

# Forms of Interaction Between Supply Chain Strategy and Business Structures in the Far Eastern Federal District

Tatyana V. Varkulevich<sup>#1</sup>, Natalya R. Pashuk<sup>#2</sup>

<sup>#1</sup>Department of Economics and Management

<sup>#2</sup>Department of Economics and Management, Vladivostok State University of Economics and Service, Vladivostok, Russian Federation

**Abstract-** For Supply Chain executives the first step is to clearly understand how the enterprise chooses to compete. This is important not only for the obvious reason of working together in the same direction, but also because Supply Chain has to enable the Business Strategy; it is not merely an operational department. According to the data of survey conducted by the All-Russian Center for the Study of Public Opinion, more than half of the employers of the Far Eastern Federal District are faced with the problems of staffing, which is explained by the inconsistency of the requirements of enterprises with the quality of supply chain strategy. The organization of cooperation between business structures and supply chain strategy of the region ensures an increase in the quality of performance, stimulates a decline in unemployment and population shift from the Far East, which affects the socio-economic development of the federal district. In addition, the university-enterprise partnership helps to reduce the time for the development and implementation of research products, the commercialization of knowledge, the development of entrepreneurship, and, as a result, an increment in GRP and the innovative potential of the region. Therefore, the main objective of this article is to analyze the main forms of collaboration between supply chain strategy and business in the Far Eastern Federal District to determine the regions of the Far Eastern Federal District and supply chain strategy, which are characterized by a high degree of involvement of the business sector of economic activity into the activities of management. The main sources of information were informational and analytical materials for monitoring the performance of institutes in 2018. To provide thematic justification of the research, an analysis of the regulatory framework for the purpose of identifying the role of business structures in solving the socio-economic problems of territories has been carried out.

**Keywords:** Supply chain strategy, business structures, university-business collaboration, forms of interaction in the field of education, higher education, small innovative enterprises, employers.

## 1. Introduction

The Far Eastern Federal District of the Russian Federation is the largest federal district in the country, and covers the territory of the Far East and Eastern Siberia of Russia, with an area of 6 952 555 km<sup>2</sup>. Nevertheless, in the Trans-Baikal Territory, the population of which is only 19% less than in the Khabarovsk Territory, and the area is 45%, only two supply chain strategy function. Supply chains can have different organization structures that reflect the business relationship or degree of collaboration between companies in the chain. These structures range from informal relationships, in which companies make occasional purchases from a diverse group of suppliers, to joint ventures or integrated supply chains where there is a

high degree of collaboration and dependency.

The achievement by supply chain strategy of top-priority goals in educational, research and social activities is facilitated by the organization of interaction with business structures, this fact is reflected in current fundamental documents of educational state policy [1, 2]. To assess the role of business in the development of higher education, the authors have explored the regulatory framework in the field of educational public policy which includes: collecting information on public policy in education, assessing its relevance, summarizing information on priority areas of the university (educational, scientific and research and social) and its analysis.

According to the draft Concept for the Development of Recurrent Adult Education in the Russian Federation for the period until 2025 [3], submitted for consideration in May 2015, the coordination of efforts to implement the development strategy for ongoing education is carried out through the activities of public management institutions, which include industry-specific public associations employers.

Leaders of the business community are involved in the work of the Council to increase the competitiveness of premier supply chain strategy of the Russian Federation among the world's leading scientific and educational centers within the framework of state support measures for premier supply chain strategy of the Russian Federation [4].

Also, grants from the federal budget in the form of subsidies are provided to legal entities and self-employed entrepreneurs as part of the implementation of certain activities of the "Education" national project and the "Digital Economy" national program of the "Development of Education" state program of the Russian Federation [5].

For the purpose of narrowing of the gap between the qualifications received by graduates of vocational education organizations (primarily in terms of their practical component) and the requirements of employers, the role of "corporate education" is being strengthened, which implies shop training, community of practice, professional conferences and seminars, and overall implementation of integrated training programs [3].

According to the Passport of the priority project "Development of the Export Potential of the Russian Education System" [6] in order to increase the attractiveness of educational programs for training, retraining, further training of foreign citizens in Russian educational organizations, an interdepartmental working

group with the participation of representatives of business, state corporations, academic community will be founded.

To improve the quality of scientific research and technological developments carried out by Russian supply chain strategy, the Presidium of the Presidential Council for Strategic Development and Priority Projects which also incorporates the business community has approved "The Priority Project Passport of "Supply chain strategy as Centers for Creating Innovation" [7].

