

## Current Problems in the Supply of Commercial and Manufacturing Companies in Bulgaria During the COVID-19 Pandemic

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### Abstract

*The Covid-19 pandemic affected all sectors of the economy around the world and has significant challenges to supply chains. In this regard, the aim of this paper is to identify the current problems of supply as a business practice and to make recommendations aimed at reducing the negative effect of the crisis.*

*Keywords: supply, pandemic, logistics, suppliers*

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### Introduction

The Covid-19 pandemic exposed the shortcomings of global supply chains and caused a number of disruptions in their operations. Interruptions in the supply chains, shortage of containers, drastic increases in transport costs, a range of restrictive measures and many other factors (Pavlova, 2012) caused serious difficulties in the supply of companies. Managers in charge of the supply of commercial and manufacturing companies faced and are still facing serious challenges in their work.

### 1. Thesis statement and literature review

Supply is a key logistics function comprising, on the one hand, integrated management of material, information, financial and service flows in the process of providing companies with the necessary material resources and, on the other, close interaction with the other functional areas of the company (Milusheva, 2022). In this regard, the supply of companies is one of the most important factors in achieving competitive advantages in both the domestic and the international market. It is also a basic process carried out in supply chain management, which consists in procuring products and services needed by each organization involved in the chain.

At the same time, a number of specific long-term and current goals should be taken into account, the most important of which are (Blagoev et al., 2009):

- ensure the continuity of the flow of commodities and services necessary for the efficient operation of the company;
- minimize investments in and current costs of stocks;
- maintain and increase the quality of production and services;
- identify competent and reliable suppliers;
- acquisition and supply, if possible, of multi-purpose commodities;
- unwavering adherence to the principle of optimality of the “price-quality” ratio in the purchasing process;
- direct and continuous assistance in order to increase competitiveness;
- establish harmonious relations and effective cooperation with other functional subsystems and divisions of the company;
- reduce the costs for organization and management.

In light of the above-mentioned goals, the managers involved in the supply of companies face specific tasks, namely:

- determine the structure and volume of purchases based on identified needs for raw or processed materials, semi-finished products, etc., which are necessary for the companies

to function. The need for products and services in an organization represents the realized need for them (defined qualitatively and quantitatively) in order to carry out business under normal conditions and satisfy the needs of customers (Korbankoleva, 2010).

- determine the quality, quantity, size of the purchase order(s) and operational characteristics of all commodities that need to be provided
- selection of suppliers of materials, goods, services in the supply chain based on a thorough analysis of current and prospective ones according to pre-specified criteria they must meet. According to some authors Dybskaya et. al (2013), the effective selection of suppliers is an art and is directly related to the results of doing business with them. In their research, a number of researchers such as Linders, Firon (1999), Dybskaya et al. (2011), Anikin et al. (2011), Aquezzoul (2015), Nikolaev, Milkova (2018), Vasilev (2015), comment on the issue of the types of criteria and their importance in supplier selection. These authors rightly make the clarification that the decision on what the criteria should be is based predominantly on whether such criteria are consistent with the company's marketing and logistics strategy, and that it is appropriate to change the criteria in the course of the tactical planning periods in an unstable economic situation.

Studies (Kozharskaya, 2007) have found that businesses resort to logistics outsourcing in order to reduce costs and because of unwillingness to invest in the necessary resources. The results of the survey confirm the need for an in-depth analysis of services that can be used in the supply of companies; some key problems related to logistics outsourcing are: dependence on a service provider (44.2%), higher costs than expected (40.1%), unreasonable expectations (27.3%), difficulties in maintaining the level of quality in accordance with the company's requirements (26.2%) and failure to provide the service within the terms (23.3%). In this regard, a previous study by the author identified a correlation between the use of own and hired transport for the delivery of materials and the shortage of materials in companies after work on a specific order has begun.

