Logistic Integration of Trading Service Facilities: Spatial Aspect

Y. Kuzmenko, A. Levina, I. Savelyeva and S. Aliukov

***Abstract*— One of the most actively developing economic sectors in the world is trade, however, in spite of the high pace of development, there are difficulties in trading environment, which are connected with toughening of competition and a need of enterprises for optimizing all types of costs. One means of increasing competitiveness of trading service enterprises is to introduce modern logistics tools, namely, to apply an aggregate of methods and models of integrated logistics and spatial placement of retail facilities. The paper proposes a technical approach to choosing a place for placement of trading service facilities on the basis of the level and kind of logistic integration, which includes an invariant approach to creating a "consumer pathway". Owing to an increasing trend towards limiting the choice of ground areas for establishing large trading service facilities or due to the absence of ground areas within the city limits in large cities, we propose the options providing the choice of a place for placement within the limits of a city's district, on a city's territory and out of town; we also propose a way of creating the transport, warehouse and trading infrastructure. This approach allows modeling the scripted development of a region's trade in the long run and adjusting the existent consumer flows at the city level, which are one of the main vectors of development of modern logistics.**

***Index Terms*— Logistics, logistic integration, spatial placement of facilities**

I. INTRODUCTION

NOWADAYS, trade is one of the most actively developing sectors of economic activity both in Russia and in the world. According to the estimates of leading business practitioners [10, 15, 22, 25, 27], a certain phase of trade development has been observed over the recent decade in Russia; it is characterized by further structuring of the trade market with supremacy and accelerated development of network organization of business under increasing competition. The Development Strategy for trade up to 2020, which sets the vector of trade development, also states that trade is growing fast.

At the same time, in spite of stable conditions of trading field against the background of general condition and development dynamics of other sectors of economy, negative trends can also be observed. They are the level of coverage of modern retail areas per population, common level of development of transport logistics market, toughening of competition as a result of introduction of more effective trading techniques.

One means of increasing competitiveness of trading service enterprises, according to a number of experts [19, 21, 24, 28], is to introduce modern logistics tools and supply chain management. Active development of consumer market entails essential consolidation of logistics and supply chain management (SCM), which is caused both by the increase in flows of goods and in the necessity of cost reduction under the conditions of aggravating competition and by generally higher demands of population on the range and quality of trading service.

Assuming that the role of trade as a natural channel for disposing manufactured goods and satisfying the demand has significantly increased, its further qualitative development is impossible without using the methodology of integrated logistic models and methods together with modern theories of spatial organization of trading facilities.

Application of methods and theories of logistic integration and spatial organization of trading facilities in aggregate aims to reduce time and financial expenditures, connected with supply of goods and services; to meet the requirements of trading technological process, outlined by enhancement of quality of trading services; to form and develop modern distribution centers and transport infrastructure under the conditions of concentration of capital and aggravation of competition.

II. TECHNICAL APPROACH, LOGISTICS

The research aims to develop a technical approach to placement of trading service facilities on the basis of logistic integration, which increases the competitiveness of trading service facilities on the whole and the efficiency of their activity, and also allows modeling the development of the trading service sphere of a region in the long run.

Trading service sphere represents an alliance of retail trade and public catering system; they are integrated due to the similarity of the main functional feature of disposal of goods, products and services, secondly, the spheres have common consumers, thirdly their logistic cannels are similar and have the same orientation of flows (material, financial, informational, etc.).

Development of the trading service sphere frequently brings up the issue of optimum placement of its facilities,

Manuscript received March 04, 2017.

The work was supported by Act 211 Government of the Russian Federation, contract № 02.A03.21.

Y. G. Kuzmenko is with the Higher School of Economics and Management, South Ural State University, 76 Prospekt Lenina, Chelyabinsk, 454080, Russian Federation (e-mail: mim@susu.ac.ru).

A. B. Levina is with the Higher School of Economics and Management, South Ural State University, 76 Prospekt Lenina, Chelyabinsk, 454080, Russian Federation (e-mail: mim@susu.ac.ru).

I. P. Savelyeva is with the Higher School of Economics and Management, South Ural State University, 76 Prospekt Lenina, Chelyabinsk, 454080, Russian Federation (e-mail: mim@susu.ac.ru).

S. V. Aliukov is with the Higher School of Economics and Management, South Ural State University, 76 Prospekt Lenina, Chelyabinsk, 454080, Russian Federation (corresponding author, home phone: +7-351-267-97-81; sell phone: 8-922-6350-198; e-mail: alysergey@gmail.com).

