

# Supply Chain Disruptions in the United Kingdom Caused by Brexit

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*Abstract* Free trade, the mobility of people and products, and the growth of the European Union have all been on the rise in recent decades. Yet, the unanticipated Brexit event has resulted in several policy adjustments and new initiatives. The purpose of this article is to analyse the effects of these alterations on UK companies and their supply networks.

The term "supply chain" refers to the whole network of businesses and individuals that work together to produce and distribute a final good or service. When one part of the supply chain isn't working properly, it affects the whole system. Two areas where supply chain deficiencies most frequently occur are planning networks and transportation and logistics systems. (McKinsey & Company).

The study aims to analyse the impact of Brexit on supply chains in the United Kingdom based on a survey conducted by Coleman Parkes in August 2022 among 303 procurement managers and data collected from the Office for National Statistics and the Industrial Analytics Platform.

The research findings indicate that Brexit has been the most significant supply chain disruptor in the United Kingdom, primarily due to delays and red tape following the 2021 Trade and Cooperation Agreement (TCA). The majority of businesses are struggling to find new suppliers to reestablish supply. Common strategies employed to mitigate the adverse effects include supplier diversification and nearshoring (transferring business operations closer to home). Unfortunately, the repercussions of Brexit have not yet been fully resolved, and companies continue to search for ways to enhance the efficiency and resilience of their supply chains.

**Keywords:** Brexit, United Kingdom, Supply Chain, Supply Chain Disruptions, Supply Chain Challenge

## 1 Introduction

A referendum in the United Kingdom took place on 23 June 2016 among the citizens of the country. They had to express their opinion about staying or leaving the European Union. In the referendum, 51.89 % voted in favour of leaving the EU, and 48.11 percent voted to remain a member of the European Union. On 29 March 2017, the new British government led by Theresa May began the process of Brexit negotiations.

Because she couldn't get her agreement approved, May resigned as Prime Minister in July, and her successor was Boris Johnson. He sought to replace parts of the agreement and vowed to leave the EU by the new deadline.

In the end, the United Kingdom officially left the European Union on 31.12. 2020. This is the only sovereign country which has left the European Union. The United Kingdom was a member state of the Union since 1 January 1973. Following Brexit, EU law and the Court of Justice of the European Union no longer have primacy over British laws.

The decision to leave the European Union negatively influenced the supply of businesses in the country. This paper aims to analyse which supply chain disruptions is the business in the United Kingdom experience. The paper will also present solutions to the disruptions for businesses. The research methods include literature review analysis and personal reflection on the topic.

### 1.1. What is a SC and a Supply Chain Disruption

A supply chain is the whole process from the raw materials ordering till the delivery of the finished product to the end customer. The steps include buying raw materials, moving them to production, transporting the finished products to a warehouse and, as the last step, delivering them to the consumer. The stakeholders in the supply chain include producers, vendors, warehouses, transportation companies, distribution centres, and retailers. (Hayas, 2023)

Supply chains contain many interconnected parts, so when one part is disrupted, the whole system malfunctions. Supply chain planners are trying to forecast and predict where an issue can appear because it's better to react earlier. They use a lot of data, reporting and analytics tools, especially the planners in the big companies. Supply chain disruptions can be unexpected or expected and foreseen, as is the case with Brexit. Sometimes disruptions cannot be avoided, but the aim is to minimise the damage in order to save costs and to try to produce and deliver to the customer.

According to McKinsey's classification, there are four different types of supply chain shocks.

Table 1. Types of supply chain shocks

Type of the supply chain shocks	Description of the shock
<i>Unanticipated catastrophes</i>	These are historically remarkable events that <i>can't</i> be anticipated and lead to trillions of dollars in losses. Examples include extreme terrorism and a systemic cyberattack.
<i>Foreseeable catastrophes</i>	Shocks in this category are of a similar magnitude to an unanticipated catastrophe but differ in that larger patterns and probabilities can guide general preparedness. Examples include financial crises and global military conflicts.
<i>Unanticipated disruptions</i>	These are serious and costly events but are on a smaller scale than catastrophes. Examples include data breaches, product recalls, and industrial accidents.
<i>Foreseeable disruptions</i>	Some disruptions can be spotted in advance of their arrival. Examples include China–US trade disputes and the <b>United Kingdom's exit from the European Union.</b>

Source: McKinsey, 2023

Brexit is a foreseeable disruption according to the McKinsey classification. This means that disruptions caused by Brexit can be spotted in advance of their arrival. This gives some time for the companies to prepare as much as possible and to make adjustments where necessary to reduce the negative impact on their supply chains and the business as a whole.