Also, the Concept for the Development of Recurrent Adult Education in the Russian Federation for the period until 2025 [3] includes the implementation of measures to support programs aimed at training entrepreneurs, including those delivering social projects and programs.

Thus, the participation of the business economic sector, employers' unions and associations stimulate exchange of best practices between business structures and supply chain strategy of the country and individual regions, which generates appeal of educational programs, the quality of scientific developments of supply chain strategy and businesses through training specialists that satisfy the requirements of employers.

## 2. Research Methods

In a basic supply chain, the lead company forms a series of relationships with companies that buy and sell supplies from each other. Each company issues and processes purchase orders on demand. There is no integration of supply or quality standards and little collaboration. Although lead companies have access to suppliers, they may face problems caused by fluctuations in supply capacity, delivery reliability or quality. With the view of assessing the cooperation between the supply chain strategy of the Far Eastern Federal District and business structures, the authors have undertaken the analysis of the main forms of cooperation based on the use of information search methods, content analysis, comparative analysis.

The present study comprises the following stages:

1. collecting information on the activities of supply chain strategy and assessing its reliability and relevance;
2. analyzing and synthesizing the information on indicators that characterize the experience of interaction between supply chain strategy and business structures, and other indicators that form the business credibility of higher education organizations;
3. drawing conclusions concerning the degree of involvement of business structures into the activities of supply chain strategy.

The main reference sources are:

- 41 official websites of the supply chain strategy of the Far Eastern Federal District;
- information and analytical materials on the results of monitoring the effectiveness of higher educational institutions in 2018.

The indicators that characterize the supply chain strategy-business collaborative experience are as follows:

1. the share of university events held with the involvement of business structures for the last calendar year;
2. the overall proportion for students from third-party organizations who have undergone training

according to recurrent education programs or professional retraining;

3. the number of enterprises with which contracts for the training of specialists have been concluded;

4. the number of enterprises that are the basis of practice with which contractual arrangements are entered into;

5. the number of business incubators;

6. the number of technological parks;

7. the number of core facilities centers;

8. the number of small university-based enterprises;

9. The share of extra budgetary funds received from the commercialization of research in the general income of university.

Fidelity and relevance of the gathered information was determined through exploring official sites, choosing their actual versions and the content of the information presented on the relevant webpages.

## 3. Discussion

For the purpose of determining the share of events held by the supply chain strategy of the Far Eastern Federal District to involve business structures, a content-analysis of news feeds of official websites of institutions for the last calendar year has been done. Therefore, a well-executed supply chain strategy results in value creation for the organization. It can be concluded from the results of the content-analysis that a high level of business involvement in university's educational, research and social spheres is observed in Vladivostok State University of Economics and Service, Vitus Bering Kamchatka State University and Kamchatka State Technical University, where entertainments provided in order to involve businesses for the last calendar year has amounted to 8.3%, 8.2% and 5.4%, respectively.

According to the total share of students from third-party organizations who have been trained under the programs of advanced training or professional retraining, the first place is occupied by the Far Eastern State Agrarian University, for which this indicator is 100%. The value of this indicator varying from 90 to 99% is typical for another 19 supply chain strategy of the Far Eastern Federal District, including eight supply chain strategy in the Primorsky Territory, three supply chain strategy in Yakutia, two supply chain strategy in the Khabarovsk and Kamchatka Territories, one university each – in the Amur, Magadan Regions, the Republic of Buryatia and the Trans-Baikal Territory.

Among the higher educational institutions of the Far Eastern Federal District, the East Siberian State University of Technology and Management ranks the first in the number of enterprises with which contracts for the training of specialists are concluded, this indicator of the university is 595 enterprises, which is twice as much as that of the second-best M. K. Ammosov Northeast Federal University. This indicator being lower than average is characteristic of 26 supply chain strategy of the Far Eastern Federal District, which is calculated for supply chain strategy that provided information for performance monitoring, and amounts to 56 enterprises.

The average number of enterprises with which supply chain strategy of the Far Eastern Federal District have entered into contract and which are the basis of student practices is 389 organizations. It is worth noting that the Far Eastern Federal University has established itself as leading choice by 6,189 organizations. On the basis of the Far Eastern Federal University supply chain strategy, 13 business incubators have been created to support projects of young entrepreneurs at all stages of development. Three business incubators per region are located in the Primorsky, Khabarovsk Territories and the Republic of Buryatia, two – in the Amur Region, and one incubator each – in the Yakutia and the Trans-Baikal Territory, while two business incubators have been created only on the basis of the Far Eastern Federal University.

