

# **Competitiveness of Third Party Logistics Companies in Russia**

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<p><b>Abstract</b></p> <p>Logistics has existed for a very long time and has high significance in the world market. But there are a lot of new methods of transportation developed in the last ten years. At the moment, the popularity and importance of third party logistic companies has increased very much.</p> <p>The main tasks and objectives are to determine the factors affecting the competitive advantages of third party logistic companies. Another important task is a detailed analysis of the influence of these factors on the development companies.</p> <p>As a method of research, a qualitative method was used. Theoretical framework of research is the Competitiveness model of Christer Karlsson. There are five main indices which determined the company's competitiveness - quality, flexibility, dependability, cost and speed. To collect data, interviews were conducted in three logistics companies. The received information was coded and analyzed.</p> <p>Results of the research are that for increasing competitiveness, logistics companies need to develop five key indicators provided above. Concerning the quality company should have delivered cargos without damages. In flexibility company needed to be prepared for all market changes. Dependability means that the logistics company must regularly check its equipment. In cost index the company must provide services equivalent to the requested price. And finally companies need to look for ways to speed up the time of goods delivery.</p> <p>The study was conducted in the logistics industry so that the results of the research would reflect the actual situation in the industry. The use of results is limited to third party logistic sectors. However, the theoretical framework can be adapted to analyze the competitiveness of other sectors related to outsourcing.</p>		
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## Contents

<b>1</b>	<b>Introduction .....</b>	<b>3</b>
1.1	Background .....	3
1.2	Motivation for the research .....	6
1.3	Research Problem and Approach .....	9
<b>2</b>	<b>Literature Review .....</b>	<b>10</b>
2.1	Definition of Logistics .....	10
2.2	Logistics as a factor of increasing the competitiveness of a company 13	
2.3	Third Party Logistics .....	15
2.4	Competitive Advantages .....	22
2.5	Theoretical Framework .....	26
<b>3</b>	<b>Methodology .....</b>	<b>33</b>
3.1	Research approach.....	33
3.2	Research Context .....	37
3.3	Data Collection.....	43
3.4	Data Analysis .....	46
3.5	Verification of the Results .....	48
<b>4</b>	<b>Results .....</b>	<b>50</b>
4.1	Quality .....	51
4.2	Dependability .....	52
4.3	Speed.....	55
4.4	Flexibility .....	57
4.5	Cost.....	59
<b>5</b>	<b>Discussion .....</b>	<b>61</b>
5.1	Managerial Implications .....	62
5.2	Limitations of the Research .....	63
5.3	Recommendations for Future Research .....	63
	<b>References .....</b>	<b>65</b>
	<b>Appendices .....</b>	<b>68</b>

## Figures

Figure 1. Third-party logistics market size in 2017, by region .....	4
Figure 2. 7 Rs of logistics .....	13
Figure 3. Levels of service in logistic industry .....	16
Figure 4. 3PL Flow .....	17
Figure 5. What is the greatest challenges 3PL faced? .....	18
Figure 6. Chain of 3PL .....	20
Figure 7. Competitiveness model .....	27
Figure 8. Operations excellence and competitive factors .....	28
Figure 9. The 'Sandcone' model of operations excellence .....	29
Figure 10. Performance factors for logistics companies .....	32
Figure 11. The research process .....	34
Figure 12. Stages in qualitative data analyze .....	47
Figure 13. Indices of dependability 3PL companies .....	53
Figure 14. Speed of delivery and percentage deviation from schedule .....	55
Figure 15. Influence to cost index .....	60

## Tables

Table 1. Main codes of interviews analyze .....	48
Table 2. Quality of work 3PL companies .....	52
Table 3. Index of flexibility in 3PL industry .....	58

# 1 Introduction

## 1.1 Background

Nowadays logistics companies have an increasing share of the world market. In developed countries, logistics costs already exceed 2 trillion dollars, and in the world they make up about 12% of GDP. The total volume of the logistics services market in the world exceeded the level of 1.5 trillion USD. In trade, the share of logistics costs in turnover is the highest (about 25%, while the average for all sectors is 13.6%). In mechanical engineering - 10%, in pharmaceuticals - 4%. The share of logistics in the Russian GDP is 11%.

(Frazelle 2017.) The importance of logistics in the conduct of international business cannot be overestimated. According to Bookbinger (2012) logistics costs in the final price of products sold abroad, on average 25-30%, which is about 15% higher than when selling products inside the country. This is primarily due to customs costs. But also with more complex and expensive transportation, the presence of a large number of intermediaries, without which it is difficult to arrange delivery, increased requirements for logistics services and higher qualifications of carriers. Companies involved in international business and issues of increasing the efficiency of logistics systems attach special strategic significance. To the fact that the correct solution of precisely these issues will enable them to gain a competitive advantage in tough competition under the current conditions of the global financial and economic crisis.

It is very difficult to become good and popular logistic company, especially in Russia. The protracted economic crisis forces companies engaged in import and export of goods to minimize the costs associated with logistics and foreign trade activities. This goal is achieved through the transfer of logistics tasks for outsourcing to transport (logistics) operators engaged in international transportation. The market of international transport companies in Russia is quite wide, and therefore, when choosing a reliable partner, the customer faces the question: what criteria should be used?

When choosing a logistics operator, you should start from the needs of your company. Which logistics steps do you want to outsource? What volumes and frequency of supplies are planned, what goods do you need to deliver? Based on these data, you can determine the type of logistics operator, choosing the best company for your needs. 2PL (Second Party Logistics Provider) - providers offering transportation and warehouse storage services. 3PL (Third Party Logistics) - the most common type of transport companies, whose list of services includes, as a rule, customs clearance, certification, handling and tracking of goods, packaging, marking, delivery to the end user. (Obal 2014.) More and more companies in Russia started work in 3PL system to increase their customer base and competitiveness.

This statistic represents the size of the third-party logistics market in 2016, with a breakdown by region. The Asia Pacific third-party logistics market was sized at approximately 305 billion U.S. dollars that year. The global market value amounted to over 802 billion U.S. dollars. Data for other regions presented in the Figure 1.

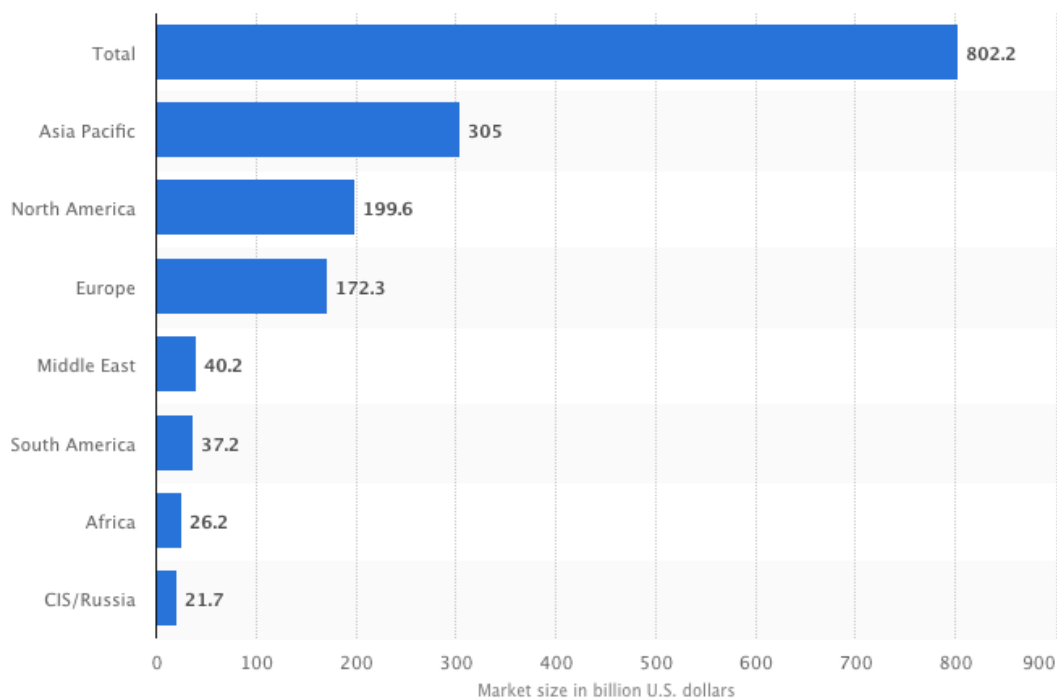


Figure 1. Third-party logistics market size in 2017, by region (Frazzon 2018)

According to Wocka-Gowda (2017), about 150 logistics companies currently operate in Russia, but most of them are, in fact, narrow-functional logistics intermediaries. There are companies that position themselves as 3PL, the largest of which are NLK, Tablogix, Rewico, FM Logistics, ATL. The number of such companies is constantly increasing. Logistic operators are, in particular, distribution companies that have managed to create an infrastructure sufficient for successful operation in this capacity and not to lose qualified personnel in the current crisis for wholesale companies. A few years ago, distributors had enough power to dictate to their shops and producers their conditions - the mark-up on the goods could several times exceed the price of the producer, but now the situation has radically changed.

Rapid rates of development of network trading structures and integration processes occurring in the retail chain of distribution chains make it possible to exert serious pressure on wholesale companies. These firms are forced to constantly reduce prices and go for unfavorable conditions for themselves. Many networks build their own distribution centers and refuse the services of distributors. When working with small retailers, wholesale companies usually provide loans to shops for a long period of time at low interest or without interest at all, which leads to a sharp drop in the level of profitability and an increase in overdue receivables. As a result, the middle link in the chain "producer-supplier-retailer" is gradually falling, which forces distributors to either leave the market or reorient their business to provide complex logistics services.

Large companies engaged in complex automation of business processes also have the potential to become 3PL-providers. The success of the implementation of an information system of any class and standard depends on the thoroughness of the IT company's study and description of the technological processes of the automated company. And at the stage of installation and debugging of software, specialists immerse themselves in the client's business, which in the future allows them to provide qualified consulting services. Until recently, these companies were solely entrusted with outsourcing IT services, such as managing server infrastructure, integrating software and hardware systems, supporting call centers and databases.

(Wang & Pettit 2016.) However, as business scales, the accumulation of sufficient experience in a variety of logistics areas and the acquisition of extensive relationships, many IT companies seek to reorient themselves to the integration of supply chains. In this case, the value of the intermediary for customers is not that it has a broad logistics infrastructure or material base, but in its ability to provide information transparency of the distribution channel and introduce modern technologies.

The trend of increasing the number of operators in Russia is caused, in particular, by the fact that the demand for logistics services is steadily growing due to the entry of foreign retailers on the Russian market, the well-established technologies of which presuppose the specialization of their partners in the main types of activity, primarily in procurement and marketing. Not having sufficient experience in building logistics under Russian conditions, most retailers tend to transfer warehouse, transportation and other functions to the management of a third-party organization, while imposing very stringent requirements on the quality of services. (Bohling 2016.)

The largest Russian retail chains, which are also potential customers of logistics companies, are well aware that logistics is not their business. To build own distribution centers and organize delivery services, companies are forced exclusively by the absence of a supply in the market that fully meets their needs.

## **1.2 Motivation for the research**

The question of how to develop a logistics company and get the most profit from it is very important for today. The role of cargo transportation against the background of globalization in the modern world is growing from year to year. At present, timely delivery of necessary parts and components to different enterprises, as well as the export of products, depends on the correct organization of freight flows. Everyone in his life faced with cargo transportation-the delivery of household appliances, furniture or building materials. To date, there are many ways of transporting goods - containers, pallets and other methods of packing goods are used.



The increased role of logistics is explained by the almost doubling of the world's population in the past 40 years and the acceleration of globalization processes, which, despite the economic crisis, are the economic driver of the economies of many countries (Shah 2011). The reasons for the growth of transportation are also considered scientific and technological progress, the spread of high technology, the growth of welfare of people in developing countries, the intellectualization of industries, including through the Internet.

As already mentioned above, logistics companies solve a huge number of issues, but the usual methods of work no longer bring the desired results. That's why many companies are now reorienting to 3PL system of work, which gives them competitive advantages over other logistics operators. For the production of competitive products, it is necessary to purchase only quality raw materials. The logistics department can choose from most suppliers only those that are suitable for the enterprise in all respects, since the best price-quality ratio of the purchased raw materials will significantly save the organization. (Atkinson 2013.)

Also, logistics allows you to determine the optimal volume of stocks of material resources, finished products. This will lead to the optimization of output, the reduction of stocks and the need for warehouse facilities of the enterprise, and, consequently, the costs of their maintenance will decrease. The logistics department can monitor the correct organization of storage of goods by the enterprise subdivisions, submit proposals to the management about imposition of penalties on employees who violated established requirements.

Further the finished products of the enterprise need to be brought to the buyers. This is the responsibility of transport logistics. It organizes the delivery of goods, moving it from one point to another with a minimum of costs. Logistics calculate the way forward orders, which would be the safest and fastest. This will determine the optimal number of vehicles, drivers, will reduce fuel consumption.

All of the above makes it possible to make sure that 3PL companies need enterprises. They are an integral part of business development. The growth of competition in modern Russia has led to the fact that the rate of growth of spending has significantly exceeded the rate of growth in income. Costs increase, efficiency falls. Old methods of doing business, such as increasing incomes at any cost, can no longer lead to positive results.

Transport logistics has received a lot of attention around the world, active use began in the 60-70s of the 20th century. Prior to this, transportation schemes and planning were not given special attention. The goal of logistics has always been to reduce the cost of goods to the maximum possible value, for today it is a science used for the purpose of more effective management of tangible assets. The process of calculating the least expensive method of delivery contributes to the development of relations between suppliers and consumers, since a lower cost of delivery affects the price of the goods, from which the buyer wins. Currently, there are a lot of logistics centers all over the world, whose activities include drawing up optimal schemes for cargo transportation. (Heizer & Render 2016.)

