity projects. In particular, according to the study results, the average share of effective joint projects in the procurement activities of the companies over the past three years has been about 45 % (Figure 6). These are mainly the works in the area of joint procurement planning, harmonization of ruling documents, and mutual approval of operational procurement procedures. Nine percent of the projects are the riskiest ones. Mostly, they are associated with the joint use of different types (material, information, and labor) of resources. The remaining 46 % are a joint activity with no impact on the main economic performance of the companies.

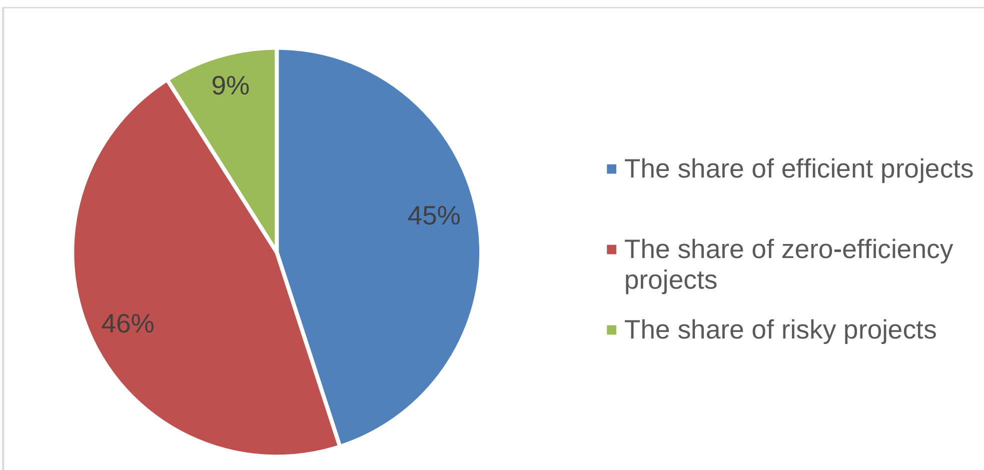


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Figure 6
The share of efficient and risky joint activity projects with key suppliers (average values as of 01.03.2020)

Comparing the share of efficient and risky projects *per one* strategic supplier also suggests that the performance of joint activities far exceeds the potential losses. In particular, data on successful projects per partner supplier fluctuate from 0.02 to 9 %, and for the risky ones — from 0.01 to 3.33 %. Accordingly, while the average share of effective joint projects per partner is 1.9 %, that of the risky ones is 0.47 %, which indicates the prospect of using the interorganization coordination framework in relations with key suppliers.

Thus, the results of the analysis provided (Figures 1 – 6) show the importance of developing partnerships for most of the surveyed companies. The statistical findings on *each of the coordination frameworks* prove the point. At this stage, the authors examine the effect of the development of supply chain partnerships within each of the coordination framework applied, namely, the performance and interaction loss parameters.

In particular, as the analysis shows, the *coplanning framework* has been the most developed in the integration of suppliers and consumers to date (Figure 7). More than 90 % of the total number of surveyed companies use this mechanism in their procurement activities. As can be seen from the chart, the share of coplanning work in the total procurement activities with partner suppliers at such enterprises is on average 49.2 %.