Managing the supply chain is a highly important process because an optimised supply chain leads to lower costs and a more efficient production cycle. The business always aims to improve the supply chain to reduce costs and stay competitive and resilient in turbulent times. Management of the supply chains is even more important in difficult times and when disruptions are present. If the

management is sufficient and stable, the supply chain shouldn't be significantly affected by the negative influence of expected or unexpected events in the world.

## **2. Supply Chain Disruptions in the United Kingdom caused by Brexit**

The Ivalua Survey was conducted among 303 procurement leaders in the United Kingdom in August 2022. They surveyed 303 procurement decision-makers at companies with 1,000 or more employees and revenues greater than £50 million.

Eight out of ten claim that Brexit is the most significant supply chain disruptor with a bigger influence than the war in Ukraine, the rising energy cost, and Covid-19. 69% of the businesses expressed concern that further disruption will put suppliers out of business, and half of the leaders interviewed are afraid they can close the business. An additional 83% said disruption slowed down their ability to innovate and develop new products.

Alex Saric, chief marketing officer at Ivalua, said: "These findings lay bare the significant toll of supply chain disruption on UK businesses. Supply continuity has been left on life support after repeated blockages and restarts, resulting in supplier failure and organisations struggling to onboard new suppliers to kickstart supply. With supply chains being shocked at shrinking intervals, organisations must work to future-proof supply chains."

Almost 30 % said they had a loss in revenue during the last 12 months, with an average drop of 18%.

UK businesses estimate that they will be impacted by supply chain disruption for the next six months. 31% say they will be impacted for the following year. Over half (59%) share that supply chain disruption has become normal and that we'll see more turbulence-causing events like this in the future. The effect of this disruption could be significant, with 69% of the businesses in the United Kingdom concerned that more supply chain disruption will put suppliers out of business, while 51% fear they will be the ones who cannot survive and close the business. (Rowse, 2022).

The impact of Brexit on supply chain and logistics costs is significant. With the UK's exit from the European Union, the cost of importing and exporting goods across the UK-EU border has increased. The TCA (Trade and Cooperation Agreement) was signed on 30 December 2020 and was applied on the next day. It arranges preferential trade in goods and services, digital trade, intellectual property, road transport, energy and other areas. Unfortunately, it doesn't match the level of economic integration, which was a fact during the UK's membership in the European Union. (Europa.eu)

This has dramatically affected businesses' supply chain costs, leading to higher expenses related to inventory storage, customs clearance, and other cross-border operations. Due to the fact that there are delays at the borders, companies receive late raw materials or semi-goods, which they need for manufacturing. That's the reason why they start to order higher quantities. They have to be sure they have the needed production volume to cover the market demand. Piling up materials and semi-goods is connected with a higher cost for storage. Furthermore, some of them have short lifecycles, and if they aren't used on time in production, they need to be destroyed. Sometimes, companies give them to charity because it's connected with no cost; otherwise, if they want to destroy them, they will need to pay higher price for it.

The most integrated of all supply chains are those known as just-in-time (JIT) supply chains. These production systems first originated in the Japanese automotive and electronics sectors and are popular in manufacturing, engineering, retail and consumer goods markets. Those sectors are highly integrated with Europe. JIT was invented by Toyota with the vision to make vehicle orders faster and in the most efficient way.

In JIT supply chains, companies keep little inventories. Supplies are delivered in very small quantities at short periods from suppliers, located in close countries. The biggest advantages of those chains are the reduced cost and the high product and service quality.

Many companies in the United Kingdom depend critically on JIT systems to ensure their products and services are competitive in global markets. The delivery system needs to be perfect in order for the JIT supply chains to be functioning. (McCann, 2018)

Table 2 Positive and negative sides of the JIT supply chains

<i>Positive</i>	<i>Negative</i>
Lower cost for inventory	No room for error
Better level of control of the manufacturing process	You may not be able to fulfil customer orders on time
No buffer stock requirement	Prices of materials- you buy at the current price even if it's very high
More flexible workspace	If one of your suppliers experiences disruption and does not deliver on time, then your entire production can be delayed or stopped.