In Russia, transport logistics is more than relevant, because Russia has a huge territorial space, many ways and roads. The figures speak for themselves: In Russia there are 4 thousand railway stations, 87 thousand km of railways, 2 thousand berths on rivers, 43 ports on the seas, within the country the length of waterways is 84 thousand km, roads - 540 thousand km, km, air routes - 800 thousand km, with regular flights from 756 airports. (Wocka-Gowda 2017.) In the presence of such a ramified transport system, it is very important to correctly and professionally draw up a transportation plan, determine the best ways of following the cargo, and logistics is the best way to handle this task. Transport companies are no less than opportunities for development and it is very difficult to break into the market and bypass competition. For modern organizations, the development of logistics at the enterprise becomes more and more important and relevant. This topic was very interesting to me, since I worked in the logistics field so I decided to conduct my own analysis of logistics activities and competitiveness of 3PL

companies in Russia. This work is also based on my project - the implementation of 3PL in a logistics company.

### **1.3 Research Problem and Approach**

#### **Research problem**

There are many factors affecting the competitive advantages of 3PL companies. In this thesis, I based on the model of the Karlsson and on the five factors that he singled out. The first index is the speed. This factor indicates the ability of the company to deliver goods quickly and on time. The next important indicator when assessing the company's competitiveness in the market is dependability. A dependable 3PL company is one that gives its customers clear transportation schemes, provide certificates that all equipment is tested and works without failures. Also, for a successful and competitive company, such an indicator as flexibility is very important. It shows how the company is ready for external changes in the market and can adapt to them. This factor has a huge impact on the competitiveness of 3PL companies in the logistics market of Russia, because the customer will choose the company that can satisfy any of his wishes. The next factor which influenced on how competitive the company is quality. That is, the quality of the work performed, the quality of the services provided and, of course, the competent staff of the employees. The quality indicator describes how well the company performs its work, whether there are damages to the cargo after transportation, whether the price corresponds to the quality of the work performed and whether the employees are ready to answer for their mistakes, and even better not to make them. And finally, the cost index, as it was said above for the 3PL companies on the Russian market, is necessary so that the price for the work corresponds to the quality of the work performed. The buyer does not always choose the company with the lowest freight, insurance and storage tariffs, because the percentage of damage, loss of cargo increases many times. In this case, the company will suffer losses at times more than if they overpaid for the transportation of cargo.

#### **Research objectives & questions**

When it comes to research objectives, the main objective is understanding the factors that contribute competitive advantages of Russian 3PL companies.

### **Research question**

- What kinds of factors influence the competitive advantages of 3PL companies in Russia?

### **Research approach**

There are not many studies that have been conducted about the competitive advantages of 3PL companies. The theoretical framework will be consisting of the more general body of literature and previous researches to competitor analysis and strategy. The aim is to discover which factors influence to competitive advantages of 3PL companies in Russia. Owing to this notion, the research approach will be more inductive by nature. Specifically, induction is a more flexible research structure that necessitates a close understanding of the context, and therefore usually involves the study of small samples and the collection of qualitative data (Nagy & Biber 2017). In the thesis I will use qualitative approach. I will collect interviews from 3 company's owners and workers. I will review of the literature to find a suitable theoretical framework to the empirical study.

Chapter 2 will provide the literature review and theoretical framework.

## **2 Literature Review**

### **2.1 Definition of Logistics**

Currently, there are a lot of definitions of the term "logistics".

Thus, in accordance with the dictionary of terms of the Russian Academy of Scientists Kersten and Blecker (2007, 165) under logistics are understood:

*The science of planning, control and management of transportation, storage and other material and non-material operations performed in the process of bringing raw materials and materials to the production plant, the internal processing of raw materials, and materials and semi-finished products, products to the consumer in accordance with the*

*interests and requirements of the latter, as well as the transfer, storage and processing of relevant information.*

Also, they gave definition of transport logistics:

*Transport logistics - the science of the system integration of transport and logistics activities (actions of economic entities) in the form of transport and logistics services to optimize cargo flows on the basis of current legislation.*

A number of leading Russian scientists – Kreowski, Scholz and Thoben (2016) formulated a brief definition. In accordance with this definition, “logistics is a time-dependent location of resources, or strategic management of the entire supply chain”.

One of the largest logistics companies UPS (2017) defines logistics as a science whose subject is to organize a rational process of promoting goods and services from raw material suppliers to consumers. According to the specialists of the company, the current stage of the industry development (2018) is determined by two main factors: the globalization of the world economy and the global scientific and technological revolution, which generate new customer needs in logistics services. (UPS Annual Report 2017.)

Harrison (2008) changed the definition of logistics: "Logistics is the process of planning and ensuring (including control) the effective and continuous receipt of goods, services and related information from where they are created, to consumers, aimed at the utmost satisfaction of consumer requests. " This definition does not cover absolutely all special concepts that are included in the functional area. It reflects the need for a unified management of commodity-material flows from the source of raw materials and materials to the point of distribution of the finished product. The most striking manifestation is that logistics provides a comprehensive result through internal and external integration of one of the key areas of competence of a business enterprise.

The operational task of logistics is to organize such a geographical location of sources of raw materials, work in progress, stocks of finished products that meet the needs for them and at the same time would involve minimal possible costs. It is thanks to the logistics (material flow management) in industrial countries that raw materials and materials enter free production capacity, and finished products are distributed through marketing channels to consumers.

Individual companies spend from 5 to 35% of sales on logistics, depending on the type of business, geographic scope of activity and the ratio of weight and price characteristics of finished products and materials used (Frazelle 2017). The expenses for the logistics, as a rule, constitute one of the largest expenses related to doing business, giving way only to the costs of raw materials and materials in production or the cost of goods sold in wholesale and retail trade.

The common goal is to provide the intended (target) level of customer service with minimal total costs. Logistics is a very complex field of activity, consisting of many separate private operations. (Gaither & Frazier 2009.)

Basic operations include special types of activities (transport and warehouse logistics) that are important for smooth operation. They are extremely diverse - from receiving orders and trucking to the work of the executive director. The nature of the logistics is such that in the performance of basic operations usually involves a lot of people. The wide geographic dispersion of operations means that a huge amount of critical work goes beyond the immediate control of a CEO. (Davis & Aquilano 2010.) Thus, for all the variety of activities related to the logistics, there is a special need for specialized labor operations. Each of these operations is a potential object of standardization, simplification and even complete elimination with a possible reorganization of the logistics system. Great logistics system could be measured by 7RS principle. All of them defined in Figure 2.



Figure 2. 7 Rs of logistics (Bookbinder 2012)

## 2.2 Logistics as a factor of increasing the competitiveness of a company

So, passing through the production transport and other links of the chain from the initial source to the final consumer the material flow increases in value. Studies conducted in the UK showed that more than 70% of the cost of a product that has gone all the way and got to the final consumer "is the costs associated with storage, transportation, packaging and other operations that promote the flow of material." (Bohling 2016.)

In the spheres of production and circulation, the application of logistics allows:

- To reduce stocks on all way of movement of a material stream;
- Reduce the time for goods to pass through the supply chain;
- Reduce transportation costs;
- Reduce the costs of manual labor and the cost of operations with cargo.

The data of the European Industrial Association and the US Industrial Association indicate that "end-to-end monitoring of the material flow ensures a 30-70% reduction in inventories. Reduction of reserves is due to the consistency of the actions of participants in logistics processes, improving the reliability of supply, the rationality of the distribution of stocks. (Chase, Aquilano & Jacobs 2015.)

From two to five percent of the total time spent on storage, production operations and delivery, is the time required for own production. Thus, over 95% of the turnover time is accounted for by logistics operations. (Davis & Aquilano 2010) Therefore, logistics is seen as a factor in increasing the competitiveness of firms. In this regard, it becomes urgent to find a way to control costs and indicators, most correctly reflecting the relationship of logistics with the main economic and financial indicators of firms.

Logistics affects the costs associated with the sale of goods. These costs include the costs of fulfilling orders, which include the costs of processing, transporting, storing cargo, inventory management, as well as packaging of goods, providing the market and consumers with spare parts, after-sales service and other similar activities. Logistics also affects the improvement of the position of firms in the market, which implies an increase in their share on it. (Nordmeyer 2018.)

Logistics affects investment capital through the main elements of assets and liabilities of the balance of firms and enterprises. Since logistics affects working capital through the reduction of stocks (this is the stock of raw materials, components and finished products), then, consequently, the logistics management depends on the enterprise's policy regarding the levels of reserves, the degree of control and management of these levels. At the same time, the policy on the purchase of raw materials and materials directly related to creditors' accounts is affected by their working capital. Therefore, the integration of procurement management and production management is an integral part of the logistics strategy of the enterprise, which ultimately allows for a significant economic effect. Studies have shown that in



enterprises and firms, where the stage-by-stage expenditure of reserves corresponds to the planned needs of production in raw materials and materials, production costs are reduced, and the degree of use of invested capital is increased (Atkinson 2013).

The lease of warehouses, vehicles and other elements of the logistics system is a current expense for the lease. The replacement of fixed capital by current expenses is achieved by attracting 3PL to carry out warehousing and transportation operations instead of purchasing their own funds for their implementation.

Studies carried out in the field of logistics for a wide range of markets (from food markets to capital-intensive products) have shown that producer firms and intermediaries have opportunities to create preferential terms for consumers. These opportunities can be realized only in the event that the functioning of logistics in full is focused on the market.

The foregoing allows to argue that the goal of logistics goes beyond cutting costs and increasing profits. Therefore, at this stage, the concept of the company's competitiveness is to obtain a competitive advantage by offering additional services and improving their quality. In the future, as this concept is applied by the majority of firms, cost reduction can again be a priority, but on a different basis. Consequently, increasing the competitiveness of firms through logistics is a continuous and adaptive process.

### **2.3 Third Party Logistics**

Logistics 1PL is a one-side logistics in which an enterprise that produces or owns a product performs all logistic operations on its own: stored in its own warehouse, transported by its own transport. (Huo & Wang 2017.)

2PL "two-way logistics", it is the contractor's involvement of contractors to perform individual logistics operations. He uses the services of cargo carriers, rents storage facilities, attracts the services of a customs broker, etc.

As for 3PL companies that offer a full range of logistics services come into operation here. At the same time, they can have their own vehicle fleets and warehouse complexes, but they can also rent them from subcontractors, while trying to perform all operations as efficiently and inexpensively as possible. The concept of "third generation logistics" includes services for reloading goods and other services. (Ibid.) All levels of outsourcing logistics methods shortly described in Figure 3.

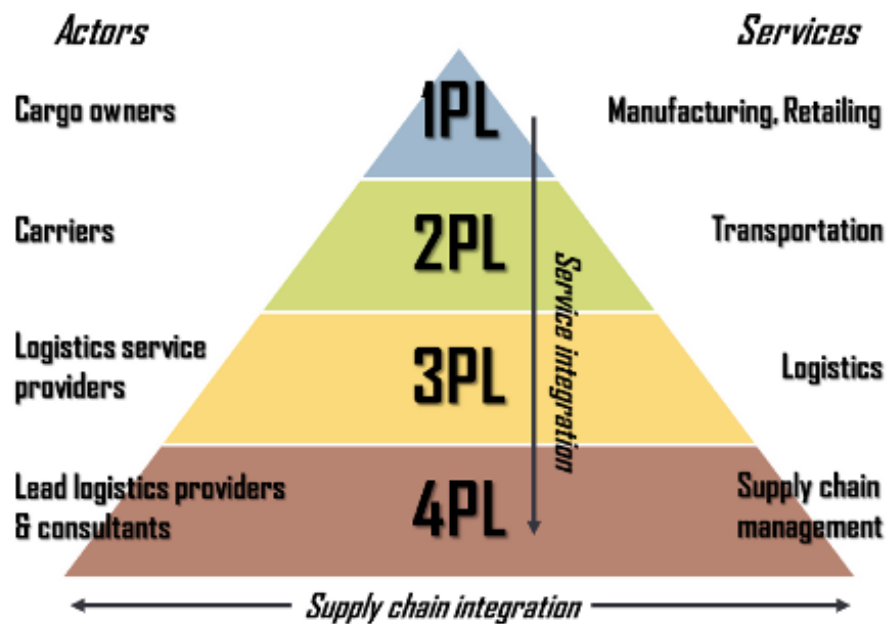


Figure 3. Levels of service in logistic industry (Huo & Wang 2017)

What is good about 3PL? Using the principle of third generation logistics, the company receives a wide range of advantages:

- Do not need to spend a lot of money on developing own transport and warehouse infrastructure;
- Do not need to organize the logistics with the order of each individual stage from another contractor, do not need own 2PL operators, it also reduces costs;
- Quality of performance of works is guaranteed in comparison with the order of services in different companies;
- The time spent on performing logistics operations is reduced;
- The work of a single contractor is easier to control. (Davids 2012.)

As a matter of fact, for the company-customer this means outsourcing: a serious direction of own activity is transferred to other hands, and the released resources - human, temporary, financial - are directed to the development of the main activities. In Figure 4 described process of 3PL flow. It covers the logistics process from procuring to selling product.



Figure 4. 3PL Flow (Obal 2014)

Logistic companies are rarely created "from scratch" - they are developed from pre-existing logistics enterprises, when new services are added to one of the profiles. An independent 3PL operator can be in the past a logistics division of a typical firm. Most often, the creation of large logistics companies belonging to the third generation can be based on: companies-carriers, owners of a fleet of vehicles, providing services for transportation of goods, company-owners of warehouse complexes, previously providing only services for storage of goods, companies engaged in brokerage, customs, forwarding services, in the independent companies can develop logistic divisions of the distributing companies or the companies which are engaged in retail trade. (Davids 2012.)