ISBN: 978-988-14048-3-1
ISSN: 2078-0958 (Print); ISSN: 2078-0966 (Online)

trading enterprises and public catering enterprises of different types, kinds and scale.

Traditionally logistics has attached much importance to the issues of spatial placement of market economy facilities. Over the last decades a powerful toolset has been developed; although it is based on complicated mathematical methods, it allows determining the most advantageous places for placement trade facilities on a certain territory [1-9; 11-14].

At the same time along with the issues of spatial placement of trading facilities, significant attention is paid to the increasing trend towards their integration [16-21, 23-24, 26]. Integration on logistics principles in the sphere of trading service first started to take place in the early 70's of the XXth century in the form of trade organizations, unions and corporations. Since 2000 vertical and horizontal integration and creation of trade associations, unions, voluntary chains and retail chains have widely spread.

From our point of view, logistics methods act as a reliable tool of risk reduction and competitiveness enhancement of an enterprise. Joint use of logistics and integration tools will result in a synergistic effect.

Thus, addressing the issues of spatial placement of trading facilities as interrelated with the trend towards their integration on logistics principles takes on special significance. It is noteworthy that the efficiency of placement of trading service facilities depends on the influence of a wide range of factors, the list of which will vary and depend on the level of logistic territory.

We define logistic territory as a territory, where interaction between a trading service enterprise and an ultimate consumer takes place, resulting in the completion of trading service delivery.

When placement, it is important to determine the type and kind of the trading service enterprise depending on the business scale and the enterprise capacity. Concentration of these constituents in a well-defined hierarchy represents a technical approach to placement of trading service facilities on the logistic territory (Table I).

We distinguished such kinds of logistic integration as functional, i.e. integration of enterprises inside one field of activity, and intersectoral, i.e. integration of trading and public catering enterprises, which has its distinctive features. Partial intersectoral integration implies consolidation in the intersection of fast moving consumer goods (FMCG) sectors of retail trade and public catering. Full intersectoral integration aims to enhance a synergistic effect and coordination at all levels of intersection and interaction of flow processes in two scopes of activity – trade and public catering. Levels of integration are formed depending on the kind of logistic integration of trading service facilities; they include macro-, meso- and microlevel. Logistic systems are classified according to the size of territory into logistic systems of macrolevel, which comprises enterprises of a region, of mesolevel, which represents the system of enterprises of a city, and of microlevel, which encloses enterprises into a system within the limits of a residential area or a microdistrict.

TABLE 1
TECHNICAL APPROACH TO CHOOSING THE OPTIONS FOR PLACEMENT OF TRADING SERVICE FACILITIES ON THE LOGISTIC TERRITORY

Choosing an integration level depending on the kind of logistic integration	Functional	Intersectoral	partial	full
1 level of integration	2 level of integration	3 level of integration	II Matching the integration level with the logistic territory level	microlevel
mesolevel	Macro-level	III Determining recommendable type and kind of trading service enterprises depending on the level of the logistic territory	Specialized food departments pavilions, stalls, including hot food stalls, convenience stores, fast food enterprises	Food department stores, super-markets, hyper-markets, cafes, cafeterias, general restaurants
Complex commercial establish-ments, shopping centers, shopping malls, shopping and entertainment malls	IV Forecast-ing and identifying the more steady trends in the develop-ment of local markets	V Choosing options for siting of trading service facilities	V.A Estimating the enterprise siting location by a series of criteria	V.B Choosing a city district on the basis of the integral ranking of economic attractive-ness R_{EA}
V.C Choosing a territory in the region on the basis of the integral ranking of investment attractiveness in the long run R_{IA}	V.A.1 Facility area V.A.2 Facility rent V.A.3 Siting options (separate, built-in or built-on, a department in a sales area, a pavilion, a stall)	V.B.1 District type V.B.2 Composition of the population V.B.3 Level of the city transport infra-structure development V.B.4 Types of foot traffic and its intensity V.B.5 Level of compete-tion V.B.6 Labor supply	V.C.1 Region area V.C.2 Main economic sectors V.C.3 Level of the region transport infrastructure development V.C.4 Level of income of the region population	V.C.5 Size and density of the population V.C.6 Socio-economic indices of the region's anchor city V.C.7 Socio-economic indices of the region's cities
VI.A Estimating competitors in order to develop stock and price policy Establishing a trading service facility	VI.B Choosing a site for establishing a trading service facility in a district of high economic attractive-ness Building or reconstructing a trading service facility	VI.C Modeling a "consumer pathway" for the territory of high investment attractiveness in the long run	VI.C.1 Modeling the concept of a trading service facility, its profile, capacity and additional service facilities	VI.C.2. Modeling the transport infrastructure taking into account formation of the anchor city's public traffic currents VI.C.3. Modeling the warehouse infra-structure Building a trading service facility, roads and the warehouse infra-structure