- specifying the conditions of purchase, delivery and conclusion of contracts with the suppliers of materials and services.
- delivery of the agreed material resources, their acceptance (in terms of quantity and/or quality) and storage.
- In different organizations, a different scope of the object and objectives of the supply can be observed. According to Korbankoleva (2010), the cases may be the following:
- management of the incoming flow of materials from the supplier to the warehouse, where the purchased products are stored until they are needed by the manufacturing company or the client of the commercial company;
- management of the incoming flow of materials to the warehouse and control over the exit (release) of the products from the warehouse;
- management of the purchased products to the warehouse and from there to the relevant users in the manufacturing company (factories, workshops, departments, workplaces);
- management of the incoming flow of materials from the supplier directly to the workplaces in the manufacture or to the retailer's store.

## **2. Methodology and experimental methods**

A survey was conducted among 35 commercial and manufacturing companies operating in Bulgaria. The data was collected in the period September 2021 – December 2021. For the research, the overview study approach was used through questionnaires, where the information was collected by the method of interview in person (where the goal was to reach the highest possible position in the company hierarchy) and observation. Commercial and manufacturing companies were directly asked "what problems do you face when dealing with suppliers?". A question addressed to

manufacturing companies, namely, “How often does each of the following factors cause a change in the company’s manufacturing schedule after work has begun on a certain order?”, revealed the prevalence of shortage of materials, which is a symptom of existing problems in the supply. In this connection, a question was asked aimed at the reasons for this situation, namely “What is the reason for the shortage of materials?”. Several other questions were included for the purposes of the survey, concerning:

- the importance of a group of factors in the selection of suppliers – the respondents had the opportunity to rate these on a five-point scale
- average number of suppliers of materials now and in a future period
- qualifications of the personnel engaged in the supply, etc.

### **3. Results and discussion**

The survey covered 35 companies, of which 14 (40%) were manufacturing and 21 (60%) were commercial companies. Representatives of micro, small, medium-sized and large companies were included in the survey. The conclusions apply to the surveyed companies. Among manufacturing companies (table 1), the largest proportion is that of medium-sized companies (35.71%), followed by large companies (28.57%). Among the surveyed commercial companies (table 2), the largest proportion is micro and small companies (38.09%). These are followed by large companies (19.04%).

Table 1. Structure of the surveyed manufacturing companies by size

| <b>Size of company</b> | <b>Number</b> | <b>Percentage</b> |
|------------------------|---------------|-------------------|
| <b>Micro</b>           | 3             | 21.42             |
| <b>Small</b>           | 2             | 14.28             |
| <b>Medium-sized</b>    | 5             | 35.71             |
| <b>Large</b>           | 4             | 28.57             |
| <b>Total:</b>          | 14            | 100.00            |

Table 2. Structure of the surveyed commercial companies by size

| <b>Size of company</b> | <b>Number</b> | <b>Percentage</b> |
|------------------------|---------------|-------------------|
| <b>Micro</b>           | 8             | 38.09%            |
| <b>Small</b>           | 8             | 38.09%            |
| <b>Medium-sized</b>    | 1             | 4.76%             |
| <b>Large</b>           | 4             | 19.04%            |
| <b>Total:</b>          | 21            | 100.00            |

In the sample of manufacturing companies, the largest number of manufacturers were operating in the field of food industry, light industry, mechanical engineering, and others. All commercial companies are engaged in wholesale and retail trade in varying proportions. Consumer goods are offered by 47.61% of the commercial companies. Still in the sample of commercial companies, 4.76% sell only raw and processed materials, and the rest have in their portfolio a combination of raw materials, processed materials, semi-finished products, parts and finished products with a production purpose.

It was established that the following difficulties were most often experienced in the supply of the studied commercial companies:

- delivery delays due to the fault of suppliers of goods and providers of transport services – 85.71%
- shortage of quantities in suppliers' warehouses – 80.95%
- shortage of warehouse space, most often when it is necessary to increase the levels of stocks of goods – 71.42%
- low degree of supplier flexibility – 71.42%

Less frequently, the interviewed managers in commercial companies spoke of problems such as: discrepancies between what was ordered and what was received in terms of quantity and quality, lack of documentation accompanying the goods, price increases without prior notice, deterioration of the quality of the goods during transportation and others.