In each case, the development of the company follows its own path, with the development of new areas of work and with the attraction of new customers. Logistic operator 3PL in order to fully perform all the required services and to carry out really comprehensive services should have the opportunities for really high-quality work in all directions. It should have own or leased warehouses with good technical equipment and with the ability to store different groups of goods, while it is desirable to have a stock of vacant areas. Also important to have an extensive transport network, not closed, not

transportations within the same area. Be able to quickly and efficiently perform such accompanying operations as posting a unit of transport, working out an order for shipment for a minimum time, etc. Another quality which will increase the competitiveness of the logistics market is offering their services inexpensively. (Montana & Charnov 2010.) In logistics like in all other industries, companies faced with a lot of difficulties and challenges. Despite on the strict adherence to all the rules and guidelines of a successful 3PL company. Specifically, what problems do enterprises face in Figure 5.

What should be the indicators of this 3PL operator? Basically, 3PL-providers are companies that either developed by adding new services to the main logistics profile of their activities, or separated from the logistic units of the parent organization, not a logistics profile (Bohling 2016).



Figure 5. What is the greatest challenges 3PL faced? (Bohling 2016)

Thus, the "parents" of 3PL-business can be:

1. Companies that provide warehousing services.
2. Companies that provide services for the delivery of goods.
3. Customs, brokerage or forwarding companies.

#### 4. Logistic units of retail or distribution companies.

Group companies 1-3 are developing into 3PL operators from the already existing infrastructure through the additional services and services, often playing on the needs of already existing customers. Companies of the 4th group are gradually expanding their client base at the expense of client companies similar to the parent company format, thus obtaining the opportunity to minimize logistics costs by, for example, consolidating cargo for long-distance deliveries. (Markland & Vickery 2011.)

Analyzing the more established western market of logistics services, we can conclude that the most popular ways of developing operators from the group of 1-3. The path of development of companies from the 4th group resembles the stages of development of human society.

From the foregoing it follows that a typical set of 3PL-services can be provided by a company having the following objects (infrastructure) owned or leased.

- Warehousing, and it must necessarily be a developed complex of a class not lower than B by the accepted classification of warehouses.
- Transport fleet, which includes multi-tonnage modes of transport, which allow to carry out multimodal transport.
- Transshipment warehouses, providing a minimum leverage for the regional trading platforms of the company. (Harrison 2008.)

The ways in which a company appears in this industry in all cases indicate development through increasing the capacity to process cargo flows or through improving the quality of services provided.

Therefore, in order to further investigate the requirements for 3PL-operators, it is necessary to fix the following characteristics. Warehouse space of the company should not only meet the requirements associated with the classification of warehouses, but also allow processing of diverse nomenclatural directories. So, for example, in territory of one complex "automobile tires", home appliances and medical equipment can "adjoin".

Speaking about safety margin in areas the fluctuations in demand for a particular product category, seasonality of vacations in supplying countries can lead to excess of quota storage. Transporting goods by road within one region is able to most forwarding companies. Company should be able to normalize typical transactions. Specially the level of services provided is directly related to the ability to comply with standards for key performance parameters, such as the time of posting the transport unit or the interval between the receipt of the shipment application and the delivery of the goods to the store. And the last one characteristic is competitive cost of services provided. The decision to transfer logistics functions to an outside company is not in the least dependent on the results of price analysis. (Davids 2012.)

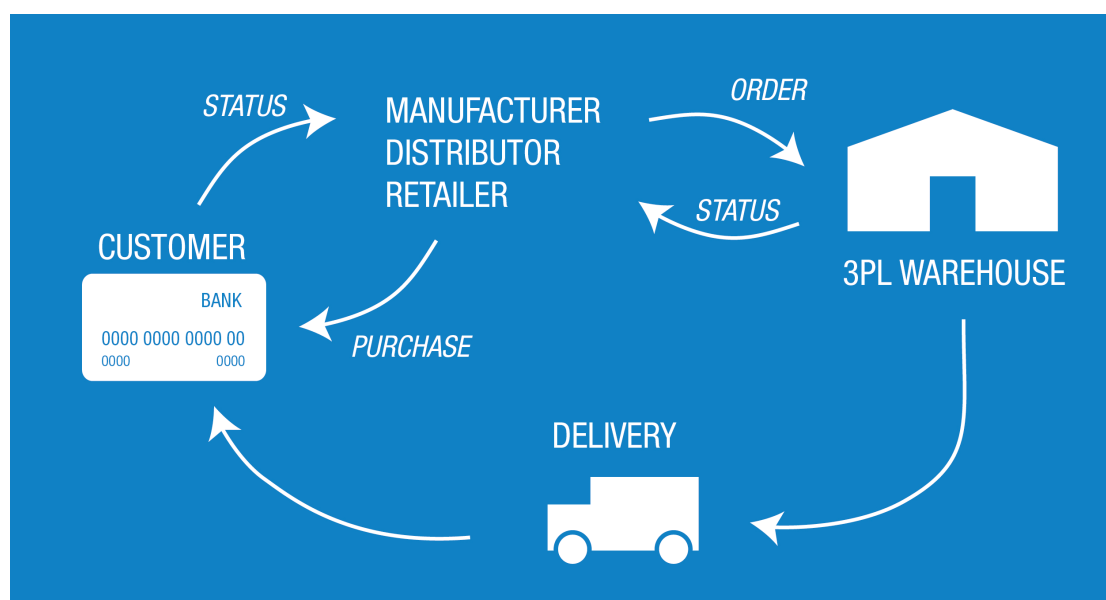


Figure 6. Chain of 3PL (Davids 2012)

Pointing out these characteristics, I wanted to approximate them to the requirements for information support of the company - 3PL-operator. Without information and computer support of these structures which are presented in Figure 6. It would be impossible to implement most of the logistics concepts, and manage the processes with subsequent operational account of the services provided.

Accordance to Bohling (2016) the typical information structure of the 3PL-operator company is an information space that unites the following software packages.

1) The system of the central office of the company, to the tasks of which in most cases are:

- accounting for the company's stock (customer stocks of the intermediary company) in all operator warehouses, including virtual warehouses such as "Goods in transit" and "Customs terminals";
- management of transport units of the company, including the ability to consolidate goods, determine optimal delivery routes and monitor the movement of vehicles to checkpoints;
- planning of the cost of supplies;
- the exchange of data with the clients' systems of the company, including the exchange of counterparts and nomenclature reference books, the exchange of management applications and responses based on the results of their execution, the synchronization of balances and the reconciliation of the registers of processed documents;
- accounting in the company, including the calculation of staff salaries.

2) Warehouse management system that supports:

- technology of address warehouse;
- automated management of acceptance processes, warehouse processing (including inventory processes), shipments;
- bar coding. (Ibid.)

In the overwhelming majority of cases, no matter how the company was formed, workplaces for representatives of bailor customers are organized in the central office of the operator and in the company's main warehouses.

I finish the classification of the 3PL-operator, the following thesis. A company that provides logistic services outsourcing services that meets the organizational, information and infrastructure indicators described above, which has the option of charging and billing for its services in an automatic mode, can be easily credited to the group of companies 3PL-operators.

## 2.4 Competitive Advantages

The "product" of the company's market power management system is its competitive advantages. Just as there is no company without the need for its products (services). So there is no market opportunity without competitive advantages. Competitive advantages make the company recognizable in the market, protect from the effects of competitive forces. Competitiveness is the result, fixing the presence of competitive advantages, without which it is impossible. (Wang & Pettit 2016.)

Competitive advantage is a system possessing some exclusive value, giving it superiority over competitors in the economic, technical and organizational spheres of activity, the ability to more effectively dispose of available resources.

Atkinson (2016) gives the following definition of competitive advantage. These are the characteristics, properties of the product or brand, which create for the firm a certain superiority over its direct competitors. These characteristics (attributes) can be very different and refer both to the product itself (the basic service) and to the additional services that accompany the basic, to the forms of production, sales or sales specific to the firm or product. This superiority is relative, determined in comparison with the competitor occupying the best position in the market or in the market segment.

A sustainable competitive advantage is a long-term benefit from implementing a unique strategy aimed at creating value that, at the same time, is not applied by existing or potential competitors and the benefits of using it cannot be copied.

The evaluation base for competitive advantages is the objectives of the enterprise and the tasks associated with them. Which the enterprise is able to perform taking into account the actual conditions of the external environment and for a given quality of their performance? Structural and functional changes at the enterprise are called upon to ensure the conditions for successful activity "on purpose", to bring the basic competencies of the enterprise in line



with the emerging environmental conditions. The totality of such changes and the work on change management are usually called development (creation of competitive advantages). (Ibid.)

The development process is aimed at capacity building - a set of enterprise resources used to solve tasks that an enterprise is able to perform with a result acceptable to the goal-setting entity or organization (for example, for the owner, parent organization). The use of potential and created competitive advantages is aimed at achieving results in accordance with the tasks (objectives) set in the process of activity. In general, there are several ways to use the potential, even in a single goal. In this situation, the working environment is determined by the external environment (Montana & Charnov 2010, 283). The enterprise has two components: development (creation of competitive advantages) and targeted activity (use of competitive advantages). The task of development can be formulated as follows: it is necessary to choose a development option in which at any given time the available potential allowed at least one way to achieve the required performance results.

The main objective of the company is to be better than the specific competitors who operate with the enterprise in one market (having overlapping goals). In this regard, any performance results should be compared with the results of competitors. For example, in order to evaluate the event "reduction of production costs in a company by 10%", it is necessary to know the same indicator for competitors. Similarly, if "the market share of the firm increased during the control period by 3%", and the main competitor - by 10-20%, then such an event is difficult to assess positively (Shah 2011).

The competitive advantage of the firm is not always obvious. In practice, the differences between a firm and its competitors that are chosen to assess the advantages or disadvantages can be very subjective depending on what the management attaches importance to - internal factors, customers or competitors.

When formulating a competitive advantage, different options are possible. One of them is concentration on competitors, based on the comparison of the firm with its closest competitors (the market environment in this case is characterized by a significant force of competition). Also good option is targeting customers and meeting their needs, when managers rely primarily on the opinions of customers about how the firm looks in comparison with competitors. And the last one is orientation to the market perspective, when attention is paid to both consumers and competitors. (Atkinson 2013.)

In order for any factor to be not just a competitive but a decisive advantage, it is necessary that it be of key importance in satisfying the need and at the same time be based on the uniqueness of the firm's business. Value has both a basic quality and uniqueness of the goods.

The factors that determine the competitive advantages of the company as a complex, multifunctional, open, hierarchical socio-economic system are numerous and diverse in the sources and nature of their manifestation. Classification of them is difficult, but necessary. Often allocate the following five groups of factors of competitive advantages: resource, technological, innovative, global, cultural. The above composition of factors of competitive advantages can be supplemented by organizational and structural factors. (Kersten & Blecker 2007)

These include a large number of factors contributing to the acquisition of a synergistic effect due to:

- restructuring the company by selling low-profit and unpromising business units;
- simplification of the production system;
- mergers and acquisitions in strategically promising sectors;
- globalization of economic operations. (Ibid.)

So, it is no coincidence that the overwhelming majority of industrial enterprises, banks, financial companies, communication and communication organizations, trade and other spheres of economic activity prefer to

consolidate their efforts as conditions that increase their competitiveness and achieve strategic advantages.

Unlike the competitiveness of the goods, the competitiveness of an organization cannot be achieved in a short time. Competitiveness of the organization is achieved with long and impeccable work in the market. We can conclude that a company that has been working for a longer period of time on the market has a greater competitive advantage over a firm that only enters the given market or operates a short period of time on it. (Porter 2008.) In other words, the competitiveness of an organization determines its competitive advantages.

In the theory of competitive advantages, developed in the studies of the famous American Scientist M. Porter (2008), two types of competitive advantage are distinguished: low costs and differentiation of goods. Low costs reflect the firm's ability to develop products at a lower cost than competitors. Differentiation is the ability to provide the buyer with a unique and greater value in the form of high quality goods, market novelty goods, high quality after-sales service.

Competitive advantage of any type gives higher efficiency than competitors. Firms with low costs, with peer prices for comparable products, have the opportunity to make a big profit. Accordingly, in firms with differentiated products, the profit per unit of output will be higher, as differentiation allows the firm to set high prices, which, with equal costs to competitors, makes a big profit.

Competitive advantage of the enterprise can be high competence, which manifests itself in superiority over competitors in the economic, technical, technological, organizational fields of activity. Often there are two groups of factors that provide competitive advantages for the company: superiority in resources (best quality, low prices) and the best skills, abilities, abilities (everything related to the efficiency and quality of all types of work: research, design, planned). Of particular importance are the competitive advantages achieved through the improvement of the second group of factors, since they

require complex and systematic organization of work and considerable intellectual effort, but they are difficult to copy.

Competitive advantages must necessarily find a real embodiment in the product, price, quality of service, low costs and other performance of the company and be perceived by the consumer, i.e. they should be measured, estimated by economic indicators: higher profitability. greater market share, greater sales. Unrealized in competitive advantage are not advantages as such, because they did not translate into new results of activities, did not lead to a new state of the company. (Ibid.)

The composition of benefits depends on the industry. Thus, for high-tech companies, competitive advantages will be mainly due to technical superiority, commodity and technological innovations, for companies serving mass demand, first of all, brand recognition, low costs, and territorial location.

Summing up all above competitive advantages should be:

- Significant - noticeably stand out from the competition;
- Visible - discerning buyers;
- Significant for the consumer - bring him tangible benefits;
- Stable - to maintain its importance in the face of environmental changes, non-reproducible competitors;
- Unique - the benefits cannot be obtained from other producers of the goods;
- Profitable for the company - production volumes, cost structure and market prices for the offered goods allow successfully to work in the chosen field of activity and to receive sufficient profit.

