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## THE IMPACT OF COVID-19 ON (GLOBAL) SUPPLY CHAINS - SITUATION IN REPUBLIC OF SERBIA

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**Abstract:** *The topic of this paper is the impact of the pandemic on global and smaller supply chains; further, the paper deals with changes which have occurred when the transportation of goods around the world from producers to consumers is in question and how this affects business in Republic of Serbia. The authors further deal with the issue of how supply chains in Republic of Serbia react and what difficulties, challenges and innovations trade companies in Republic of Serbia face, especially large companies and distributors. To what extent it is possible in this sector to establish work from home and safety, both for employees and for customers, consumers. The current situation suggests that it is best to focus on domestic production, reduce or even eliminate dependence on sources that are considered risky.*

*The aim of this paper is to point out the latest trends and innovations that are happening in the supply chain; they are all caused by the pandemi. The paper also provides the answer as to what companies in Republic of Serbia are doing and what they can expect in the coming period.*

**Keywords:** *supply chains, trade companies, logistics, COVID, Republic of Serbia.*

## INTRODUCTION

Since the COVID-19 epidemic, which is still present, has become a pandemic, analyzes and predictions have begun about the consequences it will leave behind. First, we have the analyzes of the possible projections of social arrangements around the world. Soon followed the forecasts concerning the economy and what kind of economic recovery curve awaits us. There are V, W or U and similar forecasts that try to predict when the economic recovery will begin and what it will look like. As far as Republic of Serbia is concerned, the authorities are mostly providing positive information, ie opinions that our economy is not endangered by the situation caused by the pandemic.

The first news in the world from the economy was related to e-commerce and the situation with goods from China, where it all began. China is also the largest producer and exporter of consumer goods, and thus the largest participant in supply chains and channels. marketing. Then, many countries realized how much they depend on goods from other countries, especially China, especially when it comes to masks and other medical goods whose urgency for use has increased to the extreme.

The governments of many countries have taken certain measures to help the economy in the crisis. China, as the largest exporter, is slowly emerging from the crisis, while other economically strong countries are trying to find the right models to mitigate the economic impacts of the pandemic. In our country as well, the Government helped the economy, it still helps today, and that also applies to companies that largely depend on efficient supply chains. We will see in the coming period whether that help has been sufficient.

The topic of this paper is the impact of the pandemic on global and smaller (local) supply chains. It also deals with the issue as to what changes have occurred when the transportation of goods around the world from producers to consumers is concerned and how it affects business in Republic of Serbia. Significant changes in supply chains, especially global ones, took place even before the pandemic and these changes often required large investments, which created a problem for our market. How do supply chains in Republic of Serbia react and what difficulties, challenges and innovations do trade companies in Republic of Serbia face, especially large companies and distributors?

## 1. GLOBAL SUPPLY CHAINS

In the last few decades, the interconnectedness of production processes that stretch through many countries has been growing, with each country specializing in certain stages of production of goods. From this connection and the growing demand and supply of products, global supply chains have emerged.

When the Covid-19 pandemic calms down, the world will be very different. The supply shock that began in China in February and the demand shock that followed after the global economy closed, showed vulnerabilities in firms' production strategies and supply chains almost everywhere. Temporary trade restrictions and shortages of pharmaceuticals, critical medical supplies and other products highlighted their weaknesses. These developments, combined with the US-China trade war, triggered the rise of economic nationalism. As a result, producers around the world will be under greater political and competitive pressure to increase domestic production, increase employment in home countries, reduce or even eliminate dependence on sources considered risky, and reconsider the use of flexible production strategies that include minimizing inventory in their countries. It is obvious that the approach to supply chain management will have to change after the pandemic (hbr.org (2020)).

Insistence on supply chain flexibility was present even before the virus emerged. Many large companies have predicted the end of the existence of supply chains as we know so far. This opinion was influenced by the following tendencies and innovations in supply chains and logistics:

- robotization and automation (robotic warehouses, etc.);
- the steady increase in the role of e-commerce, which has risen sharply in the pandemic in many sectors;
- blockchain technology (data protection during the movement of goods through marketing channels);
- artificial intelligence (customer service);
- “last mile delivery” (problems of high costs of delivery of goods to end users at the very end of the marketing channel - eg from port to consumer address);
- digital transformation;
- analysis of large databases to support decision making.