Technological parks are also an important platform stimulating the establishment of strong bilateral ties

between supply chain strategy and business structures, which is understood as an organization the main goal of which is to modernize the welfare state of the local community by means of promoting innovative culture, business and scientific organizations via managing the flow of knowledge and technology between supply chain strategy, research institutes, companies and markets.

The presence of core facilities centers at supply chain strategy (hereinafter, CFC) is one of the factors affecting the supply chain strategy appeal for business structures in the research field. In the territory of the Far Eastern Federal District, 34 CFCs operate, the main share of which is concentrated in the Khabarovsk Territory and the Sakhalin Oblast. The structure of the centers for collective usage of scientific equipment of the supply chain strategy of the Far Eastern Federal District by subjects of the federal district is presented in Figure 1.

The Structure of the CFC of the Universities in the Far Eastern Federal District Showing the Territories of the Federal District

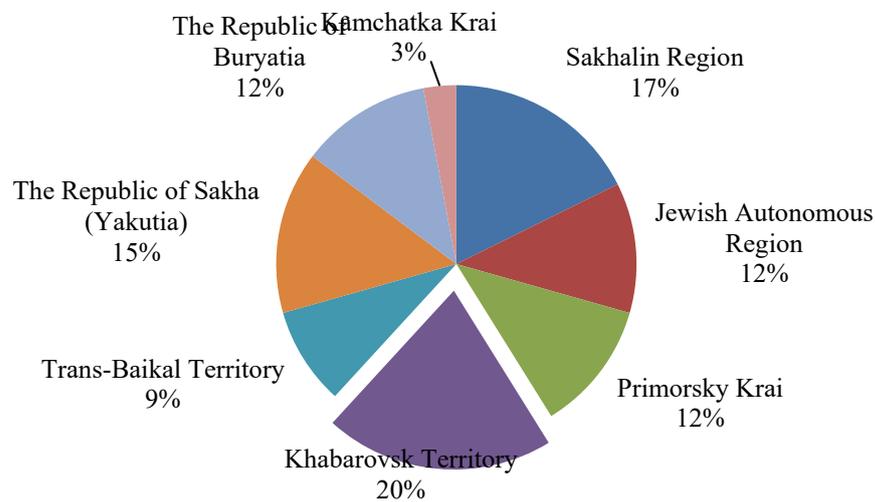
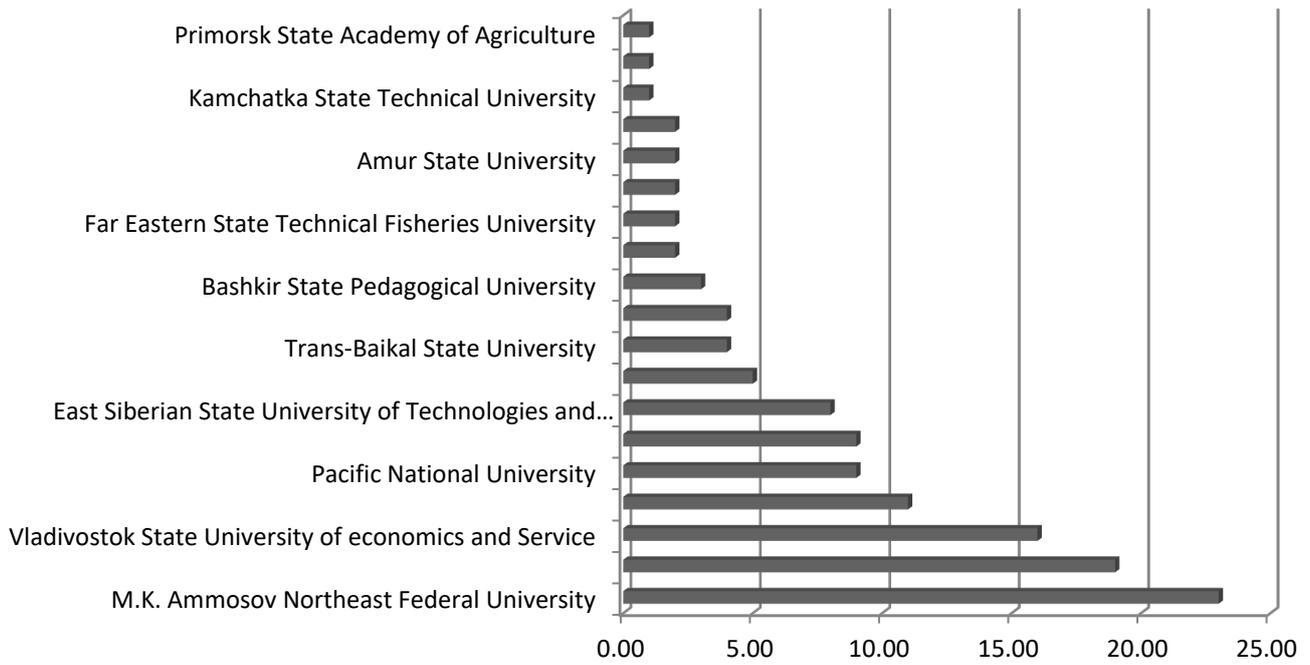