## **2.5 Theoretical Framework**

Competitiveness – and the conditions for it – forms a complex concept.

Basically it's about beating competitors in qualifying for an order and getting it with good conditions so the company ultimately makes a surplus. (Porter 2008.) A simplified model of competitiveness covering the key variables can be conceptualized as visualized in the figure below:

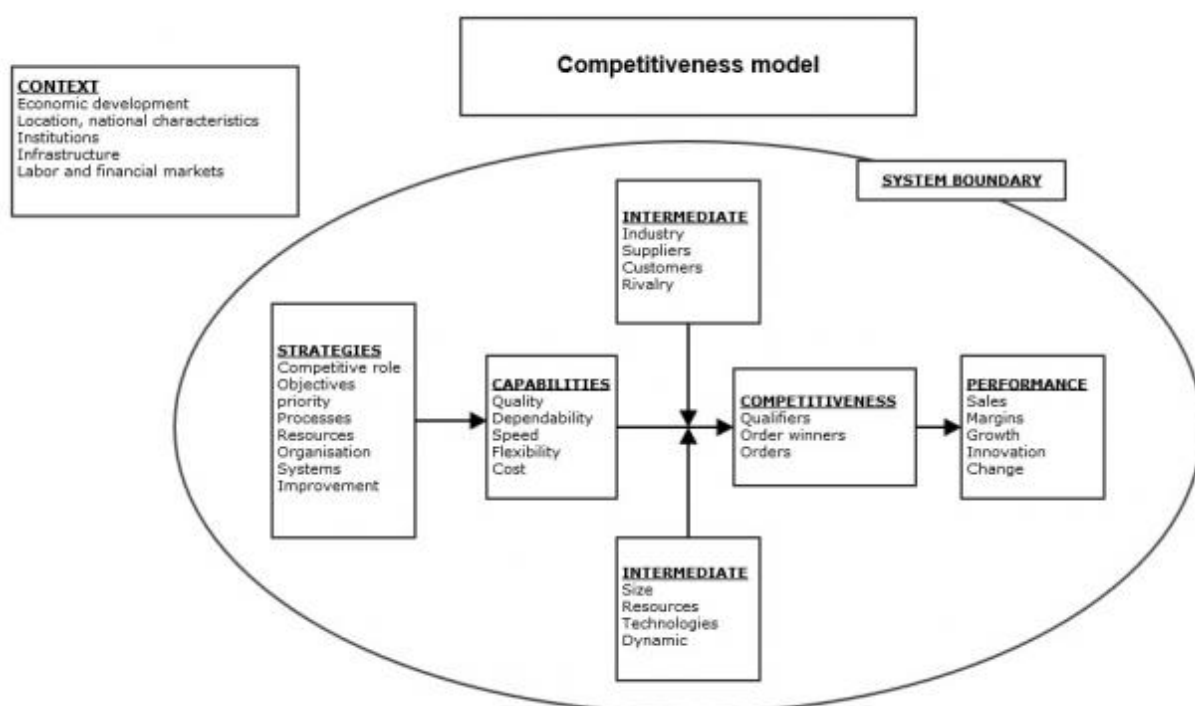


Figure 7. Competitiveness model (Karlsson 2015)

Elaborated, the company or organization must deliver quality, dependability, speed and flexibility while also being cost effective. Such capabilities are developed based on strategies for example on innovation, continuous improvements, procedures, organization, location and human, physical and financial resources. These factors play different roles in different industries depending on company characteristics such as size and different capabilities as well as industry characteristics such as rivalry among competitors and supply structures. This whole competitiveness of the firm is then depending on external or context factors such as economic development, national characteristics, cultural values, societal institutions and infrastructure. (Ibid.)

Strategy in a business organization is essentially about how the organization seeks to survive and prosper within its environment over the long-term. The decisions and actions taken within its operations have a direct impact on the basis on which an organization is able to do this. The way in which an organization secures, deploys and utilizes its resources will determine the

extent to which it can successfully pursue specific performance objectives.

Karlsson (2015) argue that there are five operations performance objectives:

- 1) Cost: The ability to produce at low cost.
- 2) Quality: The ability to produce in accordance with specification and without error.
- 3) Speed: The ability to do things quickly in response to customer demands and thereby offer short lead times between when a customer orders a product or service and when they receive it.
- 4) Dependability: The ability to deliver products and services in accordance with promises made to customers (e.g. in a quotation or other published information).
- 5) Flexibility: The ability to change operations. Flexibility can comprise up to four aspects:
  - The ability to change the volume of production.
  - The ability to change the time taken to produce.
  - The ability to change the mix of different products or services produced.
  - The ability to innovate and introduce new products and services.

EXCELLENT OPERATIONS PERFORMANCE IN . . .	GIVES THE ABILITY TO COMPETE ON . . .
Cost	Low price
Quality	High quality
Speed	Fast delivery
Dependability	Reliable delivery
Flexibility	Frequent new products/services Wide range of products/services Changing the volume of product/service deliveries Changing the timing of product/service deliveries

Figure 8. Operations excellence and competitive factors (Atkinson 2013)

Excelling at one or more of these operations performance objectives can enable an organization to pursue a business strategy based on a corresponding competitive factor. These relationships are outlined in Figure 8. However, it is important to note that the success of any particular business strategy depends not only on the ability of operations to achieve excellence in the appropriate performance objectives, but crucially on customers valuing the

chosen competitive factors on which the business strategy is based.

Matching operations excellence to customer requirements lies at the heart of any operations based strategy (Ibid).

It is unlikely that any single organization can excel simultaneously at all of the five operations performance objectives. Trying to do so is likely to lead to confusion if operations managers pursue different objectives at different times. This lack of clarity is likely to lead to suboptimal performance and result in a failure to excel in any of the operations performance objectives. Consequently, organizations need to choose which performance objectives they will give priority to. This may result in having to 'trade-off' less than excellent performance in one aspect of operations in order to achieve excellence in another. The concept of trade-off in operations objectives was first proposed many years ago by Chase (2005). He argued that operations could not be 'all things to all people'. What was needed was to identify a single goal or 'task' for operations; a clear set of competitive priorities to act as the objective. The task would then act as the criterion against which all decisions and actions in operations could be judged.

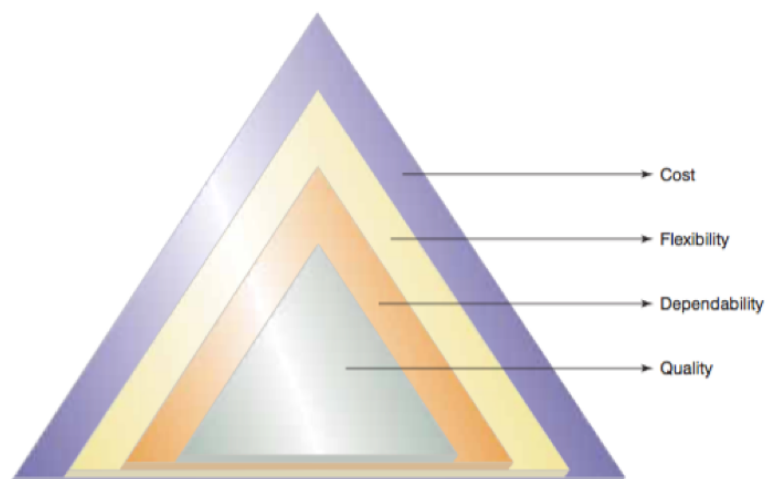


Figure 9. The 'Sandcone' model of operations excellence (Chase 2005)

It is worth noting, that some operations management scholars reject the concept of the trade-off. They point to the ability of some organizations to outperform their competitors on multiple dimensions. They appear to have better quality, greater dependability and a faster response to changing market conditions and lower costs. Chase (2005) argues that certain operational capabilities enhance one another, enabling operations excellence to be built in a cumulative fashion. In his 'sandcone' model of operations excellence (see

Figure 9), he maintains that there is an ideal sequence in which operational capabilities should be developed. The starting point, the base of the sand cone is excellence in quality. On this should be built excellence in dependability, then flexibility (which they take to include speed), then cost. He emphasizes that efforts to further enhance quality should continue whilst commencing efforts to build dependability. Similarly, actions on quality and dependability need to continue whilst building flexibility.

Performing well is a business imperative. Successful organisations maintain their reputation largely because of the performance of their operations. In general, every organisation wants to be efficient and effective. The main objective of operations function in organisations is therefore to arrange resources and activities in an as most effective and efficient way as possible. Being effective means producing the goods and services that customers really want and being efficient means producing the required goods and services at as lowest cost and effort as possible.

Critical operations performance objectives are crucial factors that are strategically important to organisations. Being strategically important means that the performance objectives have to be considered as strategic goals to be achieved and the primary aim of the operations function is to deploy the appropriate resources to support the achievement of those goals. (Kaminsky & Simchi-Levi 2013.) Typically, the operations performance objectives are specifically related to satisfying customers' requirements. In general, the fundamental performance objectives that apply to all types of organisation and are closely related to customer satisfaction requirements are speed, dependability, flexibility, quality, and cost (Karlsson 2015).

### **1. Speed.**

Speed means doing things quickly. It is about delivering goods and services to customers as fast as possible. (Ibid.) This involves making quick decisions and rapidly moving materials and information inside the operations. For example, in the context of trade and transport facilitation, 'automated processes' can be a speed performance factor.



## **2. Dependability.**

Dependability means doing things on time and as promised. It is about developing trustworthiness. (Ibid.) Dependability can be achieved through the use of reliable equipment, effective communication, efficient scheduling systems, motivated workforce, transparency of processes, etc. In the context of trade and transport facilitation, 'transparency of border processes' can be an example of dependability performance factor.

## **3. Flexibility.**

Flexibility is about being able to change the operations to fulfil new requirements. As requirements can change over time, organisations need to develop operations ability to introduce new or modified products and services, as well as to produce a wide range or mix of products and services. Flexibility also involves volume flexibility (the ability to change volume of output over time) and delivery flexibility (the ability to change delivery time). (Ibid.) Flexibility can be achieved to the use of more versatile equipment, suppliers with good flexibility performance, multi-skilled workforce. In the context of trade and transport facilitation, 'different entrance times' can be an example of flexibility performance factor.

## **4. Quality.**

Quality is about doing things right. It means consistently producing goods and services that meet expectations. The quality objective can be achieved by the provision of error-free products or services that fulfil customer requirements. This requires skilled workforce, adequate job specifications, proper technologies, and effective communication. For example, in the context of trade and transport facilitation, 'adequate transport infra-structure' can be a quality performance factor.

## **5. Cost.**

Cost performance is about doing things economically. Low cost is a universally attractive aspect. (Ibid.) Lower cost of production or service delivery reflects to the customer in form of lower price. Cost reduction can be achieved by developing good relationships with suppliers, good negotiation of supplying contracts, getting the right mix of resources and facilities as inputs, etc. In the context of trade and transport facilitation, 'no hidden costs' can be an example of cost performance factor.

<b>CATEGORY</b>	<b>PERFORMANCE FACTOR</b>
<b>SPEED</b>	<ul style="list-style-type: none"> <li>• Shipments/consignments cleared as scheduled</li> <li>• Key documents available electronically</li> <li>• Clear and automated duty payment processes</li> <li>• Clearance automation and availability of pre-clearance processes</li> <li>• Agile customs processes and transport operations</li> </ul>
<b>DEPENDABILITY</b>	<ul style="list-style-type: none"> <li>• Reliable and visible transport schedule</li> <li>• Effectiveness and efficiency of the clearance and transport services delivered by customs and other border agencies</li> <li>• Accurate registration of shipment/consignment information</li> <li>• Security inspections delivered on time</li> <li>• Low risk of criminal activity and security incidents</li> <li>• Harmonised and transparent customs processes</li> <li>• Standardised transport procedures</li> <li>• Compatible and adequate infrastructure of ICT systems</li> <li>• Effective and efficient communication between terminals, services, and operators</li> </ul>
<b>FLEXIBILITY</b>	<ul style="list-style-type: none"> <li>• Capacity to operate with multiple transport modes and vehicle sizes</li> <li>• Capacity to operate with multiple supply chains with specific operating requirements and from different sectors</li> <li>• Capacity to operate with different entrance times</li> </ul>
<b>QUALITY</b>	<ul style="list-style-type: none"> <li>• Shipments/consignments delivered with no damage</li> <li>• Adequate transport infrastructure and facilities</li> <li>• Responsiveness and willingness to communicate and cooperate with customers</li> <li>• Competent and available staff (customs officers, transport operators, and brokers)</li> </ul>
<b>COST</b>	<ul style="list-style-type: none"> <li>• Customs and transport services delivered with no hidden costs</li> <li>• Customs and transport services delivered with no undocumented payments</li> <li>• Services delivered within expected costs</li> </ul>

Figure 10. Performance factors for logistics companies (Davids 2012)

The operational aspects in Figure 10 identified do not necessarily represent an exhaustive list of key operations performance factors for trade and transport facilitation. As any approach to measuring operations performance in this area should take into account specific circumstances and capacities of

individual border-crossing ports. Nonetheless, the factors above provide a list of core operations factors that are crucial for the facilitation of trade and transport.

The categorization of those factors by critical operations performance elements such as speed, dependability, flexibility, quality, and cost provides a useful theoretical framework for the analysis of competitiveness of 3PL companies in Russia. Also, I used this theoretical framework in creation of interview questions to representatives of 3PL companies for data collection. Data analyze based on main concepts which provided above: speed, dependability, flexibility, quality and cost. This theoretical framework reflects all important factors which influence on competitive advantages of 3PL companies.

Chapter 3 will provide the methodology which include research approach, research context, ways of data collection and data analyze, verification of results.