Source: OSV Company (What is Just-In-Time and how could Brexit affect it? - OSV)

With thousands of trucks crossing the channel daily transporting deliveries, delays at the border could be disastrous for companies that use the JIT process to produce their goods. The extra time and staff that businesses could require in order to complete paperwork or delays while goods are checked at customs could mean that production lines are left empty and the end customers can receive their goods with delay. (OSV Company)

This issue with the delays at the borders longer waiting to receive the semi-goods and the raw materials is a reason for businesses to rethink their supply chain strategies. Companies started to increase their inventory levels in the United Kingdom despite the higher cost of renting warehouse space. Those costs, together with the higher cost for exports and imports due to tariffs, lead to higher production prices. Furthermore, businesses had to invest in additional technology and systems to manage customs procedures and red tape. In order for the business to survive, it has to pass these costs to the end customers. Companies need to stay competitive not only in the British market but also in the European Union and in other countries across the globe, which is more difficult than before. It's even more

challenging for small businesses because they don't have such high margins and they have a limited staff number.

Another crucial problem that influenced the supply chains in the United Kingdom in a negative way is the labour crisis. The cost of hiring new people from the European Union got increased as long as the cost of their training increased. As a result, the availability of skilled workers decreased. The end of free movement and the introduction of the post-Brexit migration system led to significant structural changes of the labour market in the United Kingdom. The UK had a liberalised migration policy before Brexit. With the expansion of the European Union to Eastern and Central Europe in the first decade of this century, the United Kingdom faced undeniable migration flows. Recent data from ONS suggests that close to 1 in 5 UK workers was born abroad. In January 2021, with the end of the transition period, the United Kingdom implemented the immigration policy, which stopped the free movement between the European Union and the United Kingdom. (Portes, 2023)

By September 2022, a recent survey showed, there was a significant shortfall of around 460,000 EU workers in the United Kingdom, partly compensated by an increase of about 130,000 non-EU workers. Sectors with the most significant downfall are transportation and storage, retail, accommodation, food, manufacturing, construction and administration. For some sectors (the more skilled ones) more non-EU workers are compensated partially for the losses- mostly in the healthcare sector. (Springford, 2023)

Unfortunately, the arrival of 130,000 non-EU workers couldn't close the gap, leaving "large shortfalls" in key sectors. The biggest negative impact was on the transport and warehousing sector, with a reduction of 128,000 EU workers, or 8% of total employment in that sector.

In wholesale and retail, the downfall was 3%, or 103,000 EU workers, while in the hospitality and food sector, it was 4%, or 67,000 people. Manufacturing and construction were down 2% each. The decline in the administrative areas was 32,000 EU workers. (O'Carroll, 2023)

The truck driver shortage put high pressure on the supply chains in the United Kingdom. The Road Haulage Association estimated the deficit to be more than 100,000 qualified drivers in the country.

There are opportunities for UK residents who shouldn't leave the country to change their careers and to become a truck driver. Unfortunately, due to COVID-19 restrictions, fewer driving tests for this profession took place. As a result, haulage firms had to raise their transportation fees. According to research from Haulage Exchange, almost three-quarters of the firms in this industry have increased prices, and the other 25 % are expected to do so in the near future. (Mac's Trucks)

The problem is not only the higher transportation cost but also the real possibility of the companies experiencing delays in the transportation of the raw materials or their finished goods. This is valid for small businesses as well as for big corporations like Coca-Cola Europacific Partners. The company used trains as transportation for the first time in many years as they couldn't find enough drivers to deliver their beloved beverages to supermarkets in the United Kingdom. This was related to a lot of stress for the supply chain planner and higher costs.

The panic buying of the consumer also didn't help in this situation. People started to pile up some products which they use in everyday life, and this put more pressure on the supply chains, especially on those of JIT type. Those supply chains are very popular in the food and beverage industry because they don't require a high amount of raw materials or semi-finished goods to stay in the warehouse because they have short lifecycles. Companies can increase those inventories, but it's also connected with extra cost and more careful and strict observation of the life-cycle of the materials and the goods because they can expire and then need to be demolished.