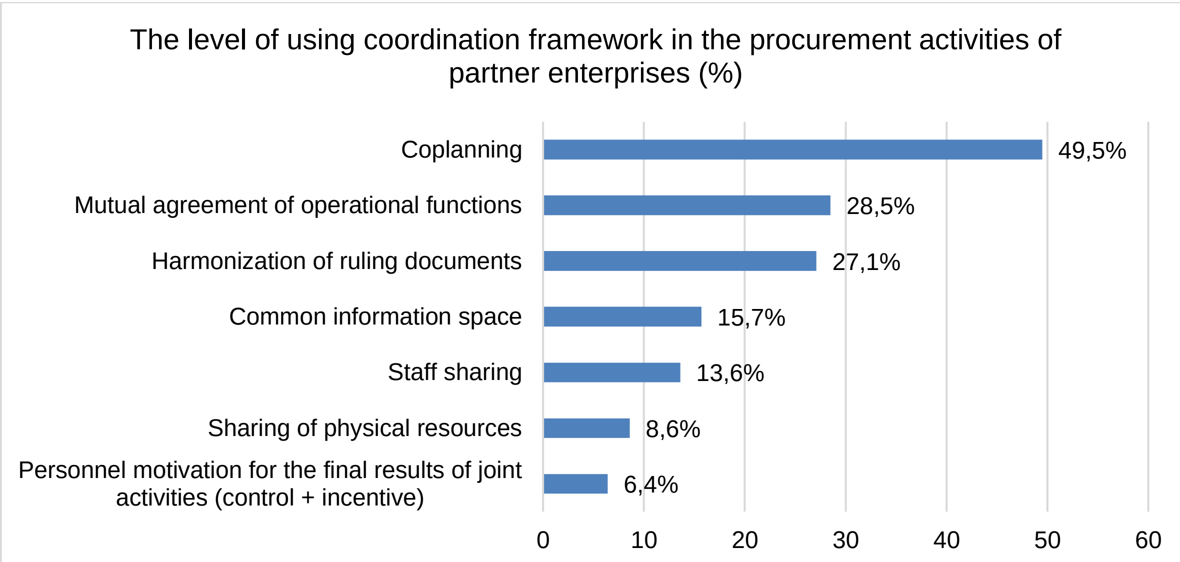
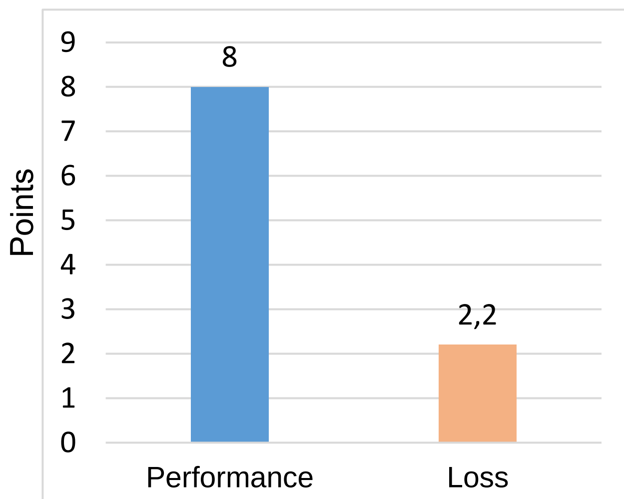


Figure 7
Chart of the level of using coordination framework in the procurement activities of partner enterprises (average values as of 01.03.2020)

Figure 8 presents the final assessment of the coplanning framework in terms of qualitative parameters, in particular the average productivity of procurement coplanning and possible losses of such interaction.