## **3 Methodology**

### **3.1 Research approach**

The research approach is qualitative. Qualitative research is designed to reveal a target audience's range of behavior and the perceptions that drive it with reference to specific topics or issues. It uses in-depth studies of small groups of people to guide and support the construction of hypotheses. The results of qualitative research are descriptive rather than predictive. (Nagy & Biber 2017.)

Qualitative research methods originated in the social and behavioral sciences: sociology, anthropology and psychology. Qualitative methods in the field of research include in-depth interviews with individuals, group discussions (from two to ten participants is typical); diary and journal exercises; and in-context observations. Sessions may be conducted in person, by telephone, via videoconferencing and via the Internet. (Creswell 2017)

Several unique aspects of qualitative research contribute to rich, insightful results:

- Synergy among respondents, as they build on each other's comments and ideas.
- The dynamic nature of the interview or group discussion process, which engages respondents more actively than is possible in more structured survey.
- The opportunity to observe, record and interpret non-verbal communication (i.e., body language, voice intonation) as part of a respondent's feedback, which is valuable during interviews or discussions, and during analysis.
- The opportunity to engage respondents in "play" such as projective techniques and exercises, overcoming the self-consciousness that can inhibit spontaneous reactions and comments. (ibid.)

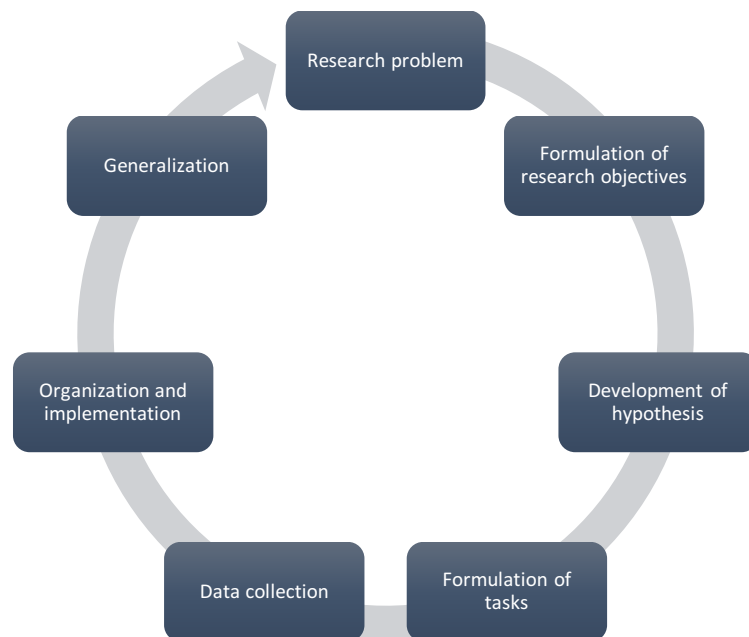


Figure 11. The research process (Creswell 2017)

Now, I would like to describe deeper the structural components of research process in Figure 11.

**Stage 1. General acquaintance with the research problem, definition of its external borders.**

At this stage, the level of its elaboration, perspective is established. The researcher must clearly understand and motivate society's needs for knowledge on this issue (Ibid). The relationship between the topic and the problem is an important issue in methodology. The research topic is not part of the problem. In relation to the topic, the most common concept is the "direction", which is a bundle of homogeneous themes. There is a methodological regularity in formulating the research themes and sufficiently rapid replacement of one or more problem aspects of the research topic. The topic lives for a long time, and the problem aspects of it change under the influence of scientific and technical and social progress, and under the influence of changing world outlook on the nature of the phenomenon being studied.

### **Stage 2. Formulation of research objectives.**

The objectives of the research are either the achievement of certain new states in any part of the research process or a qualitatively new state - the result of overcoming the contradiction between the proper and the existent (Ibid). In addition to formulating a common goal, private, intermediate goals are formed. The objectives of the study should be specifically formulated and expressed in the description of that predictive state in which it is desirable to see the object of research in accordance with the social order. The aim of the study is always a description of the projected normative result, inscribed in the context of the links of a more general system. The development of a hierarchy of goals is completed by building a network graph (or goal tree) in which a critical path is highlighted that optimizes the sequence of performing research operations and all kinds of work to achieve the ultimate goal.

### **Stage 3. Development of the research hypothesis.**

The hypothesis of research becomes the prototype of the future theory in the event that by the subsequent course of work it will be confirmed (Ibid). Therefore, when developing a hypothesis, the researcher must keep in mind the basic functions of the scientific theory. Since it is a question of constructing a hypothesis as a theoretical construction, the truth of which must be proved experimentally or in a mass, organized, controlled experiment, it already as a project should perform the corresponding functions within the

scope of the research subject-descriptive, explanatory, prognostic. Satisfying these requirements, the hypothesis describes the structural composition of the subject of research as a manifestation of the quality of the unity of the whole. Thus, the researcher is given the means and methods of controlling the process of the experimental transformation of reality, the hypothesis predicts the final results of the transformation and the long-term nature of their existence.

#### **Stage 4. Statement of research tasks. The ascertaining experiment.**

Hypothetically presented internal mechanisms of the functioning of the phenomenon under study, presumably described its essential characteristics are correlated with the objectives of the study, that is, the final projected results (Ibid). This correlation allows to proceed to the formulation of research problems. This theoretical work is aimed at developing the form and content of specific searches for tasks aimed at optimizing, varying the conditions (external and internal, existing and experimentally brought), as a result of which the hypothetical causal relationship acquires all the features of objective law. In the process of formulating research tasks, as a rule, it becomes necessary to carry out the ascertaining experiment to establish the actual initial state before the experiment, the basic, transforming one. Carrying out of the ascertaining experiment allows to finish development of research problems to a high degree of certainty and concreteness.

#### **Stage 5. Kind of transforming experiment and its organization.**

A new stage in the movement of scientific research comes after the formulation of research tasks. A complete list of material conditions, both amenable to regulation and allowing at least stabilization, should be provided. From this description, the form, content, set of means for directing the transformation of an object (process, phenomenon) becomes clear with a view to forming preset qualities in it (Ibid). The program of experimental work (i.e., the list of works for the entire experimental period itself), the experimental procedure and the technique for recording the current events of the experimental process are carried out by direct and indirect observations, interviews, questionnaires, the study of all kinds of documentation and material evidence.

**Stage 6. Organization and implementation of the experiment.**

The organization and carrying out of the experiment begins with a test check of the experimental documentation: research methods, questionnaires, questionnaires, programs of conversations, tables or matrices for recording and accumulating data (Ibid). The purpose of such a check is to make possible clarifications, changes in the documentation, cut off the excesses in the collection of factual data, which will later become burdensome, time-consuming and distracting attention from the central issues of the problem. The experimental process is the most time-consuming, tense, dynamic part of scientific research that cannot be stopped, the experiment does not allow for any unplanned pauses.

**Stage 7. Generalization and synthesis of experimental data.**

At the previous stages, the analytical stage of the study was over. At the stage of generalization and synthesis of experimental data, the reconstruction of a holistic view of the object under investigation begins, but from the point of view of essential relations and on this basis is experimentally transformed (Ibid). The accumulated sufficient factual material, partially already systematized in the course of the experiment, is transferred to the internal laboratory of the scientist, in which logical and formalized methods for studying experimental material acquire paramount importance. The actual material undergoes qualification for various reasons, statistical sequences, distribution polygons are formed, tendencies of development of stability, jumps in formation of qualities of the object of experimental influence and research are revealed. Inductive and deductive generalizations of factual material are constructed in accordance with the requirements of representativeness, validity and relevance.

**3.2 Research Context**

The research context is Russian logistic market. In this part I describe features and problems in development of logistics in Russia. Also very important part of research context is situation in Russian 3PL market. We should know which companies have the biggest influence in this area of production and how they improve their capabilities to be competitive.

### **Features of logistics in Russia**

In accordance with the world rating of logistics systems efficiency in 155 countries, the final logistics index of the Russian Federation is 2.41. It is 95th place, next to countries such as Guinea-Bissau and Togo. (Kreowski, Scholz & Thoben 2016.)

The results of a biennial study reflect the level of development of various sectors of history. Russia has the following indicators:

- Systems of transparency and control - 79 place;
- Quality of logistics and competencies - 92 place;
- Timeliness of delivery - 94 place;
- Infrastructure (including objects of transport and warehouse logistics) - 97 place;
- International shipments - 107 places;
- The share of transport costs in the structure of Russia's GDP - about 20% - is one of the highest in the world.
- Without solving transport problems, the growth potential of the Russian economy is limited - up to 3% a year in the next 5-7 years. (Ibid.)

Russia is the largest country in the world. It covers 11 time zones, which have completely different geographical, cultural and climatic features. Bureaucratic obstacles and poor infrastructure complicate logistical processes in Russia in the same way as lack of competition, lack of transparency and limited logistics know-how do. Nevertheless, Russia intends to become a center between Asia and Europe. The question of how to transport cargo from Turkey to Kazakhstan is also included in the transport logistics schemes. Russia extends from the Baltic to the Pacific. Three quarters of the country is in Asia. As a result of the vast expenses of the country, it has regions with completely different geographical, cultural and climatic conditions. (Wocka-Gowda 2017.)

Despite the difficult conditions, Russia intends to become an important center for the Asia-Europe transport and partly for the north-south axis going from northern Europe to India. The biggest problems are created by its imperfect



infrastructure and the lack of modern logistics technologies. In addition, the transformation is being slowed down by bureaucratic obstacles, including customs clearance. The largest logistics schemes are concentrated around Moscow and St. Petersburg.

The largest export countries of Russia are the Netherlands, Italy, Germany, China, Ukraine and Turkey. The largest amount of imports comes from Germany, China, Ukraine, Japan, Korea and the United States. The density of roads is very insignificant - 40 m of road per 1 km. This is the result of the rare population of many regions of the country. Nevertheless, most of the goods pass between Western Europe and Russia, carrying out routes along roads through Poland and Belarus or along the northern route through Poland and the Baltic countries. (Wocka-Gowda 2017.)

A growing number of goods are transported through European ports, such as Hamburg, and then through the harbors in the Baltic, Finland and northern Russia. After the cargo arrives in the country, the cargo is loaded onto trucks and, to a lesser extent, by rail. In Russia, the railway network is about 85,000 kilometers, being the second largest in the world. In Russia, rail transport accounts for the largest share of freight traffic, namely 83 percent. The focus of rail transportation is also the supply between Russia and Europe and transportation from Europe to Asia via Russia. The Trans-Siberian Railway plays a particularly interesting role here. Thanks to this road, the unloading and shipping of goods between Busan and Helsinki can be reduced from about 47 days to ships up to 16 days. (Bookbinder 2012.)

Despite on a lot of features of Russian logistics system, there are a lot of different problems. Firstly, the undeveloped logistics infrastructure creates barriers to the creation of an effective network, the development of the industry and the economy as a whole. Big influence to development of logistics has inefficiency of supply chains in Russia leads to low competitiveness of Russian industry. Second aspect of difficulties is planning of logistics. It is not synchronization of actual sales with plans, production and purchases. Speaking about organization of supply it has a small number of "quality" suppliers - low competition; risk of becoming dependent on suppliers;

high cost in the self-production scenario. Here is a list of problems which logistics organization could also face:

- Inefficient flow map, load and type of transport, packaging.
- Production and purchases: conflict of interests between production (sufficiency of stocks) and purchases / controlling (minimization of "frozen" liquidity).
- Transparency of costs: lack of transparency in the formation of the logistics component of production costs (purchases, transportation, storage).
- High unit costs for warehouse logistics: storage and handling.
- Disruptions and impossibility of high-quality planning of transport logics. (Wocka-Gowda 2017.)

This year, the economic situation in Russia is worse than last year: consumption volumes are declining, which leads to a proportional (and often larger) reduction in the market of transport and warehouse logistics services. Also in Russia there is still a low level of quality of training of specialists, which leads to a staff shortage of professionals in the field of supply chain management, warehouse logistics and transport systems. (Nordmeyer 2018.)

Many companies are attracting third-party companies today to perform logistics operations, but there are still many difficulties that do not yet allow them to say that outsourcing in Russia has become a common practice. Below are specific Russian problems noted by heads of logistic units of trade networks as important obstacles to the development of outsourcing of logistics functions. One of them is the lack of competent and powerful logistics operators on the market, which could cope with the management of all logistics or at least individual functions of a large network. Quite rarely they are given the functions that affect the image of the company in the eyes of customers. The source of this problem lies in the lack of information about the activities of logistics providers.

Imperfection of legislation with regard to the regulation of the activities of freight forwarding companies. Due to the lack of a law on compulsory licensing of the activities of freight forwarders, there are facts of loss and

damage of cargo. In some cases, this leads to the fact that small companies cease to exist. Since usually carriers do not insure their liability, in case of damage or loss of cargo it is very difficult to reimburse the losses legally. At the same time, some negative examples cast a shadow on the whole industry of forwarding services.

The cost of the services of a warehouse operator, for example, is on average 1.5 times higher than the cost of operating its own warehouse system (this figure, however, does not take into account all the variety of transaction costs, as well as losses due to freezing of funds in its own warehousing).

The impossibility of complex integration of the overwhelming number of logistics providers in the structure of the company-customer due to the mismatch of technical and information standards. The discrepancy between the declared and actually implemented complex of services. This, in particular, concerns the possibility of customs clearance, which virtually all operators declare, but they really provide only a few in the required volume and with sufficient quality. Absence in the market of companies providing a full range of logistics services. (Ibid.)

### **Situation in Russian 3PL Market**

The key players in the logistics 3PL-outsourcing market are international organization that grew out of express delivery services and came to Russia to solve the tasks of large manufacturing and trading companies. Their target groups are customers from the oil and gas, energy, telecommunications, and automotive. Such providers include, for example, DHL and UPS (UPS annual report 2017). Known as providers of courier services for express delivery of documents, these operators have a complete management, information and production package of resources for integrated logistics outsourcing.