The identified most frequent issues are directly related to supply chain challenges. Other factors were also identified, which we consider to be related to the situation in which the studied commercial companies find themselves, namely:

1. The following criteria are a priority for commercial companies when choosing suppliers: reliability of delivery, quality and price of materials. A very small part of the studied companies considers the following criteria important: provision of information by the supplier, financial stability of the supplier, reputation of the supplier, etc.; i.e. criteria that we consider significant for an effective supply management.
2. All commercial companies prefer to work with more than one supplier of goods. The average number of suppliers of goods for the entire population was found to be around 3-4. Only 24% of companies intend to increase the number of suppliers of goods by one on average.
3. In 33% of the commercial companies the personnel engaged in the supply do not have the necessary qualifications.

An indication of problems in the supply of manufacturing companies is the sporadic shortage of materials experienced after work on an order has already begun. This leads to serious difficulties, losses and the need to change the company's manufacturing schedule. All analyzed manufacturing companies admit to have experienced such problems, with varying frequency. As a result, the following situation was outlined, which highlights factors that give rise to the greatest difficulties in the supply of the studied manufacturing companies, namely:

- insufficient capacity of suppliers – 85% of manufacturing companies
- increase in prices of goods and materials – 71% of manufacturing companies
- delivery delays due to the fault of suppliers of materials and providers of transport services – 71% of manufacturing companies
- lack of warehouse space in cases of need to increase the levels of stock of materials – 64% of manufacturing companies

Less often, the responses of manufacturers call attention to problems such as the delivery of low-quality materials, the existence of a discrepancy between what was ordered and what was received, ineffective communication with suppliers, and others.

1. The following criteria are also a priority for manufacturing companies when choosing suppliers: reliability of delivery, quality and price of materials. Criteria such as financial stability and reputation of the supplier are of medium importance.
2. With the exception of one company, all manufacturing companies prefer to work with more than one supplier of goods. The average number of suppliers of goods for the entire population was found to be around 2-3. Only 21% of companies intend to increase

the number of suppliers of goods by one on average.

3. In 21% of the commercial companies, the personnel engaged in the supply do not have the necessary qualifications.

Compared to a previous study conducted by the author (2022) for the period November 2019 – January 2020, the following was observed:

- an increase in the proportion of manufacturing companies experiencing shortages of materials that occur after work has begun on a given order. Another specific characteristic of the difficulties in the supply of companies during the pandemic are the factors that influence the issue studied, and which did not exist in the previous period, namely: insufficient capacity of the suppliers (which forces companies to order at higher prices), increased prices of materials and shortage of warehouse space in the event of a need to restock goods whose prices are expected to increase or whose delivery time is significantly increased.
- increasingly greater attention is being paid to stocks, which is associated with the need to restock in order to provide certainty in the newly created situation of uncertain deliveries.
- increased proportion of companies that use more than one supplier of materials and increased average number of suppliers of materials.
- reduced proportion of companies where the personnel engaged in the supply do not have the necessary qualifications.

### **Conclusion**

The identified difficulties in the supply of the studied commercial and manufacturing companies are directly related to the shortage of capacity in the various actors in the supply chain, characterizing the period under study. The highlighted problems in the supply of commercial and manufacturing companies are still relevant at this time, one year later. In this regard, managers are faced with a number of challenges and the need to introduce measures in order to minimize the negative effects. We believe that the main emphasis in this regard should be on the following:

1. the management's strategy to rely on planning based not only on statistical information, but also on a detailed study of, on the one hand, suppliers in the national and international market, and on the other of customer demand in order to optimize future orders;
2. the need for changes in the decision-making process for choosing a supplier and, more precisely, the criteria and their degree of importance. In this regard, we recommend that serious attention is also paid to the capabilities of the supplier in terms of sufficient capacity to carry out the orders of the company and the supplier's financial and market stability.
3. interaction and development of relationships with reliable suppliers of materials and services.
4. active exchange of information with suppliers and timely submission of orders;
5. supplier diversification, which will affect the economies of scale from working with a single supplier, but will reduce the likelihood of interruptions in the company and contribute to a greater ability to react to changing demand.
6. realization that companies that have local production capacity, raw materials and warehouse space are more competitive. In this regard, it is important to determine what the risks are in the relevant supply chain and consider strategies to reduce them.
7. companies that operate facilities in different regions should replenish their stock through

“stock on wheels” while waiting for delayed deliveries to arrive.