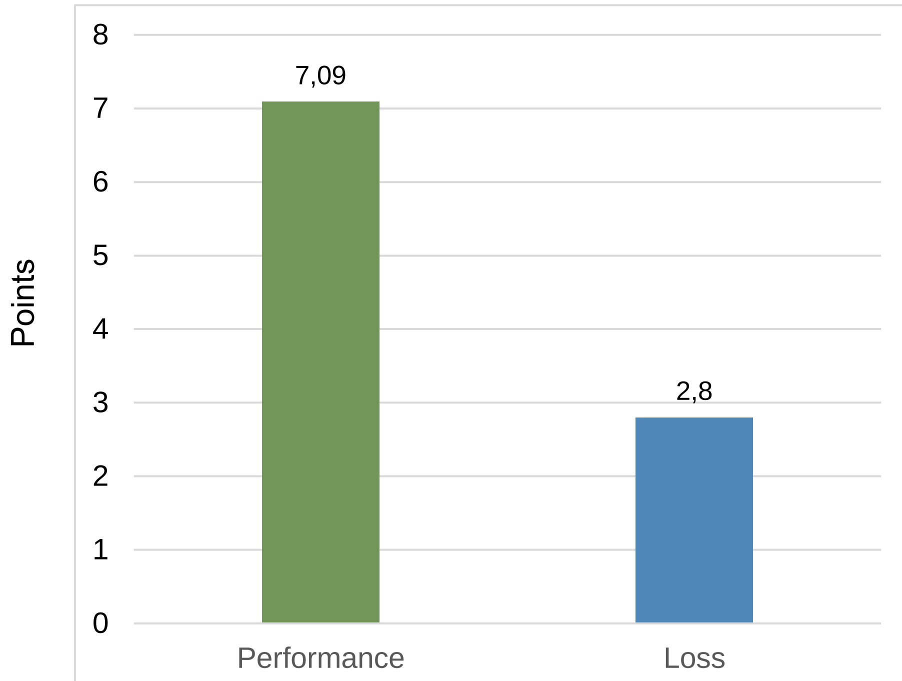


Note: The assessment was made on a ten-point scale, where one was the smallest value, and ten was the highest one.

Figure 8
The performance-to-loss ratio in the use of the coplanning mechanism (average values as of 01.03.2020)

Thus, the majority of the experts of the surveyed companies quite highly evaluate the effectiveness of working with suppliers in the field of procurement coplanning (eight points on a ten-point scale), which is 5.8 points higher than the average of possible risks and indicates sufficient productivity of joint projects of the partner companies in procurement planning.

Experts see a considerable reserve of competitiveness in the effective coordination of the following *operational functions* (in the course of the implementation of the main procurement procedures): the conclusion of contractual relations with suppliers, through procedures for ordering, delivery organization, payment, management of categories of goods and services purchased, contracts management, etc. (Figure 9).

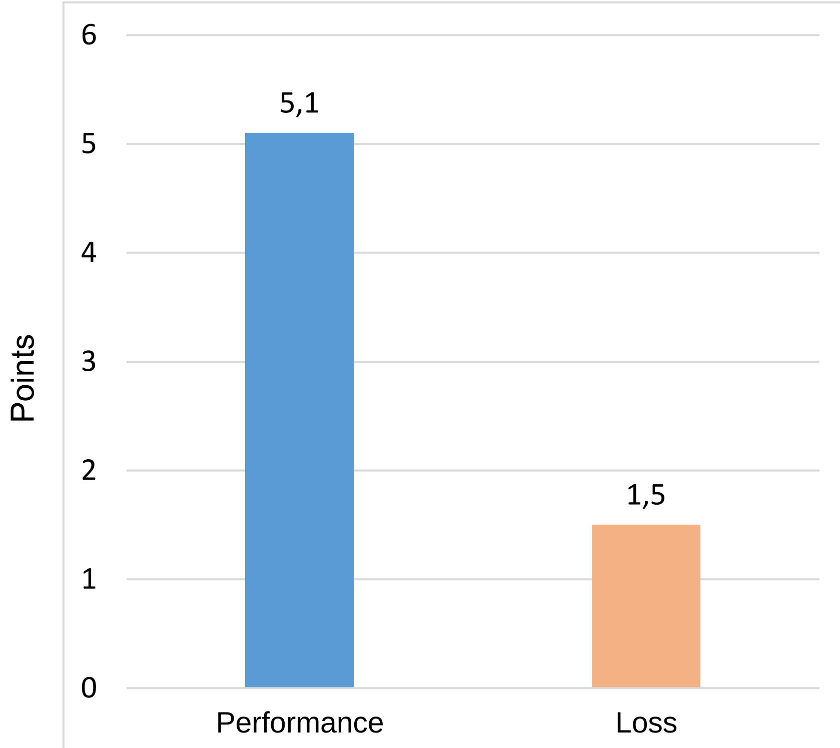


Note: The assessment was made on a ten-point scale, where one was the smallest value, and ten was the highest one.

Figure 9
The performance-to-loss ratio in the mutual approval of the operating functions of partner enterprises (average values as of 01.03.2020)

The study has shown a gap of 4.3 points between performance and losses under the framework of mutual agreement of the partner enterprises' operating activities. In this regard, it is clear that building compromise partnerships in the direct implementation of procurement procedures is by far the most well-established framework for the interaction between suppliers and consumers.