Among the key operators of 3PL, of course, there are the largest transport companies and management companies own and leased distribution centers. The versatility of 3PL service providers in the Russian market does not contradict their historically established specialization.

Most of the suppliers of 3PL-outsourcing in Russia are represented by companies with foreign or mixed capital (Huo & Wang 2017). This is explained by the usual methods of solving logistics problems brought by foreign consumers of these services to Russia after the development of their business. In addition, client history, qualifications, international logistic connections and, accordingly, the quality and reliability of services of foreign 3PL-providers still benefit from comparison with domestic suppliers.

The status of a logistics operator as a 3PL provider implies a high client-oriented service. New types of services ordered by the customer must be developed, provided and provided by the 3PL-company or its subcontractors. Following market demand, the portfolio of logistics services is expanding, but not all available services are subsequently in demand on an ongoing basis.

So, one of the most sensitive to changing business processes of the 3PL client is the technology of picking orders in warehouses of responsible storage. Special labeling conditions, proprietary packaging of the recipient, quality of the barcoding, complex pre-sale preparation, transportation under special temperature conditions, any changes in the document circulation-all this and much more requires the immediate reaction of the 3PL-provider (Davids 2012).

Adequacy in the readjustment of logistics procedures has its own negative aspects. The uniqueness of the business processes of a particular client, the specificity of its commodity flows and the requirements for preserving the confidentiality of commercial information do not allow replicating the methods of 3PL-providers from the client to the client for a variety of services. (Ibid.)

The most relevant are services in the transport component of outsourcing due to the high level of unification of vehicles, containers and loading and unloading nodes. Intra-warehouse processing of commodity flows also is in great demand. Demand for freight forwarding and customs brokerage services is stable. Services such as inventory management, order management, are located approximately in the middle of a ranking demonstrating the demand

for logistics outsourcing (Bohling 2016). This is explained by the incomplete penetration of the 3PL-concept into the logistics strategies of clients and the preservation of their own logistics services. As an example of the minimum application of 3PL-outsourcing, it is possible to mention such companies as IKEA and METRO.

The least developed, apparently, should be considered as logistical outsourcing in terms of information support. External logistics consultants are most often involved in the tendering phase and the introduction of corporate information systems. Their operation and support is a function of their own IT departments. The reasons for this lie in the reluctance to depend on external suppliers and in the requirements for the safety of commercial information.

In general, the situation in the Russian market of 3PL-outsourcing can be considered as optimistic. The positive dynamics is manifested both in the increase in the number of customers choosing this concept of purchasing logistics services, and in the growing depth of outsourcing penetration into the company's own logistics infrastructure. The level of service is constantly increasing, many 3PL-providers are ISO certified.

### **3.3 Data Collection**

The qualitative research interview seeks to describe the meanings of central themes in the life world of the subjects. The main task in interviewing is to understand the meaning of what the interviewees say. (Nagy & Biber 2017.)

#### Aspects of Qualitative Research Interviews.

- Interviews are completed by the interviewer based on what the respondent says.
- Interviews are a far more personal form of research than questionnaires.
- Unlike with mail surveys, the interviewer has the opportunity to probe or ask follow up questions.
- Interviews are generally easier for respondent, especially if what is sought is opinions or impressions.

- Interviews are time consuming and they are resource intensive.
- The interviewer is considered a part of the measurement instrument and interviewer has to well trained in how to respond to any contingency.

Procedure of the Interview accordance to Nagy and Biber (2017) has 4 phases:

### **First Phase.**

The research tool undergoes careful analysis and conducts a series of pilot interviews to identify the weaknesses of the questionnaire. As a result, an instruction is prepared for the interviewer. Scenario instructing interviewers, determine the labor costs for one interview and the search for a respondent. Select the questionnaires and interviewers responsible and able to successfully communicate with respondents, determine the load for each interviewer in accordance with the study plan (time) and labor costs.

### **Second Phase.**

A briefing is being conducted on the interviewing procedure, the main purpose of which is to achieve an adequate and more or less equal understanding of all the questions of this questionnaire and the principles of finding respondents among all the interviewers participating in the study. At this stage assignments are distributed, deadlines for their delivery, principles for settling conflict or incomprehensible situations are established. The organizer of the questionnaire, in addition, is often contacted with the internal affairs bodies at the place of the interview so that police officers are aware of the ongoing research, did not interfere with him and knew what to answer in response to citizens' questions.

### **The Third Phase.**

Interviews are viewed, carefully checked, open questions are coded (each identified option is assigned a separate code). After that, the data entry is carried out-that is, each questionnaire is entered into the computer, the respondent is assigned, but the code of the variant of the variable that the respondent chose is entered and entered. If a lot of respondents (one

thousand or more) were interviewed during the survey, it is necessary to check the quality of data entry and make sure that they were entered without errors and distortions.

### **The Fourth Phase.**

As a result of data entry, an array is formed and the aggregate of answers of all respondents to all questions of the questionnaire, here the specialist can begin the analysis in order to obtain the distribution of answers to research questions and establish the relationships between variables and signs. At this stage, the results of the analysis are interpreted. The purpose of such an analysis in the applied project on social work is the forms of conclusions that could be applied in practice.

The interview is a verbal exchange situation where one person, the interviewer, is trying to obtain information or expressions of opinions or beliefs about another person (from other people in the case of a group interview) (Creswell 2017). The interview process in the person-diary interview is organized in such a way as to encourage participants in the events to recall, recreate and discuss the moments of experience and life problems. Informants are interviewed several times during the study. At the beginning of the interview, the same questions are always asked. The questions then focus on broad thematic interests related to the field of study. The interviewer tries to clarify some points, returning to them in the interview process, and asks the respondent to clarify them. Once the main research questions are clarified, the interviewer translates the topic into other questions of interest to one or another informant.

The main advantage of a group interview is that a large amount of information on the topic is generated here in a short period of time. One of the drawbacks: people can hide some views, not wanting to express them in public. An example of a group interview is a focus group.

In my data collection I used principles for the formulation of interview questions by Creswell (2017):

1. It is necessary that all questions fall into the conceptual domain, it is important for the theory and research questions of the sociologist.
2. Questions should be formulated and organized in such a way that they correspond to the experience of the respondents.
- 3 The interviewer must discover the real meanings that lie behind the answers of the informant. For example, if a mother says that her child is a "slow learner", the researcher should not assume that he knows what the term means. It is best to ask the respondent to explain, expand, give examples, compare and contrast the concept or type with other concepts or types.

In my research I had interviewed managers of supply chain department from 3 different Russian 3PL companies – UPS (Russian Branch), Ltd. AutoRONA, SPGroup. My interview questions were based on Christer Karlsson Competitiveness Model (2016). There are five main capabilities which will help me to analyze competitive advantages of companies – quality, dependability, speed, flexibility and cost. Interview questions are presented in Appendix 1.

### **3.4 Data Analysis**

The data analysis stage is a set of procedures that make up the stages of data transformation. The main ones are: the stage of preparation for the collection and analysis of information; operative stage of primary data processing, verification of information reliability, formation of descriptive data, their interpretation; the resulting stage of generalizing the analysis and implementation data of the application function. At each stage, relatively independent tasks are solved. However, the course of analysis in the study is quite flexible. Along with the general and established sequence of stages, a certain cyclical and iterative nature of a number of procedures are formed, there is a need to return to the previous stages. Accordingly, the stages and procedures of analysis presented in the schemes set only the general direction of the data analysis cycle.



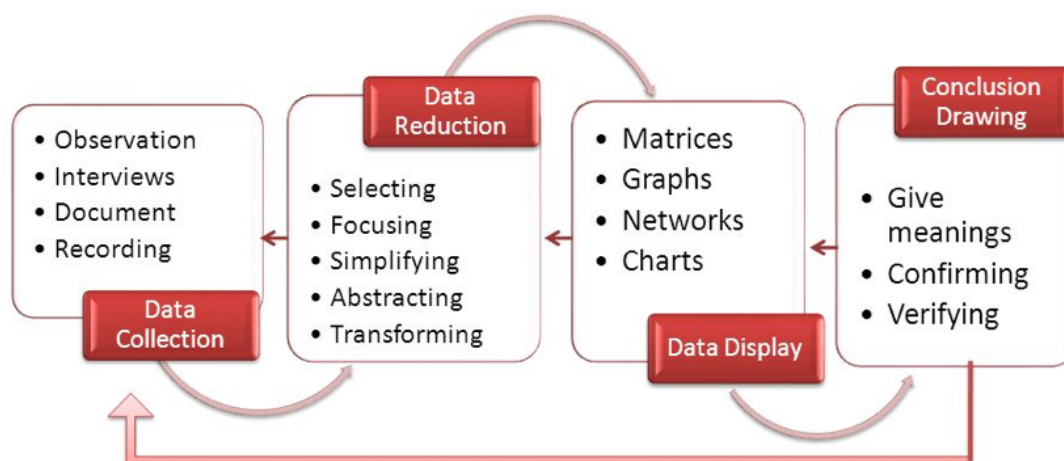


Figure 12. Stages in Qualitative Data Analyze (Creswell 2017)

Content analysis was chosen as the data analysis technique based on the research problem and objectives. The data analysis focused on the five variables derived from the theoretical framework: quality, dependability, speed, flexibility and cost. Next I will go on to describe how I analyzed the data based on stages of qualitative data analysis which are presented in Figure 12 starting with the stage of data collection.

First of all, the personal interview was transcribed from the audio recording on a computer in order to make the content analysis easier. The names of the interviewer and interviewee were included in the transcription to ease the identification of speaker. Only the exact words of the interview participants were transcribed, meaning that such sounds as ‘umm’ or ‘er’ were not included due to the notion that a naturalist perspective was used in analyzing the data, meaning that the interviewee’s answers were taken to describe an external reality encompassing such things as facts and events. Finally, after preparing the data collected from the interview were combined together in MS Word in preparation for analysis.

The body of text in Word was read through thoroughly many times in order to grasp the full significance of the data. Next the text was coded based on themes derived from the theoretical framework: quality, dependability, speed,

flexibility and cost. According to Creswell (2017, 62) “coding is how you define what the data you are analyzing are about.” So in practice, when a chunk of text explicitly or implicitly referred to one of the previously mentioned themes, it was coded in MS Excel using the corresponding thematic tag. This coding made the next step of analysis easier where these coded pieces of text were then grouped under the themes from the theoretical framework. After this, a detailed description was made of each of the companies and their respective contexts using the available data. In coding I used 5 main codes from theoretical framework, which you can see in Table 1.

Table 1. Main codes of interviews analyze

CODES	Description
SP	Speed
DP	Dependability
FL	Flexibility
QL	Quality
CS	Cost

They help us to analyze from interviews main capabilities of companies. Speed gives a description of delivering cargos as soon as possible. Dependability shows that company did things on time and as promised. Speaking about flexibility it is about being able to change the operations to fulfill new requirements. Quality is about doing things right. Cost index also very important it shows that company doing things economically and practically. Index of 3PL companies competitiveness consists of these five concepts.

### 3.5 Verification of the Results

#### Validity

In the modern scientific situation, it is not just about introducing representations about validity specific for qualitative research, but also about the conceptual replacement of this criterion traditional for psychology. In a realistic system, validity is discussed from the point of view of the reasoning of the proposed interpretations. The construction system instead of the validity

criterion introduces criteria of authenticity. A critical criterial system emphasizes social utility, a critical component of analysis, and its inclusion in the context of social change. The aesthetic reduces the quality of the analysis to its expressiveness, polyphonic character, which results in the representation of different semantic positions in the study. The radical system, following the logic of both radical constructionism and methodological anarchism, rejects an unambiguous standard of research quality. The problem of validity is the problem of breeding and critical reflection of how the author's and his respondents' positions are correlated.

During the conducting of the study select validation strategies were used to enhance the validity of the research: prolonged engagement with the field of study, member checking and the clarification of researcher bias (Creswell 2017, 207- 209). The implementation of these strategies will now be elaborated on with greater depth. Prolonged engagement with the field of study was achieved through the author's practical training at Ltd. AutoRONA, which lasted for about four months. More importantly, the practical training at Ltd. AutoRONA acquainted me with the situation of the company and built trust with all of its employees that in turn facilitated the collection of data for the research. Furthermore, following the logistics industry developments familiarized me with the research context and its associated trends. The validation strategy of 'member checking' was conducted with the participants of the study in three logistics companies. During the research stages of data collection, analysis and interpretation they were repeatedly consulted about the emerging results of the study. In particular, since they were also the commissioning party of the research, the successful implementation of the study was in their interest, implying that the help obtained from them was most likely done in good nature for the further enhancement of research validity.

As the author of this thesis, I acknowledge my personal bias and subjectivity in administering this study. I am no expert in the field of 3PL companies, being only partly involved for approximately a year. Among other things, this means that this research will be biased by my relatively short time being acquainted with the industry: I may overemphasize some aspects and trends in the

logistics market and its companies that have only become prominent during my short duration of contact with the industry.

### **Reliability**

One of the strengths of qualitative research is the reliability (proximity to truth), that is, a good qualitative study can really clarify the essence of what is happening, rather than reflect only what lies on the surface. The reliability of data in qualitative research depends on many factors. One of them is the methods of coding the received data. In this paper, all the data were obtained from interviews that were recorded. After that they were carefully deciphered and coded by me. Information obtained after the coding has been cross-checked many times with valid interviews, which eliminates the possibility of errors and unreliability of the data.

