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PROBLEMS IN GLOBAL SUPPLY CHAINS AND POSSIBLE SOLUTIONS

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Nowadays, global supply chains play a crucial role in our everyday life. Almost everything we use is produced in different parts of the world and then delivered to consumers. This complex system connects countries, companies, and millions of people, making international trade possible.

However, despite all the advantages, global supply chains face many serious problems. In my opinion, these challenges not only complicate business operations but also directly affect people's daily lives.

First of all, one of the biggest problems is transportation delays. Goods often travel thousands of kilometers across continents, using different types of transport such as ships, trucks, trains, and airplanes. Any disruption in this process can lead to serious consequences. For example, bad weather conditions, overloaded ports, or customs issues can significantly slow down deliveries.

This problem became especially visible during the COVID-19 pandemic, when many ports and factories were temporarily closed. However, an even more striking example is Ukraine after the full-scale invasion in 2022. Due to the blockade of Black Sea ports, grain exports were severely disrupted, which affected not only Ukraine but also global food markets. Ukraine had been one of the world's leading grain exporters, supplying a significant share of wheat and corn globally [1].

As a result of the war, port operations were halted, infrastructure was damaged, and logistics routes were destroyed or blocked [2.] This caused delays, increased transportation costs, and forced many countries to look for alternative suppliers.

Another important problem is the lack of flexibility in supply chains. Many companies try to reduce costs by relying on only one or two suppliers. In my opinion, this strategy is very risky. If one supplier fails, the entire supply chain can collapse.

For example, during the war in Ukraine, many businesses faced shortages of raw materials and components. The destruction of infrastructure and the need to rebuild logistics routes forced companies to adapt quickly and even create new supply chains from scratch.

At the same time, some companies showed strong resilience. Ukrainian logistics company Nova Post (Nova Poshta) managed to continue operating even under extreme conditions, delivering millions of parcels daily despite infrastructure damage and constant risks [3]. This demonstrates how flexibility and innovation can help businesses survive crises.

In addition, rising costs are another serious problem. The cost of fuel, transportation, and labor has increased significantly due to inflation, energy crises, and geopolitical instability. The war in Ukraine has also contributed to higher global shipping costs and disrupted trade routes [4].

As a result, products become more expensive for consumers. In Ukraine, logistics costs increased due to longer routes, safety risks, and infrastructure damage. This has led to higher prices for many goods, including food and technology.

Moreover, environmental issues are becoming increasingly important. Global transportation produces a large amount of carbon emissions, which contributes to climate change. Long-distance shipping, excessive packaging, and inefficient logistics systems also increase pollution.

In my opinion, companies should pay more attention to sustainability. Reducing emissions, optimizing routes, and using environmentally friendly transport can significantly improve the situation.

Despite these challenges, there are several possible solutions. First, companies can diversify their suppliers. Instead of relying on a single country or partner, they can cooperate with multiple suppliers from different regions. This reduces risks and increases stability.

Second, the use of modern technologies can significantly improve supply chain management. Digital tracking systems, big data, and artificial intelligence allow companies to monitor deliveries in real time, predict problems, and respond quickly.

These technologies make supply chains more efficient and transparent.

Another important solution is the development of local or regional production. Producing goods closer to consumers reduces delivery time, costs, and risks. During the war, many Ukrainian companies relocated their production to safer regions or even abroad, which helped them continue operating.

Additionally, companies can invest in environmentally friendly solutions, such as cleaner transport, reduced packaging, and optimized logistics routes. In my opinion, this not only helps the environment but also improves a company's image and attracts responsible consumers.

Another issue worth mentioning is the growing impact of geopolitical tensions on global supply chains. Political conflicts, trade restrictions, and economic sanctions can significantly disrupt the movement of goods between countries. For instance, changes in trade policies or the introduction of tariffs can make imports more expensive and less predictable. In recent years, many companies have had to rethink their international strategies due to increasing global instability. In my opinion, businesses must consider political risks as an important factor when planning supply chains and develop strategies to minimize their impact.

In conclusion, global supply chains are an essential part of the modern economy, but they face many challenges such as delays, high costs, lack of flexibility, and environmental issues. The example of Ukraine clearly shows how vulnerable these systems can be during crises.

However, with the help of strategies such as supplier diversification, technological innovation, local production development, and sustainability, these problems can be reduced or even solved.

Therefore, in my opinion, the future of global supply chains depends on how well companies can adapt to new challenges, respond quickly to changes, and implement innovative solutions.

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THE ROLE OF THE “15-MINUTE CITY” CONCEPT IN CREATING AN ACCESSIBLE URBAN ENVIRONMENT

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Accessibility and proximity are fundamental principles of the 15-minute city concept, which has gained widespread popularity in contemporary urban planning as a response to the challenges of globalization, urbanization, and the decline in the quality of life in cities [1]. The core idea of this concept is to create an urban environment where residents can meet their daily needs within a 15-minute walk or bike ride. This includes access to essential social functions: housing, work, supplies (shops and services), care (healthcare), education, and recreation [2]. This approach not only optimizes residents' use of time but also significantly reduces dependence on motor vehicles, which has a positive impact on the environmental situation and the overall comfort of the urban environment.

An important aspect of implementing this concept is breaking down each of these functions into specific subcategories and linking them to particular activities, types of development, and infrastructure. For example, the “supply” function may include grocery stores, pharmacies, and household services, while “enjoyment” encompasses parks, cultural institutions, and sports facilities. Such a breakdown allows for a more accurate assessment of the extent to which the area is equipped with the necessary elements of the urban environment.

With the growing popularity of the 15-minute city concept, research aimed at developing methods to assess its effectiveness has intensified significantly [2]. Today,