According to the analysis, the ruling documents harmonization framework in the procurement sector ranks third in terms of use (Figure 10).



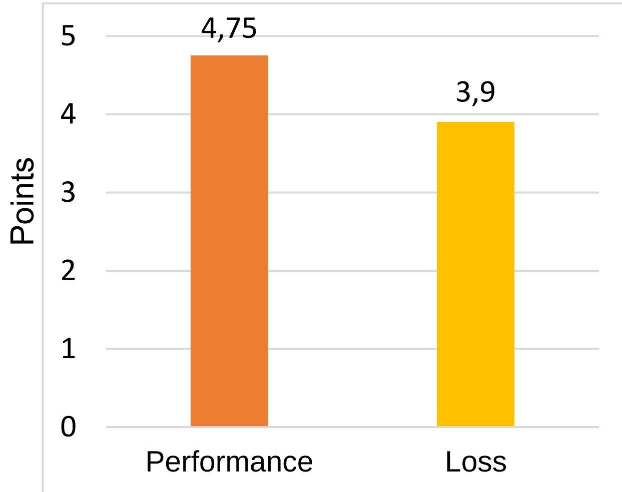
Note: The assessment was made on a ten-point scale, where one was the smallest value, and ten was the highest one.

Figure 10
The performance-to-loss ratio in the use of the harmonization mechanism
(average values as of 01.03.2020)

The combined data in Figure 10 show a gap of 3.6 points between performance and losses from the use of the harmonization framework. The practice of the companies confirms this trend: most of the study participants identified the harmonization framework as one of the most predictable and therefore least risky tools to work with key suppliers.

The high performance in the areas considered shows that manufacturing, trade, and transport enterprises place the greatest emphasis on the procurement coordination at the earliest stages of the process: the formation of a joint development strategy needs planning and the development of harmonized joint documents. According to the CEOs of the majority of the companies involved in the study, joint decisions made in the early procurement stages yield the greatest end results (more than 70 % of the quality of the entire procurement process depends on their effectiveness).

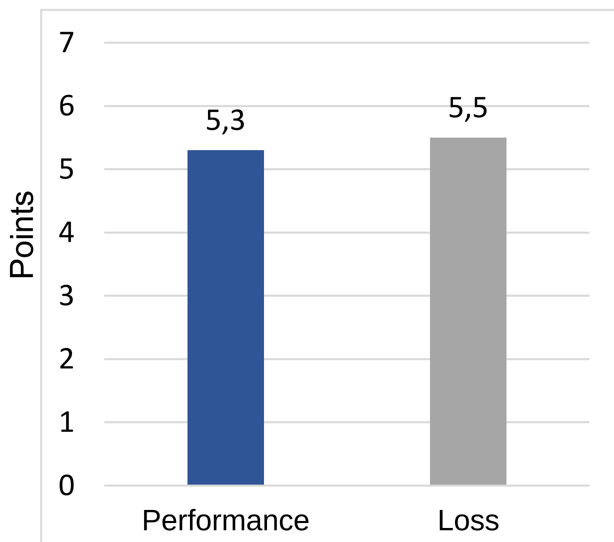
At the same time, according to experts, coordination through the formation and use of single information space of partner companies is gaining an increasing role in harmonizing the areas considered. However, according to the analysis, in terms of averages, the actual impact of the *information resources* sharing exceeds the possible losses by only 0.85 points, which can be associated with fears of information leakage, unpreparedness in the provision of information, the nonmaturity of legal mechanisms in this area, etc. (Figure 11).



Note: The assessment was made on a ten-point scale, where one was the smallest value, and ten was the highest one.