Also one of the problems in qualitative research is the incorrectness of the information received during the interview. This problem is also not available in this work, all the information was obtained from reliable sources. That is, from managers of companies that have held their positions for a long time and have access to all the necessary information. All respondents are working in the field of 3PL logistics for at least ten years. Also, I can be sure of the reliability of the information, because I worked at AutoRONA for four months and all the data obtained during the interviews correspond to reality.

Chapter 4 will provide results of the research, deep analyze of the data which were collected during interviews and answering for the research question.

## **4 Results**

Now, I would like to present results of my research organized under the themes quality, dependability, speed, flexibility and cost, which are derived from the theoretical framework.

## 4.1 Quality

With the development of a competitive environment, the quality of the provided logistics services will be one of the essential points for gaining advantages in the transport market. Quality logistics services will help to attract additional traffic volumes. However, improving quality requires additional capital investment and increased operating costs. At the same time, the economic effect can be either positive or negative. When outsourcing the logistics to the client, it is first of all necessary to clearly understand what kind of result he wants from the logistics operator's work, how the warehouse business processes will look (goods receipt and shipment, storage, processing, packaging, repackaging and quality control, marking, sticking, selection of orders, etc.) (Shah 2011). I want to emphasize that in order to organize a full-fledged work of the warehouse and provide quality services to the operator, close, coordinated interaction with the client from the earliest stage of joint activity is necessary before the goods are transferred to the warehouse of the logistics operator. However, today many logistics operators in their work are faced with the fact that customers do not provide the information necessary for the job in the required time and do not have a clear idea of the desired interaction scheme.

In this category, interviewees answered questions related to the quality of the company's work to understand the level of competitiveness of the company on the Russian market. A lot depends on the quality of the company's work, at least if the client is not satisfied with the quality of work, he will not go back and will leave negative reviews everywhere (among friends, at work). Accordingly, this is unprofitable for the company. Questions in the interviews were related to the number of trainings conducted in the organization, to improve the quality of work of employees. And an important fact determining the quality of the logistics company's work is the amount of damaged cargo upon delivery. Below is provided a table with the results obtained during the interview (Table 2).

Table 2. Quality of work 3PL companies

	Company 1	Company 2	Company 3
Cargos Damage	10%	0%	5%
Amount of trainings per year	4	2	1

So, from the data obtained in this table, we see that in the company 1, the percentage of cargo damage is the largest, but they also have the most trainings of employees, which indicates that the company is working to improve the quality of its services. Company 2 has the ideal indicator of cargo transportation and also conducts trainings for its employees quite often. From this we can conclude that the company of two at the moment has a favorable position in the market and has a high level of competitiveness. While company 3 brings a damaged cargo in 5 percent of cases and conducts trainings only once a year. In this situation, we can conclude that the quality of the company is not the highest, and management does not strive for improvements. Thus, according to these indicators, company 3 has the least favorable position.

#### 4.2 Dependability

The dependability indicator is one of the most important for understanding the competitiveness of the company. Customers will choose the company that does everything in time and smoothly. For the notion of dependability of logistics companies based on the 3PL system, questions were asked in the interview that revealed the frequency of testing of vehicles and equipment. For companies in the field of logistics, the uninterrupted operation of the fleet, regular maintenance and the renewal of cars are necessary. The work of equipment in warehouses is also very important, the cargo must be accepted quickly and without damage. It is also important to monitor and track employees, basically careful control is required by drivers. One of the causes of cargo damage is a tired driver or a faulty car. For transportation of different categories of goods in Russia, logistics companies also need to have a license for the transportation of a particular type of cargo. Another important factor when choosing a company is the possibility of cargo insurance. The insured cargo increases the likelihood of the company choosing a client by the criterion of reliability. That's why the questions on the above topics were asked

by the interviewed managers of 3PL companies. All indicators of companies are described in more detail in Figure 13.

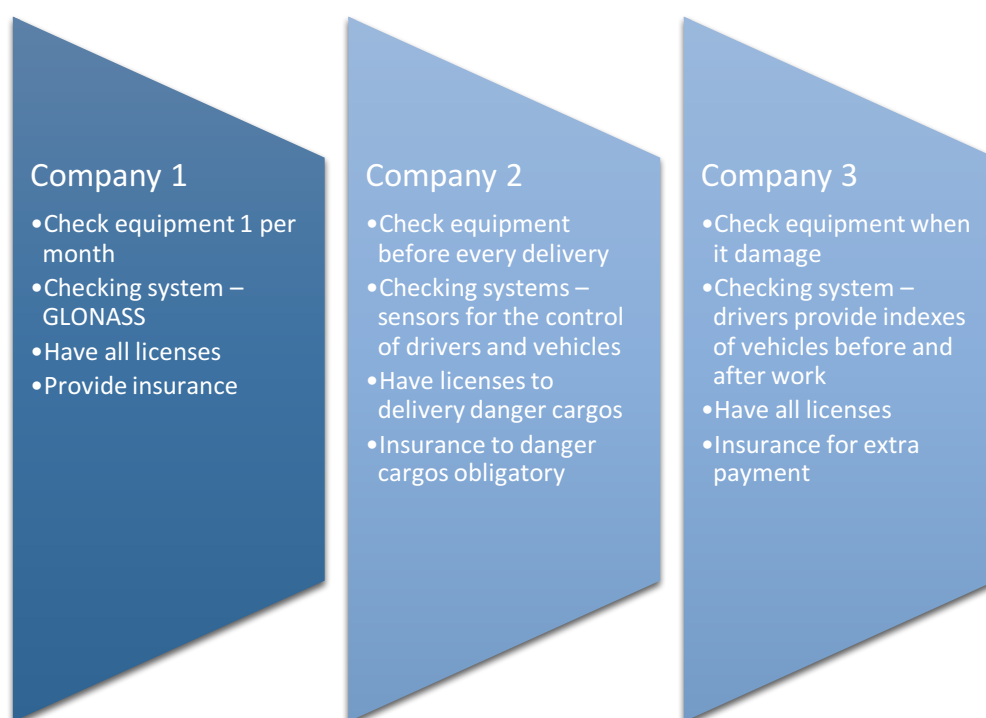


Figure 13. Indices of dependability 3PL companies

From this figure we see that company 1 checks its equipment and vehicles every month. This indicator is quite high and shows a decent level of reliability of the company. This means that all vehicles pass permanent inspections and ensure reliable transportation of goods and a high level of competitiveness of the company. Also, company 1 uses the GLONASS system to check drivers, this system allows you to track the vehicle's location, mileage and fuel consumption, thus avoiding unforeseen situations. The availability of all licenses guarantees reliable transportation of cargo to the destination, which again increases the competitiveness of 3PL companies in the Russian market. The company also provides cargo insurance to customers. From all of the above, it follows that company 1 has a high level of competitiveness.

Company 2 obliges all drivers to check vehicles and equipment before each use, which reduces the probability of unforeseen breakdowns to almost zero. The control system of drivers and vehicles consists in the use of built-in sensors in cars that, like the GLONASS system, track the location, but these

sensors help determine the number of hours spent by one driver at the wheel of the vehicle. Company 2 adheres to the clearly standardized schedule of drivers' work of eight hours. The driver is obliged before each departure to fill in the number plate, which indicates all the main characteristics of the car. After coming to the place of transportation of vehicles, the driver must pass this form to the chief mechanic and in turn receive a receipt about the accepted forms. Thus, the company excludes technical malfunctions of the vehicle through the fault of the driver. Also, cars are equipped with additional sensors (installed in a certified dealer center) to control load and load changes on all axles of the car. All auxiliary tools (clamps, carbines, winches and any rigging equipment) have a quality certificate, once a year the equipment is completely updated. Also in cars there is an automatic fire-extinguishing system - in the cab of the car and the body. In any vehicle of the park, a vehicle monitoring system is installed, any emergency situations (sharp fuel loss - more than three liters, deviation of the route by more than 700 meters and other emergency situations) are controlled by the internal security authorities. Such security measures make the company reliable for its customers. The company also undertakes to insure dangerous goods to avoid problems with payments in case of emergency, because the cost of dangerous goods exceeds 100,000 dollars per unit of cargo. Based on the information received during the interview, the 2 company is an ideal indicator of the high reliability of the 3PL organization, which gives them an undeniable advantage over competitors and increases their competitiveness in the entire Russian market.

Speaking of company 3, there is a high probability of failure during transportation, as equipment is rarely checked and only when there are obvious breakdowns. There are no checks as such, the company trusts its employees to check vehicles, there is a possibility of fraud and irresponsible behavior of employees. The availability of all licenses for transport is the only high index for reliability criteria. Cargo insurance is provided at the request of the client and at an additional cost. Thus, we see that the number three company is not a reliable carrier, accordingly the low probability of their choice by the client.



Thus, from the analysis of the three companies, we can conclude that the reliability index is won by company 2. It is a company with excellent service and is an indicator of a high level of competitiveness in the Russian logistics market.

### 4.3 Speed

The next considered indicator is the speed. Speed is determined not only by the time of delivery of the product, great importance is the overall performance of the company. How quickly the cargo is accepted, at what speed the company completes all document circulation, the possibility of quick payment. But as before, the most important factor determining the high competitiveness of 3PL companies in terms of speed is the delivery of cargo in the shortest time. This is followed by questions for asking managers of logistics companies such as ways to reduce the delivery of goods and the percentage of departure from the delivery schedule. Two of these indicators fully describe the speed of the logistics company. Figure 14 shows the results of the interviews according to the speed criterion.

Company 1	Company 2	Company 3
<ul style="list-style-type: none"> <li>• Technical improvement of transport used for the transportation of various goods.</li> <li>• Introduction of advanced technologies for route planning</li> <li>• 3% deviation from the schedule</li> </ul>	<ul style="list-style-type: none"> <li>• Updated fleet of vehicles, two drivers for urgent deliveries</li> <li>• 0 waste from the schedule through the fault of the company</li> </ul>	<ul style="list-style-type: none"> <li>• The time of delivery of goods is reduced due to a direct variant of transshipment and reduction of the terms of storage of goods in warehouses</li> <li>• Percentage of deviation from the schedule 10%</li> </ul>

Figure 14. Speed of delivery and percentage deviation from schedule

So, the company 1 for the last year has improved its performance due to several factors:

- Technical improvement of transport used for the transport of various goods.
- Implementation of advanced technologies for route planning.
- Improving the organization of cargo transportation.

In many respects, the quality of cargo transportation reflects the second item concerning the development of advanced logistics technologies. Also, the percentage of departure from the schedule is 3%. These improvements have increased several times the speed of delivery and, accordingly, increased the company's competitiveness in the Russian logistics market. The percentage of departure from the freight schedule is relatively low and again gives the company the advantage when choosing a client.

The company 2 improves the speed of delivery thanks to its modern car fleet. New cars give the opportunity to develop a high speed and are good for the absence of breakages during the execution of the order, which significantly reduces the travel time. To overcome the long-distance route in the shortest possible time, the company launches two drivers to carry out the road in a non-stop order. As already mentioned in the dependability clause, one driver can only work for eight hours without interruption. Thanks to these measures, due to the fault of the company for the past year, there are no backlogs from the delivery schedule. The given company and on a parameter of speed has excellent results. From this it follows that the company is highly competitive in this field of activity.

The third company reduces the terms of delivery of goods in particular due to the use of a direct option for reloading, reducing the storage of goods in warehouses and the abolition of transfer stations from one type of transport to another. But the departure from the delivery schedule remains high (10%). The company is working to improve the speed of its work and next year it promises to reduce the percentage from 10 to 4, thanks to the innovations listed above and also in the plans for 2018-2019 years renewal of the fleet. The company seeks to improve its competitiveness in the Russian logistics market.

So, the speed indicator is of great importance for the level of competitiveness of 3PL companies in Russia. Therefore, all companies under consideration tend to minimize the time of delivery of goods and improve the work of their warehouses.

#### **4.4 Flexibility**

The flexibility indicator has huge importance for 3PL companies which want to be competitive. This indicator implies the stability of the firm's activities in relation to all possible external influences. Similarly, flexibility should be understood as the ability of enterprises to adapt to changes in external and internal operating conditions without violating their integrity and reproductive mode of operation in order to ensure competitiveness and create the greatest possible added value based on the use of modern innovative equipment. (Karlsson 2015.) Flexibility in a logistics company is determined by the ability to work with different groups of products, because many companies qualify mainly on one type of product. What can be extremely uncomfortable for their customers of manufacturers, because they have to work with several carriers and this affects the large workflow and the need to keep more employees. Also, flexibility for a logistics company implies a wide range of services for small and medium-sized businesses. The results of the study on the flexibility of three 3PL companies are shown in Table 3.

Company 1 works mainly with manufacturers from the engineering industry and transports components for equipment. Unfortunately, the company does not provide any services to individuals and small businesses, because it is not profitable for a company to transport low-tonnage cargoes. All cars and warehouse equipment are configured to work with large and heavy loads. The company has a fairly low level in terms of flexibility. But it cannot be said that it has low competitiveness, the company has influence in the engineering industry and good performance under the previous criteria.

Speaking about the company 2 we see that the company operates in many industries and has the conditions for transporting a variety of types of goods, which gives it a competitive advantage among other 3PL organizations.

Table 3. Index of flexibility in 3PL industry

	Company 1	Company 2	Company 3
Sphere of production	Mechanical engineering	Food products, medical equipment, medicines, building materials, production equipment, petroleum products, lubricants, lubricants, machinery	Food products
Product category	Spare parts for equipment	Non-dangerous cargos	Fruits and vegetables, fresh meat and fish products; Products that have undergone deep freezing - meat, fish, semi-finished products.
Services for small business	–	Possibility of modular cargoes, responsible storage, storage of products having a temperature regime	Picking up cargo with a low-tonnage vehicle, with further overloading and arranging cargo in a car with a large tonnage and long-distance transportation

Basically, however, the company is engaged in the transport of non-dangerous goods, but if necessary, there is equipment and all licenses for the transport of dangerous goods over long distances. There is also a wide range of services for small businesses and individual entrepreneurs, which again allows the company to work with completely different manufacturers successfully. Company 2 has a high level of flexibility, quickly adapts to market changes and is resistant to any external influences.