### **3. Changes to the Supply Chains as a reaction to the disruptions in the United Kingdom caused by Brexit**

Companies have to rethink their supply chain strategies if they want to handle the disruptions in the turbulent time after Brexit more easily. Businesses need to have efficient and resilient supply chains if they want to gain profits and compete in the internal and external markets. As mentioned above, the implementation of the TCA agreement caused difficulties in the area of trade due to more administration and delays at the customs. It's especially difficult for companies with JIT supply chains. As the first solution, some companies increase the amount of the inventories, but this is also connected with higher costs and for many can be only a temporary solution.

Businesses in the United Kingdom must improve resilience by ensuring they have full visibility into all suppliers (and also the suppliers of their suppliers, and the suppliers of the suppliers of their suppliers and so on). Collaboration is highly important in order to mitigate the impact of any disruption. (Rowse, 2022)

Businesses have two main options: re-design supply chains to be closer to home (nearshoring) or broaden their network of suppliers. Every business requires reliable suppliers. This means suppliers produce a product that meets the business specifications and is delivered on time. (Hayas, 2023)

Nearshoring is the strategy of relying only on suppliers that are close by, in the same region, or country. This will eliminate the risks connected with border crossing and delays. It's very important to check if the suppliers which are local do not have suppliers outside the country. If the business relies only on this strategy, it means it has less options, less choice and the prices for the materials or the semi-goods agreed with the supplier will be probably higher. It's not only about the agreed price but also about the quality of the goods. Each business has specific standards, and it's very important to keep to quality in order not to disappoint its customers. It's always good for the business to start with small quality in the first order to a new supplier. This way the quality of the materials will be checked and if it's delivered on time. It's highly significant for each business to have reliable suppliers. With time, the terms of the contract can be changed between the parties; when they have reached a higher trust level, they can also agree to better prices. The change of supplier can be, unfortunately, related in the beginning to higher prices of the materials and a higher cost for the business.

Broadening the network of suppliers is another strategy that businesses can adopt. We live in a highly globalised world, but events such as Brexit and COVID-19 have shown that interconnectedness can be risky in turbulent times. For a business, it is crucial not to be vulnerable and to know that it will have delivered materials, even if there is a major global issue.

Nearshoring has become popular, but businesses should be aware that relying on one market is actually very risky. Some businesses combine both approaches- nearshoring and diversification. In this way, they have imports closer to them, but in the same time, they are not dependant on only one supplier- in the opposite, they have a network and can react better when shocks hit. It's good for the business to have not only different suppliers, but also those suppliers should be located in different markets. This will reduce the overall risk of an unforeseen event.

In these turbulent times, building resilient supply chains will require businesses to assess risk at different stages of the chain, and data is vital to this.

The granular and timely insights that data can provide will be beneficial and necessary to establish more resilient supply chains and competitive advantage. Companies using data to mitigate risk and seize opportunities will have an advantage. (Aquilante, 2023)

Companies have access to a lot of data, but unfortunately not all of them know first of all how to clean it and then how to use it. Data can not only show past results but can also make forecasts, and future



models can be compared to the current numbers later. With the introduction of AI, companies will use more data than ever in order to make informed decisions based on reliable data and not so much on intuition and business knowledge of the personnel. Workers on all level in the supply chain will need trainings on how to access, clean and read the available information. Companies started combining internal and external data to make better reports and use the information on a regular basis. Many businesses still have a long way to go in this direction, but they haven't started yet. They're already too late. In this highly competitive world, finding signals from your data in order to gain an advantage can be crucial for a business, matter a big corporation or a small or medium enterprise.

Another big issue is the labour crisis which is present in the country. United Kingdom is trying to encourage with its policy the arrival of non-EU workers to close the existing big gap. Unfortunately, for now this gap is still a fact, so other solutions are also necessary. Businesses can raise wages and try to lure British workers to take over the open positions. This is related with higher cost for the business, which will be covered by the end customers through the higher selling prices. Some work can be automated, and in this case, the business will pay lower salaries and have more stability. Businesses which cannot be automated so easily can eventually reduce production. Automation can be a really good option for some business, especially for manufacturers. The production lines can be working day and night and this way, there will be no spending on salaries, and there will be no timetable schedules for vacations of the personnel or people on sick leave.