Figure 11
The performance-to-loss ratio in information sharing (average values as of 01.03.2020)

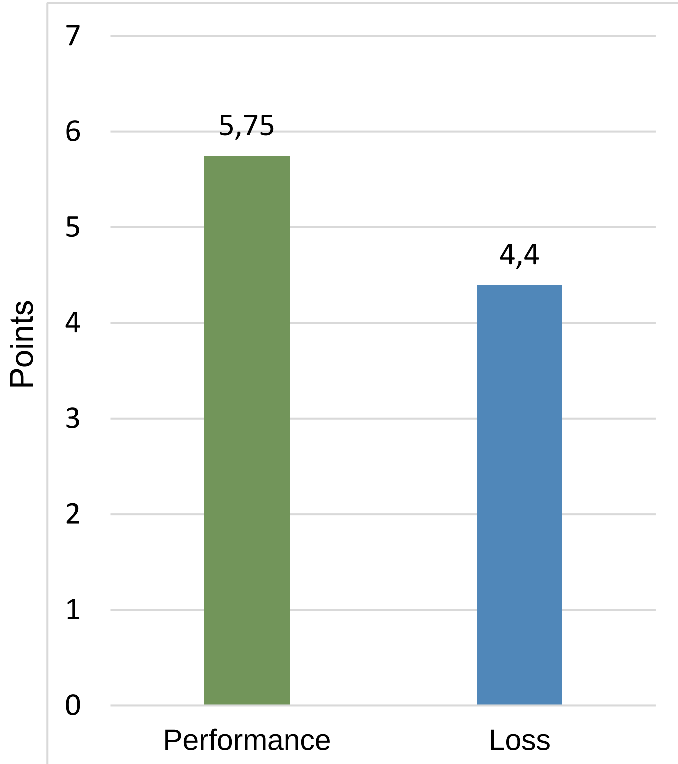
An important mechanism for interorganizational coordination is the *staff sharing,* namely, the involvement of strategic suppliers in the procurement organization, joint implementation of basic procurement procedures, and inventory management. On the one hand, the performance assessment shows a good return on the use of this framework (5.3 points). On the other hand, according to procurement experts, the probability of losses (5.5 points) remains quite significant (Figure 12). It seems that this situation (especially typical for the Russian business) is associated with insufficient “transparency” of the participants in the logistics process, veiled operating activities, lack of interest of suppliers in increasing the competitiveness of the entire supply chain, etc.



Note: The assessment was made on a ten-point scale, where one was the smallest value, and ten was the highest one.

Figure 12
The performance-to-loss ratio in the staff sharing process (average values as of 01.03.2020)

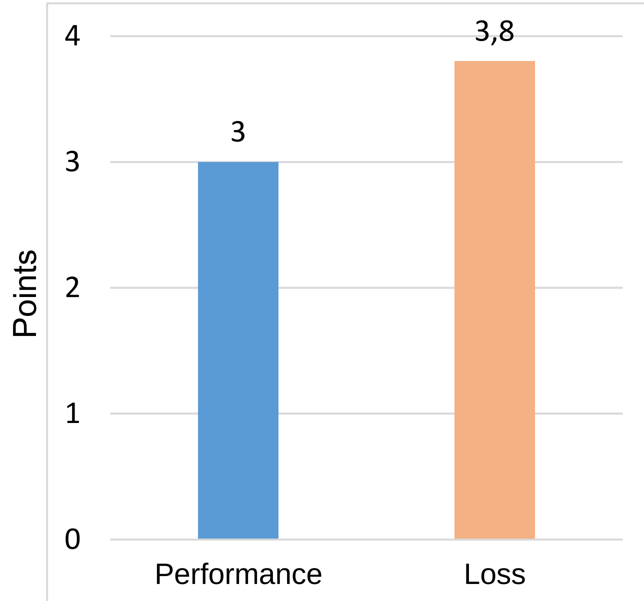
A positive trend is observed concerning the sharing of various types of *physical resources* — transport and storage facilities, equipment, materials, etc. – by partner enterprises. However, currently, only 10 % of the surveyed companies use this approach in their daily practice, noting the prospects thereof (The performance-to-loss ratio under this coordination framework is roughly comparable, with slight bias (of 1.35 points) towards performance) (Figure 13).



Note: The assessment was made on a ten-point scale, where one was the smallest value, and ten was the highest one.