Indicators of 3 company tell us that the main group of goods transported is food. The company has equipped machines capable of transporting perishable goods, frozen products (for transportation it must strictly adhere to the temperature regime). Also, the company provides many opportunities for small entrepreneurs. As you know, the volume of production in a small business is not so big and it is not profitable for a company to hire a large-tonnage car. Therefore, the company number 3 provides the possibility of transportation of consolidated cargo. Consolidated consignment is a type of cargo for transportation by assembled consignments, which are completed at the expense of unit units and tare volumes (Obal 2014). The indicator of flexibility is quite high and the company is competitive in its field.

Thus, the measure of flexibility has a great influence on the competitiveness of 3PL companies in the logistics market in Russia.

#### **4.5 Cost**

Cost is one of the key criteria when choosing a company for many consumers, each person wants to get quality services at an affordable cost. The cost leadership of the company is one of the most important marketing and financial instruments. The effectiveness of the cost strategy depends on the price of the product and the success of each firm. The competently established price acquires a special importance in the conditions of the most severe competition. In the conditions of cost leadership, one of the industry firms gets the status of a price leader recognized by others, which regulates the cost of the product, increasing or lowering it, and all other firms form its competitive environment, being, in essence, price-recipients (while price, unlike perfect competition, is set not a market, but a leading firm) (Creswell 2017). To increase their competitiveness, logistics companies have many programs that allow to reduce the prices for the delivery of goods. As an important factor in the decision-making of consumers is a transparent pricing system. Figure 15 provides data on the criterion of the price received from the interview.

### Company 1

- Fixed price of delivery
- Ways to reduce the price of delivery: using vehicles in 2 ways

### Company 2

- NO fixed price of delivery
- 98% of the transport load

### Company 3

- Fixed price of delivery
- Cruise control to reduce fuel consumption

Figure 15. Influence to cost index

Company 1 provides a fixed rate of transportation for its customers. To reduce the price of transportation, this company uses its fleet only in two routes. But this principle has an undeniable minus, this method of reducing prices reduces the index of flexibility and adversely affects the level of competitiveness of the company.

Company 2 does not have a fixed rate of transportation. Each client in the company has an individual approach. In times of severe competition in the logistics markets in Russia, they are trying to keep every customer and create optimal conditions for the two parties. In 2017, 100 percent of the cars that went on the flight were loaded by 98%, 2% company leaves for the error of equipment testing the tonnage load. This indicator is quite high and allows you to reduce the price of shipping several times. The practice of groupage cargo is used by many logistics companies, because sending cars loaded with 60% or less percent is very costly for the organization, but not every client needs to send such a quantity of goods to fill a multi-tonnage car.

Company 3 provides a fixed rate for the delivery of goods. The method for lowering the price of shipping is the introduction to all cars of the cruise control

system. That allows you to significantly reduce fuel costs, hence reduce the price of services.

Thus, the cost index is one of the key to the competitiveness of the company operating in the 3PL system on the Russian market.

Chapter 5 will provide explanation of results, analyze of all findings and suggestion to the further researchers.

## **5 Discussion**

Logistics in the modern world is becoming increasingly important. Companies are entering the world level, the production and sales areas are spread all over the world. Accordingly, goods need to move and this task is solved by quality logistics. Russia is the largest country in terms of area and the problem of logistics here is particularly acute. But just as many manufacturers are not ready to maintain their own logistics departments and car fleet, because it is much more profitable for them to transfer it to professionals and to use the services of 3PL company, which will solve all issues of storage and transportation of goods. In the Russian market, there is a strong competition in the field of logistics, so that the company retained its positions and had a steady income, it must constantly improve and expand the spectrum of services.

The main question raised in this study is what factors affect the competitive advantages of 3PL companies in Russia. Based on the theoretical basis, five main indicators can be identified, developing which the company will excel in the market - quality, flexibility, dependability, cost and speed. The quality index is responsible for the uninterrupted operation of equipment and transport, which enable the company to fulfill all its obligations without interruption. Speaking of flexibility, we mean the company's readiness for unplanned changes in the market and the ability to adapt to the needs of customers. Dependability of the company is an important indicator of what the company is doing all on time and all processes are transparent and effective. The cost is the criterion for which most consumers are oriented, this is one of

the first indicators considered when choosing a 3PL operator. The logistics company is obliged to improve its transportation and storage processes in order to lower the price, but at the same time to maintain the quality of the work. And the last figure considered in this study is the speed. In the world of logistics, speed means the fastest delivery of cargo and a short time for the formation of a package of documents for transportation. So, all these factors and their impact on the competitiveness of 3PL companies in Russia are considered fully in the chapter results.

### **5.1 Managerial Implications**

Because of the high competition in logistics in Russia, all companies are trying to improve and strengthen their positions in the market. Managers of companies are looking for effective ways to improve the company's activities in order to increase its competitiveness. To improve the company, need clear instructions in which direction to move, rather than general words about the need for improvements to increase the client base. Thanks to the interviews conducted, it is possible to identify weaknesses of the company that affect the level of competitiveness. The data collected during the research is a tool and a guide for increasing the competitiveness of companies and improving overall performance. Based on the theoretical basis, all the data were analyzed and aligned in tables for a visual aid of weaknesses in comparison with the other two companies operating in the same industry. This study was aimed at identifying key factors affecting the competitiveness of the 3PL organization, which will allow managers to understand where they made mistakes and what improvements need to be made. That is, it is necessary to develop the company in all five key industries in order to be competitive. But as one of the companies is oriented to work in one industry, that is, they do not need to expand the scope of activities, such a company needs to improve its capabilities and equipment in the already existing practice. Since it requires a lot of resources and investments and can lead to the loss of existing customers and to a sharp decline in the company's competitiveness. The main advice for companies operating on the basis of 3PL in order to have competitive advantages is to constantly check all equipment, regularly update the car fleet, look for ways to reduce transportation prices, develop a range of services and introduce new technologies into operation.



## **5.2 Limitations of the Research**

Literature in the sphere of competitiveness of companies working on the 3PL system on the example of Russia as such does not exist. But there are many sources to assess the company's competitiveness in general. Karlsson (2015) is one of the authors who conducted research in this industry. But the results of this research have weight not only for the Russian logistics market, but for the global market in general, because the principles of 3PL companies are the same all over the world. Also, the research has an impact on the development of companies surveyed for this work. With respect to the theoretical basis, companies use all indicators in operation and in the future they will only improve.

This study is not without limitations. To start with, the data taken from the interview was used, although the respondents are professionals in the field of logistics the probability of erroneous is absent. Companies that were interviewed they work in the same industry, but still have different orientations, for example, one company works only in the machine building industry. This does not prevent the comparison of these organizations, but in some cases, the data may be incorrect, because one of the companies may have more advantages than the other. But still the idea of using indicators written in a theoretical basis is suitable for any 3PL organization.

Also, there may be in some moments an incorrect analysis of the situation on the market, because I am not a professional in the field of logistics and some aspects of professional activity may be overlooked. But again, analyzing the general competitive advantages, this does not in any way interfere with and does not affect the final results of the study.

## **5.3 Recommendations for Future Research**

The framework created as a result of the review of literature is a universal object that can be used in assessing the competitiveness of other logistics-related companies. Of course, it will be necessary to eliminate factors that can only be associated with 3PL organizations, for example, issues related to the improvement of warehouse equipment or other specific components. But after

a proper change, this framework can be used to analyze other industries that work on the basis of the principle of outsourcing.

There is also an opportunity for such studies for other industries of logistics companies. For example, now there is a rapid development of the 4PL system and there is not much research in this field yet. It is still necessary to conduct competitiveness studies for these segments, and some of this thesis can be used in future research. Applicability of the results is limited to 3PL principle, since they contain elements specific to the industry. Nevertheless, it is possible to filter out these elements and gain a broader view of competitiveness in logistics as a whole.

The results of this study will be valid for a relatively limited period of time. Rapidly changing technology and the growth of the information age mean that the nature and pace of competition in business are changing at a tremendous rate. For example, ten years ago there was no such principle as 3PL, because logistics did not need it, there were not such huge volumes of production scattered all over the world. Thus, there is a possibility of appearance of other similar factors that will determine how the industry is developing now, and then there will be an additional need to reconsider the factors contributing to the competitive advantage in the field of 3PL companies.

## References

- Atkinson, R. D. 2013. *What Really Is Competitiveness?* The Globalist 20 September 2013. Accessed on 27 February 2018. Retrieved from <http://www.theglobalist.com/really-competitiveness/>
- Bohling, J. 2016. *Outsourcing and Third Party Logistics*. Berlin: GRIN Verlag.
- Bookbinder, J.H. 2012. *Global Logistics*. Berlin: Springer Science & Business Media
- Chase, R.B. & Aquilano, N.J. & Jacobs, F.R. 2005. *Production and operations management: manufacturing and services*. Boston: Irwin/McGraw-Hill.
- Creswell, J.W. & Creswell, J.D. 2017. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. Los-Angeles: SAGE Publications.
- Dauids, L. C. 2012. *Customer Loyalty in Third Party Logistics Relationships: Findings from Studies in Germany and the USA*. Berlin: Springer Science & Business Media.
- Davis, M.M. & Aquilano, N.J. 2010. *Fundamentals of operations management*. Boston: Irwin/ McGraw-Hill.
- Frazelle, E.H. 2017. *Supply Chain Strategy: Unleash the Power of Business Integration to Maximize Financial, Service, and Operations Performance*. 2nd ed., New York: McGraw-Hill Education.
- Frazzon, E.M. 2018. *Sustainability and Effectiveness in Global Logistics Systems*. Berlin: GITO mbH Verlag.
- Gaither, N. & Frazier, G. 2009. *Production and operations management*. Cincinnati: South-Western.

- Harrison, A. 2008. *Logistics Management and Strategy: Competing Through the Supply Chain*. London: Pearson Education.
- Heizer, J.H. & Render, B. 2016. *Operations management*. Upper Saddle River: Prentice Hall.
- Huo, B. & Wang, Q. 2017. *Barriers to Third-party Logistics Integration*. Bingley: Emerald group publishing limited.
- Kaminsky, P. & Simchi-Levi, D. 2013. *Designing and Managing the Supply Chain: Concepts, Strategies, and Case Studies*. New York: McGraw Hill Professional.
- Karlsson, C. 2015. *What is competitiveness?*, Copenhagen Business School. Accessed on 7 February 2018. Retrieved from <https://www.cbs.dk/en/knowledge-society/business-in-society/competitiveness/what-is-competitiveness>
- Kersten, W. & Blecker, T. 2007. *Innovative Logistics Management: Competitive Advantages Through New Processes and Services*. Berlin: Erich Schmidt Verlag GmbH & Co KG.
- Krajewski, L.J. & Ritzman, L.P. 2008. *Operations management: strategy and analysis*. Boston: Addison Wesley.
- Kreowski, H.J. & Scholz, B. & Thoben, K.D. 2016. *Dynamics in Russian Logistics: Second International Conference*. Bremen: Springer Science & Business Media.
- Markland, R.E. & Vickery, S.K. 2011. *Operations management: concepts in manufacturing and services*. Cincinnati: South-Western College Pub.
- Montana, P.J. & Charnov, B.H. 2010. *Management*. New York: McGraw Hill Professional.

Nagy, S. & Biber, H. 2017. *The Practice of Qualitative Research Engaging Students in the Research Process*. 3rd ed., Boston: Boston College.

Nordmeyer, B. 2018. *Objectives of Operational Performance*, Chron January 2018. Accessed on 14 March 2018. Retrieved from <http://smallbusiness.chron.com/objectives-operational-performance-77937.html>

Obal, P. 2014. *Who's Who in 3PL WMS Software: Warehouse Management System Software Solutions for Third Party Logistics Providers*. Tulsa: Industrial Data & Information, Incorporated.

Porter, M.E. 2008. *Competitive Advantage: Creating and Sustaining Superior Performance*. New York: Simon and Schuster.

Shah, J. 2011. *Supply Chain Management: Text and Cases*. Delhi: Pearson Education India Ltd.

Stevenson, W.J. 2007. *Production/operations management*. Boston: Irwin/McGraw-Hill.

*UPS Annual report 2017*. 2017. PDF Document. Accessed on 3 April 2018. Retrieved from <http://www.investors.ups.com/phoenix.zhtml?c=62900&p=irol-reportsannual>

Wang, Y. & Pettit, S. 2016. *E-Logistics: Managing Your Digital Supply Chains for Competitive Advantage*. Philadelphia: Kogan page publishers.

Wocka-Gowda, J. 2017. *Transport & Logistics in Russia: Returning to Growth*, TransRussia December 2017. Accessed on 17 March 2018. Retrieved from <http://www.transport-exhibitions.com/TransportShows/media/TransportLibrary/Downloadable%20files/Transport-Logistics-in-Russia-Returning-to-Growth.pdf>

## Appendices

### Appendix 1. Interview Questions

- 1) In which ways do you reduce the time of cargo delivery? What percentage of the deviation from the schedule in the delivery of goods with a fixed time?
- 2) How often do you check equipment and vehicles? Which systems do you use to monitor employees? Do you have a license for the carriage of goods? Do you offer the possibility of cargo insurance?
- 3) With companies from which spheres of production do you most often work? What categories of cargo do you mostly transport? What opportunities do you give to clients from small business or individuals?
- 4) How often do employees trainings to improve the quality of cargo delivery? What percentage of cargo damage on delivery?
- 5) Do you have a fixed rate of transportation? How do you reduce the price of shipping?