## **2. THE SUPPLY CHAINS AND LOGISTICS IN REPUBLIC OF SERBIA BEFORE AND DURING THE PANDEMIC**

These above-mentioned innovations have been applied to a lesser extent in our companies, mainly as an attempt and desire to keep pace with modern trends in supply chains. The appearance of the pandemic also influenced other domestic companies to resort to alternative solutions and adapt to the new situation. In this way, these innovations become major sustainability factors.

Traditional approaches to procurement and inventory management, which include tracking sales history, seasonal changes and demand, while maintaining a certain level of inventory and secure inventory, have proven to be insufficient even before the supply of goods was interrupted. There is increasing talk of a transformation from demand planning to demand design and “What if...?” scenario definition, in order to create alternative strategies if some market disruptions occur. Software development companies for inventory forecasting and optimization have recognized this trend and started offering solutions that have these capabilities with excellent application of AI (artificial intelligence) in inventory management and demand design modalities.

In a crisis situation like this, it makes more sense for several smaller decentralized distributions to be more adaptable and flexible in finding alternative solutions, compared to having large systems whose supply chain strategy is based on economies of scale and efficiency. They are unable to implement changes in the mode of operation, due to major supply disruptions. As far as the workforce is concerned, large systems have the advantage because they can afford and resort to raising the level of automation in warehousing processes, in order to reduce dependence on the workforce that is in short supply.

Automation and robotization of warehousing processes are becoming a priority and something that has become a necessity that should provide a more sustainable model for supply chains. This novelty has not been significantly applied in our country due to high costs.

Large and less frequent purchases in hypermarkets have become relevant again, because consumers are resorting to them in a crisis. Hypermarkets are better supplied in the challenges of product availability, because it is easier to logistically supply them with large deliveries, and they can have a larger choice, which enables a reduced number of purchases and exposure to the risk of a pandemic. The need to finish everything in

one place, allows traditional stores to expand their range even with pharmaceutical products (in the part of the range where they are not limited by law), for the needs of personal pharmacy, which together with food and hygiene meet the basic needs of a household. Changing consumer behavior opens up new opportunities and new distribution channels, the comprehensive channel (omnichannel) becomes even more pronounced, so larger stores become small distribution centers for e-commerce platforms, or click-and-collect, where the consumer can order goods online so that he can pick it up himself or have someone else pick it up for him. This is often done in combination with local shops, restaurants, pharmacies and other shops.

Although e-commerce has been expanding in recent years, e-commerce platforms may have had slower growth in the past than expected, specifically in Republic of Serbia. The main reason, from a logistical point of view, was the high distribution cost, but the platform had to exist. Every major consumer goods chain, but also all the pharmacies, have their own respectable online platform for sales and distribution. “Last mile delivery”, the part of the service to the customer's door, which is the most expensive and which created the most losses, makes an additional step forward with companies that have entered the market as providers and experts in that part of the service. Organizations that operate in the B2C segment, through bicycles, motorcycles, scooters and cars, with not so high distribution costs, provide a good service, as they perform the task within an hour or two.

It is important to mention the development of the marketplace and dropshipping distribution models that Amazon and Alibaba have resorted to for years. There are also potentials that Republic of Serbia and the entire market of the Western Balkans have. The path of online distribution development has been made much easier, due to a larger number of well-developed courier services with good national coverage and the ability to deliver goods within 24 hours, through their collection centers, although due to the increased number of orders during the pandemic it was a great challenge to meet all requirements.

An efficient supply chain can no longer function without digital transformation, stable ERP systems, WMS and TMS systems, forecasting tools. At this moment it is necessary to invest in data analytics and business intelligence tools that will provide transparency and visibility of the way of working, as well as in indications and guidelines whether it is done in the right way or not (instore.rs (2020))