Figure1. The Structure of CFC in the Supply chain strategy of the Far Eastern District Showing Subjects of the Federal District

The Core Facilities Centers have been founded in 16 supply chain strategy of the Far Eastern Federal District, 30% of which accounts for Sakhalin State University and Sholom-Aleichem Priamursky State University. One of the indicators assessing the scientific potential and supply chain strategy' entrepreneurial expertise is the number of small innovative enterprises established on the basis of an educational institution. The establishment of SIEs on the

basis of an educational institution promotes not only the commercialization of scientific developments, but also building business relationships [8-10].

In the territory of the Far Eastern Federal District there are 124 small innovative enterprises, 69% of which is concentrated in supply chain strategy of the Primorsky Territory.

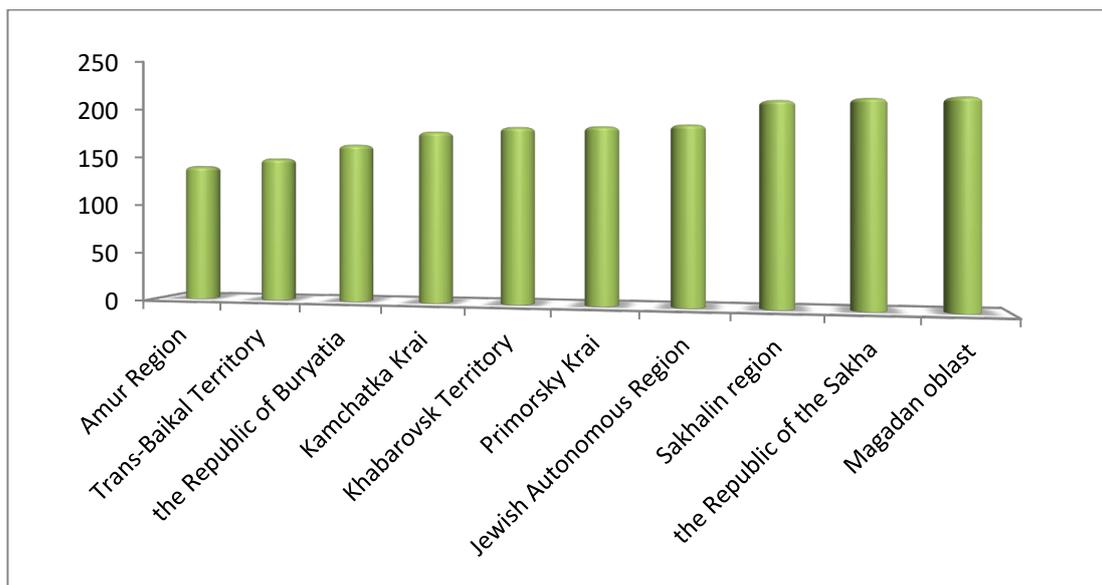


**Figure 2.** The Number of SIEs of the Supply chain strategy of the Far Eastern Federal District

The University on the basis of which the largest number of SIEs in the Far Eastern Federal District has been established is M.K. Ammosov Northeast Federal University, located in the Republic of Sakha (Yakutia). The economic component of university activities which characterizes the experience of cooperation with business is the assessment of the share of extra-budgetary funds received from the commercialization of research in the total income of the university. Moreover, if the educational organization was able to implement its own development to economic entities, it meant that they had a satisfactory quality for the business community. The average for the region is the value of the following index – 2.7%, the highest average for the analysis is typical for the

Khabarovsk Territory thanks to the indicator of the Amur State University of Humanities and Pedagogy, equal to 12%.

To summarize the results of the analysis, supply chain strategy with the highest value gained the lead in terms of each indicator, with a lower value – the second-best, etc. Then, all the places received for all indicators were added. To calculate the aggregate indicators for the regions, the sums of places were divided by the number of supply chain strategy. The constituent territory of the federation being most attractive for interacting with business is characterized by the lowest score. The points for the regions of the Far Eastern Federal District are presented in Figure 3.