ISBN: 978-988-14048-3-1
ISSN: 2078-0958 (Print); ISSN: 2078-0966 (Online)

III. Additive Model and Final Design Formula

Depending on the kind of logistic integration and, accordingly, its level, there are three possible options for siting of trade service facilities:

1) establishing a trade service facility mainly in the form of small specialized departments, pavilions within the limits of a residential area or a microdistrict (microlevel);

2) building or reconstructing a trade service facility on a city's territory (mesolevel);

3) building a trade service facility with the related infrastructure and creating a "consumer pathway", i.e. establishing an out-of-town trading service facility.

Let us consider the options for siting of trade service facilities in detail.

At the microlevel of a logistic territory, characterized by siting of enterprises of the first level of integration, the choice of place for siting is conditioned only by financial possibilities of entrepreneurs. At this stage the most important is to estimate the suggested option for siting of a future business entity from the standpoint of profit, assortment and price policy. As a rule, for a small-to-medium business there are ready-made offers of places for siting of facilities in the form of small specialized departments, pavilions. The economic effect will be much higher, if small-to-medium business representatives apply not only logistic integration mechanisms, which allow decreasing costs, but also set an efficient assortment and price policy, which leads to the enhancement of competitiveness in the consumer market.

The mesolevel and its characteristic 2nd level of logistic integration involve studying a city's territory from the standpoint of searching for an optimum place for siting. In this research the technical approach to choosing the option for siting of a trading service facility at the mesolevel is presented in the form of an additive model which helps to find out the integral ranking of economic attractiveness R_{EA} of a city's district with account of unicomponent and multicomponent factors.

To the unicomponent factors we refer: district type ($F_{V.B.1}$), predominant type of foot traffic ($F_{V.B.4}$), labor supply of the district ($F_{V.B.6}$).

To the multicomponent factors, which influence the ranking of economic attractiveness of a city's district, we refer: composition of the population ($R'_{V.B.2}$), including the estimate of the demographic situation ($X_{V.B.2.1}$), predominant kinds of activity of the population ($X_{V.B.2.2}$), structures of the households ($X_{V.B.2.3}$), level of income and level of expenditure of the population ($X_{V.B.2.4}$); level of development of the transport infrastructure ($R'_{V.B.3}$), including the intensity of traffic flows ($X_{V.B.3.1}$), traffic capacity of the road ($X_{V.B.3.2}$), pendulum movement ($X_{V.B.3.3}$), traffic congestions ($X_{V.B.3.4}$), highway condition ($X_{V.B.3.5}$), number of public transport modes ($X_{V.B.3.6}$), intervals of public traffic circulation ($X_{V.B.3.7}$), number of stops and the distance between them ($X_{V.B.3.8}$); level of competition ($R'_{V.B.5}$), including the availability of trade service enterprises ($X_{V.B.5.1}$), assortment saturation of goods and services ($X_{V.B.5.2}$), continuity of siting of enterprises ($X_{V.B.5.3}$), prospects for building new trading service enterprises on the district's territory ($X_{V.B.5.4}$).

The additive model and the final design formula are given below

$$R_{\text{ЭП}} = \sum_{i=1}^{n} \omega_{ij} \times F_i + \sum_{j=1}^{n} \omega_{ij} \times R'_j =$$
$$= 0{,}132 \times F_{V.B.1} + 0{,}038 \times X_{V.B.2.1} +$$
$$+0{,}064 \times X_{V.B.2.2} + 0{,}008 \times X_{V.B.2.3} + 0{,}105 \times X_{V.B.2.4} -$$
$$-0{,}005 \times X_{V.B.3.1} + 0{,}008 \times X_{V.B.3.2} + 0{,}005 \times X_{V.B.3.3} -$$
$$-0{,}003 \times X_{V.B.3.4} + 0{,}017 \times X_{V.B.3.5} + 0{,}036 \times X_{V.B.3.6} +$$
$$+0{,}022 \times X_{V.B.3.7} + 0{,}037 \times X_{V.B.3.8} + 0{,}132 \times F_{V.B.4} - \quad (1)$$
$$-0{,}056 \times X_{V.B.5.1} - 0{,}152 \times X_{V.B.5.2} + 0{,}056 \times X_{V.B.5.3}$$
$$-0{,}092 \times X_{V.B.5.4} + 0{,}029 \times F_{V.B.6} + 0{,}188,$$

where ω_{ij} is the weight coefficient of i and j criteria; F_i is the unicomponent criterion of choosing a city's district; R'_j is the complex multicomponent criterion of choosing a city's district.