### **2.1. Research (surveys) on the effects of the pandemic on business in Republic of Serbia**

Already at the beginning of the pandemic, in the period from 13 to 17 March 2020, a survey was conducted by the American Chamber of Commerce in Republic of Serbia (AmCham Republic of Serbia), which aimed to present in a structured way the current and expected economic impacts of the pandemic on business companies in the Republic of Serbia, as well as measures to be taken to minimize the negative effects on the health of citizens and the domestic economy. The research is based on examining the perception of AmCham member companies about the situation in the domestic economy after the outbreak of the COVID-19 epidemic and the accompanying measures adopted by the Government of the Republic of Serbia to prevent the spread of the infection. The research was conducted through a quantitative, anonymously completed, electronic questionnaire among AmCham member companies and qualitative telephone interviews with directors of selected companies, including directors of companies dealing with retail, wholesale, distribution and logistics. When asked about the impact of COVID-19 on the business of companies, more than half of the respondents (55%) said that they already have difficulties in doing business, while 42% expect that they will happen in the coming period. Only 3% do not expect significant effects, and no respondent believes that the effects of COVID-19 will be positive for business. The biggest challenge they faced at that time was the organization of work and management of people (73%), after the majority accepted the recommendations to enable work for employees outside the company's premises. The decrease in travel opportunities affects about 67% of respondents, which is especially visible in the tourism and hospitality sector, but also in sectors that depend on frequent business trips abroad, including distribution and logistics. The branch of field sales was particularly affected by the restriction of movement in the interior of the country. The same percentage of companies (67%) encounters or expect a slowdown in sales and a reduction in cash flow. The main reason for this is the decline in demand for products and services, the reasons for which may vary depending on the industry. Other industries, including distribution and logistics, will slow sales due to reduced needs and changing customer priorities in the changed environment. Among other challenges, there are interruptions or delays in the supply chain (54%), logistical challenges in international transport (43%), as well as optimization of the number of workers in relation to demand (30%).

Regarding the measures to be taken, according to the respondents at the time, the results of the research clearly highlight several sectors that are particularly affected by the COVID-19 epidemic - tourism and hospitality, distribution and logistics, as well as special branches of industrial production (e.g. car industry). 73% of respondents from these sectors claim that the negative effects of COVID-19 on their business are already clearly visible, and about half of them expect a drop in sales of 50% or more in the coming period. When it comes to the transportation and logistics sector, it is necessary to enable the so-called green lanes for uninterrupted international transport of goods, re-establish the suspended issuance or renewal of licenses for international transport of goods, as well as extend the validity of all certificates and qualification cards for professional drivers (amcham.rs, 2020, pp.2-5).

Another study, Business in Republic of Serbia from the point of view of CFOs, conducted by TPA Republic of Serbia<sup>1</sup>, confirms the trend of localization when it comes to the supply chain. The conclusion is that the logistics sector is under attack due to border barriers and that companies whose operations require international transport are reconsidering the possibility of optimizing the supply chain. When asked if they are considering redefining the current supply chain, 87.3% are not considering redefining the current supply chain, 10.9% are still planning a new way of organizing the supply chain, while 1.8% have decided to redirect supply from global to local and regional suppliers. These data suggest that deglobalization (or localization) may be a chance for local and regional development (tpa-group.rs, 2020, p. 6).

### **3. THE EXPERIENCE OF CERTAIN COMPANIES**

Companies in Republic of Serbia, which are part of global systems, in the transition from a regular to a crisis business model had an important advantage - information in advance, because most of Europe began to face the corona virus a few weeks before our country. Rapid response in such conditions has proven to be especially necessary in the field of retail. At certain moments, stores in Republic of Serbia were faced with 20 times

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<sup>1</sup> TPA Republic of Serbia is one of the leading companies in the field of accounting, tax consulting and auditing in Republic of Serbia, which is a member of the TPA Group. TPA Group has over 1,700 employees working in 30 offices in Albania, Austria, Bulgaria, Croatia, the Czech Republic, Hungary, Germany, Montenegro, Poland, Romania, Republic of Serbia, Slovakia and Slovenia.

higher demand for certain items. The change in working hours and restrictions on movement required that distribution and logistics be organized in a completely different way than before.

Courier services in Republic of Serbia increased their business up to ten times during the epidemic, according to the Association for Electronic Communications and the Information Society of the Republic of Serbian Chamber of Commerce. The third wave in the development of courier services, state these associations, was the moment when they started concluding permanent contracts with retail chains, but also with other stores, even the smallest stores.

“From the smallest pharmacies to entrepreneurs who have small production - everyone has started to inquire how they can send their own product, without it costing them a lot,” says the secretary of the Association (bbc.com, 2020).

### **Delhaize Republic of Serbia**

“Trade has shown that it is ready to withstand drastically increased demand; the supply of food in our market must not be stalled,” said the vice president of operations and supply chain and a member of the executive board of Delhaize Republic of Serbia.