Figure 13
The performance-to-loss ratio under the physical resources sharing framework (values as of 01.03.2020)

Based on the results of the survey, the formation of a *joint staff motivation system* (stimulation and control over the end results) seems to be the least attractive for companies. At the same time, it is this area of joint work with the enterprise suppliers that is assessed as the riskiest one. Assessment of the *motivation* framework shows an excess of possible losses over the average performance by 0.8 points (Figure 14). This situation often appears to be skewed in the control and incentive systems of supply chain participants and, as a result, has a low level of confidence in their effectiveness.



Note: The assessment was made on a ten-point scale, where one was the smallest value, and ten was the highest one.

Figure 14
The performance-to-loss ratio under the motivation framework
(average values as of 01.03.2020)

Thus, the study of the features of joint activities between the suppliers and consumers explains the fact that in the current conditions of the Russian market, the mechanisms of coplanning, harmonization of ruling documents, and mutual agreement of operational procurement procedures are most developed in the relationship between companies and key suppliers. It is this coordination framework that most respondents point to as the most stable, productive, having minimal losses in the joint organization and managing the procurement of partner enterprises.

However, the study is incomplete without assessing the qualitative parameters of the use of coordination framework in terms of their impact on the dynamics of the main *economic indicators* of supply chain participants associated with the procurement activities of enterprises.

Table 1 shows the rating and dynamics of the main indicators related to the procurement activities of the surveyed companies (the data are provided by managers and experts of procurement units of manufacturing, retail, and transport enterprises, as well as warehouse operators). According to the rating formed, the most relevant indicators directly related to procurement activities were the following: profitability, procurement costs, the share of completed order, working capital turnover, and accuracy of price forecasting.

The important parameters also include profit, the share of supply liabilities violations, purchasing flexibility, duration of the order execution cycle, followed by (in terms of significance) the risks of security loss, average inventory level, procurement consistency and sales plan level, the volume of purchases, and level of dependence on suppliers.

Item	**Indicator**	**Indicator rating** (on a ten-point scale, points)	**Indicator dynamics (average values, %)**		**Share of companies with indicator dynamics (%)**
			Growth	**Decline**	
Quantitative:					
1	Profitability (per unit of purchased activity)	9.6	5 – 10 %	-	45.4 %
2	Working capital turnover	9.1	10 – 20 %	10 %	45.3 %, including: 36.3 % — acceleration; 9 % — slowdown
3	Procurement costs	8.6	15 %	10 %	46 %, including: 23 % — decline; 23 % — growth.
4	Gross profit	8.3	16.6 %	-	61.5 %
5	Procurement cycle duration	6.4	-	20 %	15 %
6	Average inventory level	6.2	10 %	16.6 %	38.0 %, including: 23 % — reduction; 15 % — growth.
7	Volume of procurement	6.1	26 %	-	38 %
Quality:					
8	Share of completed order	8.7	31 %		54.1 %
9	Share of supply liabilities violations	7.7	-	22.5 %	32 %
10	Level of consistency in procurement and sales plans	7.3	23.3 %	-	46 %
11	Procurement flexibility	8.0	22 %	-	38.5 %
12	Price forecasting accuracy	7.5	17.5 %	-	30.7 %
13	Supplier Dependency Level	6.2	12,5 %	20 %	39 %, including: 8 % — decline; 31 % — growth.
14	The threat of security loss	6.5	20 %	20 %	23 %, including: 15 % — decline; 8 % — growth.

Table 1

Rating and dynamics of the main indicators of procurement activities of the companies following the use of coordination frameworks (average values as of 01.03.2020)

Analysis of the most relevant of these quantitative and qualitative indicators allows to conclude the following:

— Most participants consider *profitability* to be a significant parameter reflecting the performance of joint procurement activities. Nearly half of the surveyed companies showed an increase in this parameter for 2019 as a result of the use of various coordination frameworks. At the same time, the most developed interaction frameworks with suppliers include coplanning — up to 70 % in the volume of procurement planning with key suppliers, harmonization of the ruling documents in the procurement sector — 76 % in the total volume of documentation used, the mutual agreement of operating activities — about 66 % in the total volume of procurement procedures carried out jointly with supplier partners.