The additive model is built on the basis of the assumption that the integral index of economic attractiveness represents a sum of positive and negative factors of impact with account of the weight coefficient. The significance of each weight coefficient was determined with the help of such method of expert evaluation as the method of paired comparisons with further normalizing of the coefficient value. According to this method, experts compared the parameters pairwise, using a ratio scale. Experts give no quantitative evaluation of advantages of one parameter over another or of the level of parameter significance; they use the notions of more, less or equals.

The technical approach to choosing options for siting of trading service facilities includes also the 3d level of logistic integration, consisting in building a trading service facility, roads and the logistic infrastructure and resulting in creation of a "consumer pathway", i.e. logistic integration of subsystems and units of a mocrologistic system of trading service, aiming to optimize the level of socio-economic development of the logistic territory. Creation of a "consumer pathway" by a trading enterprise is connected with an increasing trend towards limiting the choice of ground areas for establishing large trading service facilities or with the absence of ground areas within the city limits in large cities; it also implies both choosing a place for placement of out-of-town facilities, and creating the transport, warehouse and trading infrastructure.

Our approach allows choosing a territory of regional importance for placement of an out-of-town trading service facility, basing on the determination of the integral ranking of investment attractiveness R_{IA} of this territory. It is practical to use the same additive model, as was used in the previous case, for this purpose; but in this case the specifics of the criterial selection of a territory is taken into account; these are the unicomponent criteria: region area ($F_{V.C.1}$), main economic sectors of the region ($F_{V.C.2}$), level of income of the region population ($F_{V.C.4}$), size and density of the population($F_{V.C.5}$), socio-economic indices of the region's anchor city ($F_{V.C.6}$), socioeconomic indices of the

ISBN: 978-988-14048-3-1
ISSN: 2078-0958 (Print); ISSN: 2078-0966 (Online)

region's cities ($F_{V.C.7}$); and also the indices, belonging to the complex criterion of the level of transport infrastructure development ($R_{V.C.3}$): number of transport modes ($X_{V.C.3.1}$), local transit traffic ($X_{V.B.3.2}$), international transit traffic ($X_{V.B.3.3}$).

The final formula will assume the following form:

$$R_{\text{ИП}} = 0{,}045 \times F_{V.C.1} + 0{,}201 \times F_{V.C.2.} + 0{,}090 \times X_{V.C.3.1} + \\ +0{,}020 \times X_{V.C.3.2} + 0{,}090 \times X_{V.C.3.3} + 0{,}201 \times F_{V.C.4} + \quad (2) \\ +0{,}122 \times F_{V.C.5} + 0{,}201 \times F_{V.C.6} + 0{,}028 \times F_{V.C.7}$$

IV. Results

The proposed technical approach to choosing a place for placement of trading service facilities allowed us to carry out calculations of integral indices for the meso- and macrolevel and set ranges of economic attractiveness of a city's districts and ranges of investment attractiveness of a region's territories in the long run (Table II); according to them it becomes possible to determine the degree of risk when choosing a place for placement of trading service facilities for different purposes.

The values obtained for the ranking of economic attractiveness of a territory at the mesolevel and the ranking of investment attractiveness of an out-of-town territory will allow making the conclusion about how effectively a trading service facility sited in a certain place can function, and will also enable forecasting the effectiveness of the designed enterprises and avoid possible losses in case of choosing a place on a territory with low ranking of attractiveness.

The approbation of the proposed technical approach to choosing options for placement of trading service facilities was carried out by the example of such formats as Cash@carry, a supermarket and a shopping mall.

The Cash@carry, which represents a modern service facility and disposes goods with the help of self-service, is focused on small-scale wholesale and wholesale customers, who purchase goods for cash. The cash@carry format implies a wide range of food and nonfood items at a relatively low price. Checking out implies quick settling of account forms, providing additional documents for the goods at retail outlets. It has a trade area of 20 thousand m² and above. The number of stock keeping units is between 20 and 40 thousand items. The format implies a significant territory of trading service, high size and density of a region's population of a quite high level of income; it is independent from foot traffic, and accordingly, from public transport circulation, but at the same time it demands a highly developed transport infrastructure of high quality.