According to him, this company managed to redefine the complete supply chain and, together with suppliers, find modalities of work in order to further improve the flow to the stores and manage to supply them as soon as possible. They also had a small advantage, because they are part of a large group and they knew weeks in advance what was coming. They were ready to provide the Distribution Center and store capacities with stocks and to have enough goods in continuity.

He adds that in March the demand was definitely extremely strong, but that at this moment it is still impossible to talk about the exact percentages. The situation has been changing from day to day.

Asked whether distributors of foreign brands, as well as domestic manufacturers - from large systems to small suppliers - managed to withstand the dynamics of the pre-crisis period, the increased situation on the shelves and all the costs that accompany it, he said that “they have succeeded so far”.



“It shows the resilience of the whole system. Most manufacturers and suppliers have proven to be reliable. We had problems with only a small part of the procurement from abroad, but at this moment it has been solved,” said the vice president of operations and supply chain and a member of the executive board of Delhaize Republic of Serbia (plutonlogistics.com, 2020).

### **Carlsberg Republic of Serbia**

What all market participants felt was the limited capacity created due to the previous focus on balancing cost and quality. There is also the problem of delivery of goods and the unpredictability of consumer behavior parameters, says customer supply chain director of Carlsberg Republic of Serbia.

“What all the companies have started to do is optimize the portfolio, ie to show the reaction in accordance with consumer behavior.”

She adds that, specifically, consumers in this industry focused on other packaging, so the production was planned in the same way. Covid-19 also influenced all these events to happen significantly faster than before.

“Decision-making has accelerated drastically. We were in constant touch with the suppliers, and we switched from the monthly to the weekly level of meetings, so that we could react urgently. In such conditions, it is very important what kind of relationship you have with suppliers and transporters - this is an item that is always important, but now especially. Also, in addition to prioritization and optimization of inventories, it is very important to simplify the whole process - to focus on the essence and not to look at business “too broadly”.

She also believes that delivery to individuals, which is not so developed in our region at the moment, will be one of the directions in the future and that the supply chain industry will have to be more flexible. It will stop being driven by the costs (plutonlogistics.com, 2020).

### **Nelt group**

The executive director of the Republic of Serbian market of the Nelt Group stated that this company managed to contract distribution with two other large and important

companies this year. A regional distribution for the markets of Republic of Serbia, BiH and Montenegro has been agreed with the company Kraš, while a distribution for the Republic of Serbian market has been agreed with the company Nestle in Republic of Serbia.

He added that digitalization was their commitment even before the corona virus, but that it is now certainly the right decision. This is why the way that traders look for goods has completely changed. Now it is done through the mobile application “Nelt Market”. In cooperation with the principal Philip Morris International (PMI), a global pioneering project in the field of digital trade in tobacco products to retail was launched. Out of 15,000 facilities, which are covered by the company's products, on average on a monthly basis, about 10,500 to 11,000 of them use the digital way of ordering goods.

The employees visit the facilities and help the owners with this way of ordering goods, and there is also a Call Center which can be contacted by the owners of shopping facilities, and the operators order the goods they need, instead of traders doing that. This way is recognized by customers as an improvement in work, because they can choose the time when they order the goods and when it is delivered to them (instore.rs 2, 2020).

## CONCLUSION

The fact is that the pandemic has changed the way of life of the entire planet. It has brought challenges and uncertainty, both to people's daily lives and to business. Businesses had to adapt and be flexible, reduce the number of employees or even shut down. This was particularly significant for the supply chain industry, both for global and local supply chains. Closed borders, difficult flow of goods (including all types of traffic), pressure on courier services and other aggravating circumstances have accompanied the business of this sector since the beginning of the pandemic. In some sectors, the share of e-commerce has increased several times because consumers have increasingly turned to this type of procurement, even when it comes to food products. This has put additional pressure on companies when it comes to meeting distribution and delivery deadlines.

Business optimization, which implies switching to local suppliers, to several smaller decentralized distributions is to be expected. Responding to changes in consumer priorities, digitalization and the increased role of e-commerce and courier services is

what awaits companies from this industry in our country in the coming period. Business planning in the future will be of great importance for these companies since no one can know for sure how long this pandemic situation will last.

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