If this government, or future ones, decide this gap is too problematic, they can make it easier for people outside the European Union to move to the United Kingdom for work. This can be achieved by reducing the cost of visas and reducing or removing the tax "immigration health surcharge". (Springford, 2023)

Many people from the European Union left the United Kingdom after Brexit because of either Brexit or the Covid crisis, or both. Some of them still have permission to work in the UK because they have spent significant time working or studying in the country before the events. If they decide to come back to the United Kingdom, they won't go through the difficult visa process and when the situation in the world gets more stable, it's possible for some of those people to take the decision to go back to live and work in the United Kingdom.

#### **4. Conclusion**

In turbulent times, it's highly important for small and big businesses to have resilient supply chains which can survive during shocks. The supply chains are nowadays extremely interconnected and this can lead to negatives influences and shocks in the supply chains. If one link of the supply chain is experiencing disruption, the whole system will be negatively influenced. This can lead to increased cost, less production, production with delay, more shifts for the workers, transportation delays and unhappy customers in the end. To save and stabilise the business during shocks, companies need to increase the prices, and the customers pay in the end for the disruptions in the systems.

Brexit caused foreseeable disruptions, and the companies were expecting issues after the exit of the United Kingdom from the European Union.

With the exit from the European Union (EU), the cost of importing and exporting goods across the UK-EU border has increased significantly. This has affected businesses' supply chain costs, increasing the expenses related to inventory storage, customs clearance, and other cross-border operations. Another negative impact of Brexit on the supply chain and disruption has been the implementation of customs and border checks. As a result, the amount of paperwork required for customs clearance got significantly increased, and companies were facing longer waiting times for goods crossing the UK-EU border. Companies needed extra help, knowledge and personnel to deal with the paper requirements. Some companies had to hire a specific person or firm to deal with the new documentation because they didn't have the knowledge at the beginning of how to free their goods at customs.

This has resulted in higher inventory costs for businesses since raw materials, and goods cannot move as fast across the border as before, and the businesses decided to be safe and pile up inventory. This was a safety net for the businesses, especially those who have the JIT supply chain. However, more inventory means higher cost for warehouse space and a possibility of expired materials and semi-goods, especially in the food and beverages sector. In some parts of the United Kingdom, there was a storage issue- there weren't enough warehouses for the companies to rent or buy, so they were searching for warehouses far away from their manufacturing facilities or offices. Furthermore, businesses had to invest in additional technologies and systems to manage customs procedures, resulting in increased costs. They started collecting data to make better-informed decisions about their supply chain. Analytics and Insight can help in turbulent times with forecasting and summarising trends and expectations.

In addition, Brexit led to a decrease in the availability of qualified personnel, increased recruitment costs, and a labour crisis. The exit of the United Kingdom from the European Union increased the cost of hiring workers from the EU and the cost of training new staff members.

Brexit was specifically a big challenge for the companies with the JIT- Just in Time supply chains. JIT is a very popular type of supply chain in the whole world. Implemented firstly by Toyota, for this specific supply chain is typical that the companies do not have high inventory levels from raw materials and semi-finished goods. They have as much quantity as they will need for their current production. This type of supply chain is especially common in the food and beverage industry. When the TCA came into effect, those companies were impacted significantly. The materials and semi-finished goods that they needed for urgent production were delayed at borders, and there were not enough drivers to transport the goods to the manufacturing sites. That's the reason why companies started to pile up raw materials and needed semi-goods for their production. This led to higher costs for warehouses space and a risk of those materials' lifecycle expires, if they're not included on time in production.

Companies have started to use the so-called "nearshoring" and diversification of suppliers as strategies to deal with the disruptions caused by Brexit. Many companies combine both approaches because choosing only the first strategy is risky. The "nearshoring" business is choosing a local supplier so the goods do not have to cross the border. It's better not to rely on only one supplier because if anything happens, the production of the business is at risk. By the diversification of suppliers, companies are choosing different suppliers from different markets, and in this way, they're more resilient in hard times. It's important to check a new supplier before starting ordering higher volume of materials. It's better for the business to try with a smaller quantity by the first orders. It's important for the business to check not only its direct suppliers but also the suppliers of the suppliers, where they are positioned, are they successful and trustful companies.

The interconnectedness of supply chains nowadays is very high, and unforeseen or even foreseen disruptions can cause significant difficulties for businesses. That's the reason why it's so important for companies to have stable and resilient supply chains that can reduce damage. Brexit inevitable caused a lot of disruptions for the business on the British market and its influence will continue to be experienced by the business and be an object of analysis for the researchers.



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