According to the proposed technical approach, it is recommendable to the Cash@carry trading facility to be sited out of town far from the center on a crossway; such territories for the format considered have a high ranking of investment attractiveness.

Supermarket is one of the most widespread formats of service facilities. It has a trade area of 600-5000 m². The assortment includes 4-20 thousand items. The stores of this type are characterized by a relatively low level of markup and offer average quality service. According to the technical approach, the most efficient placement of a trading facility will be in a city's districts with high density of population of an average and above average level of income, in places characterized by high motor vehicle and walking accessibility. Supermarkets operate under the conditions of quite high competition, consequently, the higher is the ranking of economic attractiveness of a territory, the higher is the potential effectiveness of their activity. Thus, the second option for placement is recommendable for supermarkets, i.e. building or reconstructing of a trading service facility on a city's territory.

Trading service facilities, which are being actively established, are shopping malls; they have trade areas of 70000 m² and above, and they offer a variety of goods and a wide range of services. Shopping malls centralize the functions of upkeep of trading activity, including engineer support, renovation of buildings, repair and maintenance of structures and equipment, supervision of trading facilities, catering for employees, etc. The third option for placement of a trading facility, i.e. building of a trading service facility with the related infrastructure and creating of a "consumer pathway", for a shopping mall is preferable, because a significant area of a facility, high assortment saturation with goods and services, relatively low saturation of a city with such trading facilities will facilitate attracting a significant customer flow.

TABLE II
Ranges of Rankings of Economic Attractiveness of a City's Districts and Investment Attractiveness of a Region's Territories in the Long Run

R_{EA}	Range of economic attractive-ness of a city's district	R_{IA}	Range of investment attractive-ness of a region's territory	Degree of risk
$1 \geq R_{EA} \geq 0{,}75$	Range of high economic attractive-ness	$1 \geq R_{IA} \geq 0{,}75$	Range of high investment attractive-ness	Low
$0{,}75 > R_{EA} \geq 0{,}5$	Range of medium economic attractive-ness	$0{,}7 > R_{IA} \geq 0{,}5$	Range of medium investment attractive-ness	Medium
$0{,}5 > R_{EA} \geq 0{,}25$	Range of insignifi-cant (below the medium) economic attractive-ness	$0{,}5 > R_{IA} \geq 0{,}25$	Range of insignifi-cant (below the medium) investment attractive-ness	Above medium
$0 \geq R_{EA} < 0{,}25$	Range of low economic attractive-ness	$0 \geq R_{IA} < 0{,}25$	Range of low investment attractive-ness	High

ISBN: 978-988-14048-3-1
ISSN: 2078-0958 (Print); ISSN: 2078-0966 (Online)

V. Conclusion

To conclude, it should be stated that in our research we developed a technical approach to choosing a place for placement of trading service facilities; it takes into account the kind of logistic integration and its level. The suggested approach to spatial placement of trading service facilities on the basis of logistic integration will allow increasing their competitiveness and effectiveness. Placement of trading service facilities on territories with high and medium level of economic and investment attractiveness reduces the activity risks; the territories considered are the attraction zone for trading service facilities and consumer flows, accordingly, in the future it will lead to their development and will allow modeling the scripted development of a region's trading service sphere in the long run.