— More than 72 % of the experts surveyed named the *share of completed order* as the main qualitative indicator of the procurement effectiveness. More than 54 % of the companies noted an increase in the share of completed order over the last year, on average, by 31 %. This is due to the development of interaction with strategic suppliers. At the same time, the coordination of operational activities has played a significant role in improving this indicator, since the rapid provision of reliable information certainly increases the level of timeliness and accuracy of customer orders.

— The quality of enterprise interaction is a clear indicator of *procurement flexibility.* By the end of 2019, more than 38 % of the companies using different frameworks of joint activity with suppliers had noted an improvement of this parameter, on average, by 22 %. At the same time, the enterprises most actively developing coordination frameworks such as coplanning and shared use of logistics infrastructure had the best values. This situation demonstrates the willingness of suppliers to promptly change contractual obligations for deliveries for the benefit of their customers in the context of mutually beneficial procurement planning, as well as in cases where consumer enterprises provide their own logistics infrastructure to partners, etc.

— The analysis of the *consistency of procurement and sales plans* reflects the positive dynamics of the enterprises jointly planning purchases and sales for the entire supply chain. To this end, the staff of the partner companies is actively involved in the coplanning process. In these circumstances, supplier's sales experts are directly involved in the formation of procurement plans and further sales of their customers, taking into account the specifics of their production or trading activities, and inventory level, etc. As a result, by drawing up procurement plans together with suppliers under the sales plan forecasts agreed with trading partners, enterprises gain additional leverage to optimize inventory and logistics costs throughout the supply chain.

Discussion

1. The analysis of key trends in logistics and supply chain management shows that most of the problems associated with managing the procurement of manufacturing, trade, and transport enterprises are determined by the *lack of development of partnerships* between suppliers and consumers and, as a result, the low level of interorganizational coordination of supply chain participants. According to the authors, the most important is the optimization of coordination frameworks in the SC: from selecting suppliers, entering into a contractual relationship with them, and agreeing on operating procedures to forming a partnership strategy.

2. As the study has shown, the heads of more than 80 % of the companies were aware of the benefits of a partnership with suppliers and planned to develop it (Figure 1). At the same time, the comparison of the share of effective and risky projects allows concluding that the performance of joint activities is 4 – 5 times higher than the possible losses. However, the share of strategic partners in the total supplier base of the surveyed companies remains low and does not exceed 20 – 25 %. Foreign manufacturing and trading companies operating in Russia (especially in the food and automotive industries) demonstrate the most active development of partnerships. Indicators of Russian enterprises are more modest, which in the authors' opinion, is due to the insufficient maturity of purchases, "opacity" of business, fears of loss of commercial information, the orientation of business towards the short term and maximum generation of the current profits, lack of incentives to work on a single end result, etc.

3. The analysis of the main areas of joint activity in the supply chain has shown that *coplanning* at the moment is the most advanced interorganizational coordination framework. It is used by almost 90 % of the surveyed companies. On average, coplanning accounts for more than 50 % of the total joint procurement activities of partner enterprises.

4. The share of motivation and sharing of material resources is low in the practical activities of enterprises. Currently, less than 10 % of the surveyed companies use such approaches in their daily business activities. In our view, this is due to their underestimation of the management of many companies and is considered to be high-risk due to the lack of development of control systems and incentives for participants in supply chains, weak regulation of economic and legal instruments of resource integration of enterprises and, as a result, their insignificant impact on improving the economic performance of the companies.

5. The use of logistical coordination framework in the procurement activities of the companies has a different effect on the dynamics of key *economic indicators.* As the analysis has shown, the development of joint planning, harmonization of ruling documents, and mutual agreement of operational functions of partner enterprises had the greatest impact on improving the performance of enterprises. The effectiveness of their use was noted by the experts at nine to ten points on a ten-point scale. The use of these coordination mechanisms has the greatest impact on profitability growth, lower procurement costs, optimization of the stock of partner enterprises, increase in the share of completed order, and increase in the consistency of procurement and sales plans.