8. the awareness of the need for qualified managers, employees and operational personnel is a measure aimed at popularizing concepts, technologies and standards.

### **References**

1. Anikin, B. I dr. (2011). Logistika – teorija i praktika. Moskva: „Prospect“, 3-34.
2. Aquezzoul, A. (2015). Third-party logistics selection problem: A literature review on criteria and methods. USA: „Omega – 49“, p.69-78.
3. Ballou, R. (2003). Business logistics/supply chain management: planning, organizing, and controlling the supply chain. USA: „Pearson/Prentice Hall“.
4. Burt, N., Petcavage, S., Pinkerton, R. (2009). Supply Management: The Key To Supply Chain Management. New York: „McGraw-Hill International Edition“.
5. Blagoev, B. i kol. (2009) Stopanska logistika, Nauka i iekonomika, IU-Varna, 221.
6. Cohen, S., Roussel, J. (2013). Strategic Supply Management: The Five Disciplines for Top Performance, 2 edition. New York: „McGraw-Hill International Edition“.
7. Cohen, S., Roussel, J. (2013). Strategic Supply Management: The Five Disciplines for Top Performance. 2 edition. New York: „McGraw-Hill International Edition“.
8. Coyle, J. et al (2013). Supply Chain Management: a Logistics Perspective. Pennsylvania: „South-Western College Pub“.
9. Coyle, J., Bardi, E. Langley C. (2003). The Management of Business Logistics. Cincinnati: „South-Western“.
10. Dubskaia, V. i dr. (2011). Logistika. Polnij kurs MBA MASTER OF BUSINESS ADMINISTRATION. Moskva: „EKSMO“, 213-241.
11. Dubskaia, V. i dr. (2013). Logistika. Polnij kurs MBA MASTER OF BUSINESS ADMINISTRATION. Moskva: „EKSMO“, 188-250.
12. Dobler, D., Burt, D. Starling S. (2003). World Class Supply Management: the Key to Supply Chain Management 6th edition. New York: „McGraw-Hill/Irwin“.
13. Evans, J., Lindsay, W. (2004). The Management and Control of Quality. Pennsylvania: „South-Western College Pub“.
14. Fitzsimmons, J. (2007). Service Management: Operations, Strategy, Information Technology. New York: „McGraw-Hill/Irwin“.
15. Fremuth, U., Stich, V. (1998). Industrielle Logistic. Aachen: „Verl. der Augustinus Buchhandlung“.
16. Pavlova G., R. Zlatanova, Specializirana izvunbolnichna medicinska pomosht v borbata sreshu Covid-pandemiata, sp. „Upravlenie i obrazovanie, kn.6, t.17, 2021g., 116-121
17. Kogarskaja, H. (2007). Outsorsing logisticheskikh uslug kak factor povisheniya pribulnosti predpriyatija [http://media.miu.by/files/store/items/uses/xxvi/miu\\_uses\\_xxvi\\_02007.pdf](http://media.miu.by/files/store/items/uses/xxvi/miu_uses_xxvi_02007.pdf), 67–69.
18. Korbankoleva, V. (2010). Sushnost i planirane na snabdjavaneto. Sofija: „Stopanstvo“, 17-37.
19. Linders, M., Firon, X. (1999). Upravlenie snabgeniem i zapasami. „Logistika., Poligon. Moskva: „Victorija plus“, 276-278.
20. Miluseva, P. (2022) Aktualni problemi v snabdjavaneto na targovski i proizvodstveni firmi v Bulgaria, „Nauka i iekonomika,, IU – Varna, 33.
21. Nikolaev, R., Milkova, T. (2018) Model za optimalen izbor na dostavchici na surovini i materialii. Industrialen biznes i predpriemachestvo – inovacii v naukata i practicata: Mejdunarodna nauchno-practicheska konferencia. Varna : Nauka i iekonomika, 89 - 98.
22. Vasilev, J. Elektronna Comunicacija vuv verigite za dostavca. // Iconomikata v promenijashtia se svijat: nacionalni, regionalni i globalni izmereniya : Sb. docl. ot megdunarod. nauchn. conf. : T. Z. - Varna: Univ. izd. Nauka i iekonomika, (2015). 148 - 154.