References

[1] R. Cigolini, M. Pero, T. Rossi and A. Sianesi, "Linking supply chain configuration to supply chain performance: A discrete event simulation model," Simulation Modelling Practice and Theorym vol. 40, 2014, pp. 1–11.
[2] B. Cobb, A, Johnson, "A note on supply chain coordination for joint determination of order quantity and reorder point using a credit option," European Journal of Operational Research, vol. 233, no. 3, 2014, pp. 790–794.
[3] C. D'Aspermont, J. JaskoldGabszewicz, J. Thisse, "On Hotelling „Stability in Competition," Econometrica, vol. 47, no. 5, 1979, pp. 1145 1150.
[4] D. Gautschi, "Specification of Patronage Models for Retail Center Choice," Journal of Marketing Research, May, 1981, pp. 162–174.
[5] David, L. Huff. Defining and Estimating a Trading Area // Journal of Marketing, July 1964, pp. 34–38.
[6] Francisco Jose Mas Ruis. Image of Suburban Shopping Malls Uni-Equational Modelling of the Retail Trade Attraction // European Journal of Marketing. May-June 1999, pp. 512–530.
[7] Hammami, R., Temponi, C., Frein, Y. A scenario-based stochastic model for supplier selection in global context with multiple buyers, currency fluctuation uncertainties, and price discounts // European Journal of Operational Research, 2014, vol. 233, Issue 1, 16 February, pp. 159–170.
[8] Isabel, P. Albaladejo-Pina, Joaquin Aranda-Gallego. A Measure of Trade Center Position // European Journal of Marketing, 1998, May-June, pp. 464-479.
[9] Kayikci, Y., Stix, V. Causal mechanism in transport collaboration // Expert Systems with Applications, 2014, vol. 41, Issue 4, Part 2, pp. 1561–1575.
[10] Kearney, A.T. Global Management Consultants // http://www.atkearney.com/
[11] Kenneth, C. Schneider, James C. Johnson, Bradley J. Sleeper, William C. Rodgers. A Note on Applying Retail Location Models in Franchise Systems: A View from Trenches // Journal of Consumer Marketing, 1998, March, pp. 290–296.
[12] Nair, P.R. Tackling Supply Chain through Cloud Computing: Management: Opportunities, Challenges and Successful Deployments (Conference Paper) // Advances in Intelligent Systems and Computing / 48th Annual Convention of Computer Society of India, CSI 2013; Visakhapatnam; India; 13 December 2013 through 15 December 2013; Code 101211. – 2014. – Vol. 249. – Vol. II. – pp. 761–767.
[13] Patil, S.K., Kant, R. A fuzzy AHP-TOPSIS framework for ranking the solutions of Knowledge Management adoption in Supply Chain to overcome its barriers // Expert Systems with Applications. – 2014. – Vol. 41. – Issue 2. – pp. 679–693.
[14] Sahay, N., Ierapetritou, M. Supply chain management using an optimization driven simulation approach // AIChE Journal. – 2013. – Vol. 59. – Issue 12. – December. – pp. 4612–4626.
[15] Aranovskaya, M. 5 main trends of world retail // http://slon.ru/economics/5_glavnykh_tendentsiy_ mirovogo_riteyla-846059.xhtml.
[16] Aksenov, K., Nevolina, A., Aksenova, O., Kamelskiy, V. Development of a logistics model on the basis of conceptual, object-oriented, multiagent and simulation modeling integration of intelligence systems. Engineering Bulletin. - 2013. - V. 24. - number 1 (24), pp. 3-15.
[17] Voronko, L., On the diversity of integration processes in Europe. University Bulletin. - 2013. - № 4 (31), pp. 98-105.
[18] Getting, B. Integrating function of logistics in production division of labor with interdisciplinary spectrum // Creative Economy. - 2007, pp. 136-143.
[19] Dybskaya, V. Integration of functional areas of logistics // Logistics today. - 2010. - № 1. - pp. 2-8.
[20] Minakir, P. Economic integration: regional aspect // Region: Economics and Sociology. - 2004. - № 1. - pp. 118-135.
[21] Osovtsev, V. Comparative assessment of theoretical and methodological approaches to logistics under integration of flows in economy // TerraEconomicus. - 2008. - V. 6. - № 1-3. - pp. 76-80.
[22] Official site of the ministry of economic development of the Russian Federation – http://www.economy.gov.ru.
[23] Rykalina, O. Problems of defining the notion of integrated logistic activity on a regional scale // Logistics. - 2012. - №11. - pp. 42-45.
[24] Khalyn, V. Formation and development of mesologistic systems in the field of goods distribution in a region // Scientific Review. - 2013. - № 2. - pp. 209-215.
[25] Khasis, L. Retail chains in modern economy – M .: Editorial UPSS, 2004. - 80 p.
[26] Shujzhenko, T. Studies of logistic integration in the framework of the evolutionary process in logistics and supply chain management // RISK: resources, information, procurement, competition. - 2011. - № 4. - pp. 102-105.
[27] Shcherbakov, V., Nos, V. Development prospects of strategic trading partnerships in the age of globalization // The problems of the modern economy. - 2012. - № 1. - pp. 105-108.
[28] Shcherbakov, V., Uvarov, S. Modern systems of economic relations and logistics - St. Petersburg State University EF, 1997. - 86 p.

ISBN: 978-988-14048-3-1
ISSN: 2078-0958 (Print); ISSN: 2078-0966 (Online)