Joint procurement activities have lesser impact on the working capital turnover, the share of supply liabilities violations, and procurement and supply flexibility. Significant improvements in these parameters are only seen when coplanning is used by enterprises.

6. The current trends in the global and Russian markets against the background of the COVID 19 coronavirus pandemic have significantly affected and continue to affect changes in demand for many products, the decline in production in some industries and sectors of the economy, and dramatic changes in sales technologies in both retail and supplier manufacturers for trading and logistics companies. Many factors, both economic and socio-political ones, are associated with this. The inevitable and, in some cases, accelerated transition of many companies to the digital format, automation of processes of management of orders, customers, relationships with suppliers, expansion of online applications to provide online services to customers — all this required restructuring and rapid adaptation to the new market environment. On the one hand, these processes and changes require decision-making in business management, coordination with partners to build new supply chains, constant monitoring of sales and procurement, and on the other hand, they place enterprises under the austerity of almost all kinds of resources. If the FMCG market as one of the most highly liquid ones is analyzed, it should be noted that it is characterized by unstable demand, panic demand, the purchase of some types of products in stock, and therefore difficulties in sales forecasting. According to some estimates, the share of online purchases and sales in E-Commerce in the FMCG market has almost doubled. While in 2019, in Russia, the share of electronic sales was 1.9 % in monetary terms, in March 2020, this value increased to 3.2 %. This, in turn, has influenced the growth of the needs of manufacturers and retailers in various product delivery services, thereby leading to a trend towards the exclusion of intermediaries from supply chains and the development of a direct retail channel from the manufacturer to the customer in E-Commerce. Thus, it is becoming clear that the current trends in the modern economy influence both changes in supply chain structure and partner coordination decisions. The

situation related to the COVID 19 coronavirus pandemic in 2020 has impacted and will continue impact the economic and financial stability, the sustainability of producers of different categories of products, suppliers, intermediaries, and their supply chains. The new interaction environments of supply chain participants are likely to impact the change in priorities in assessing the quality criteria for interorganizational coordination. Firstly, if the economy in Russia actively develops in the Sharing-economy format, the importance of strategic partnerships with suppliers as well as the share of resources sharing (from information, material, and financial resources to technologies in logistics, sales) increase. Secondly, the ratio of performance-to-loss coordination frameworks will also change. According to the authors, the risk component in coplanning, operational functions, manpower use, staff motivation, supplier evaluations is increasing but may decrease in the use of integrated information platforms for supply chain participants. Of course, this implies a new study, which should be based on the analysis of market trends undergoing dramatic changes in the development of dynamic supply chains.

Conclusion

The results of the study make it possible to draw the following **conclusions**:

— The analysis of the current trends in the interaction of supply chain participants allows to conclude as follows: the more companies invest in the development of relationships with key suppliers at the earliest stages of their procurement activities, the more quickly the necessary adjustments are made, and the fewer opportunities there will be in the future, during the implementation of subsequent procurement procedures, to make wrong decisions (which, often, in the final procurement stages can no longer be corrected);

— The study of qualitative parameters related to the condition of logistics coordination framework in the procurement activities of Russian and foreign companies operating in the domestic market enables enterprises to objectively assess the main areas of joint development in supply chains and identify areas for further optimization of procurement processes; and

— The next stage of the research involves a comprehensive assessment of the actual level of logistics coordination of manufacturing, transport and forwarding, and trading companies based on the calculation of general and individual logistics coordination indices. The authors believe that the use of the proposed method will determine the economic feasibility of investing in the development of partnerships with suppliers.

The study allows the authors to note that the coordination of partners in the supply chain and its impact on the competitiveness of the participants in the supply chain are little studied and require further research into the methods and management framework. The current trends in the economy have significant impact on the change in interaction strategies and priorities taking into account the influence of environmental factors, risks of interaction, investment in online technology. This may be due to the changes in the performance-to-loss ratios taking into account the use of additional frameworks.

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