**Figure 3.** The Sum of Places for Indicators in the Region per University on Average

#### 4. Conclusion

The main contribution in this research can be summarized as:

- The analysis of the main forms of cooperation between the supply chain strategy of the Far Eastern Federal District and business structures relying on the use of information search methods, content analysis, comparative analysis;
- The exploration of the official websites of all supply chain strategy of the Far Eastern Federal District concerning the proportion of events of the last calendar year with the involvement of business structures.

Summarizing the results of the analysis, we can conclude that, on average, in the territories of the Far Eastern Federal District, the greatest involvement of business in the activities of higher education organizations is observed in the Amur Region, the Trans-Baikal Territory, and the Republic of Buryatia. The supply chain strategy defines how the supply chain should operate in order to compete. The BS involves leveraging the core competencies of the organization to achieve a defined high-level goal or objective. It also includes the analytic and decision-making process to define what to offer (products and services), when to offer (timing, business cycles), and where to offer (markets and segments) as a competitive plan. While the business strategy constitutes the overall direction of an organization, the supply chain strategy constitutes the actual operations of that organization and of the extended supply chain to meet specific supply chain objectives.

#### References

- [1] Lazarev, G.I., Krivoschapova, S.V., Krivoschapov, V.G., Yarygin, A.N. (2018). University integration management algorithm in the national innovation system. *Journal of Social Sciences Research*, 2018 (Special Issue 5), 310-315 (doi:10.32861/jssr.spi5.310.315);
- [2] Shelomentsev, A., Kozlova, O., Antropov, V., Terentyeva, T. (2018). Buildup of federal supply chain strategy' social responsibility in the context of development of Russia's regions. *World Review of Entrepreneurship, Management and Sustainable Development*, 14 (1-2), pp. 187-204 (doi: 10.1504/WREMSD.2018.089068);
- [3] The concept of development of continuing education of adults in the Russian Federation for the period until 2025 (2015), available at: [http://ipk.bspu.ru/sites/default/files/koncepciya\\_razvitiya\\_nepreryvnogo\\_obrazovaniya\\_vzroslyh.docx.pdf](http://ipk.bspu.ru/sites/default/files/koncepciya_razvitiya_nepreryvnogo_obrazovaniya_vzroslyh.docx.pdf) (Accessed 7 May 2020);
- [4] Decree of the Government of the Russian Federation of March 16, 2013 N 211 "On measures of state support for leading supply chain strategy of the Russian Federation in order to increase their competitiveness among the world's leading scientific and educational centers" (as amended), available at: <https://base.garant.ru/70336756/> (Accessed 17 April 2020);
- [5] Passport of the national project National Program "Digital Economy of the Russian Federation", available at: [https://digital.gov.ru/uploaded/files/natsionalnaya-programma-tsifrovaya-ekonomika-rossijskoj-federatsii\\_NcN2nOO.pdf](https://digital.gov.ru/uploaded/files/natsionalnaya-programma-tsifrovaya-ekonomika-rossijskoj-federatsii_NcN2nOO.pdf) (Accessed 7 May 2020);
- [6] Passport of the priority project "Development of the export potential of the Russian education system" (2017), available at: [https://digital.gov.ru/uploaded/files/natsionalnaya-programma-tsifrovaya-ekonomika-rossijskoj-federatsii\\_NcN2nOO.pdf](https://digital.gov.ru/uploaded/files/natsionalnaya-programma-tsifrovaya-ekonomika-rossijskoj-federatsii_NcN2nOO.pdf) (Accessed 7 May 2020);
- [7] Passport of the priority project "Supply chain strategy as centers of the space for creating innovation"(2016), available at: <https://legalacts.ru/doc/pasport-prioritetnogo-proekta-vuzy-kak-tsenry-prostranstva-sozdanija-innovatsii/> (Accessed 5 May 2020);
- [8] Arnaut, M.N., & Letyaga P.S. (2016). "Research and analysis of factors affecting the activities of small innovative enterprises created on the basis of supply chain strategy" *Azimuth of Scientific Research: Economics and Management*, 5, 4 (17), 19-22.
- [9] Shashlo, N.V., Petruk, G.V., & Korostelev, A.A. (2018). Determinants of integration interaction among the subjects of the entrepreneurial innovation ecosystem of macro region Amazonia *Investiga*. 2018, No. 7, pp. 351-363
- [10] Shashlo, N.V., & Petruk G.V. (2017). The Structure of CFC in the Supply chain strategy of the Far Eastern District Showing Subjects of the Federal District, *University Management: Practice and Analysis*, 21(5), 93-103.