

Strategic Responses of EU Firms to Supply Chain Disruptions Post-Brexit

Abstract

This study aims to analyze how EU firms in the manufacturing industry adjusted their supply chains in response to post-Brexit changes. The study aims to answer the following research question: How did the EU manufacturing firms, especially the small and medium enterprises (SMEs) adapt their supply chains in reaction to Brexit shocks? I combine the experience of the previous crises, including 2008 recession, 2010 Volcanic eruption in Iceland, the 2011 Fukushima nuclear crisis and Japan earthquake, and COVID-19 pandemic. I also compare four theoretical perspectives, such as the resource-based view, dynamic capabilities, and supply-chain resilience theories. Stockpiling, supplier diversification, nearshoring and digital investments are documented in empirical studies but are based on aggregate surveys which hide firm discourse. I find that qualitative thematic content analysis of corporate disclosures will show how manufacturers build legitimacy, how resilience investments are prioritized and differ by firm size and subsector, which provides managerial advice and policy guidance to enhance the EU industrial resilience to inform the EU policy and practice.

Table of Contents

INTRODUCTION.....	5
Research Aim	5
Research question.....	6
Literature review	6
How past supply chain disruptions affected the EU manufacturing firms	6
Theoretical frameworks	8
How firms respond to supply chain disruptions	9
Inventory buffering.....	10
Market and supplier diversification	10
Digitization of the supply chain.....	10
Nearshoring and operational realignment	11
Key debates and research gaps.....	11
Conclusion	11
RESEARCH METHODOLOGY	12
Introduction.....	12
Research philosophy.....	13
Justification	13
Alternatives and reasons for exclusion	13
Strengths and limitations.....	14
Approach to theory development	14
Justification	14

Alternatives and reasons rejected	14
Strengths & weaknesses.....	15
Methodological choice.....	15
Justification	15
Alternatives & reasons rejected.....	15
Strengths and weaknesses	15
Research strategy.....	16
Justification	16
Alternatives and reasons rejected	16
Strengths & weaknesses.....	16
Time Horizon	17
Justification	17
Rejected alternatives & reasons.....	17
Strengths and limitations.....	17
Techniques and Procedures	18
Data Sources and Sampling.....	18
Data Collection Procedure	18
Data analysis	18
Data Management and Access, Ethics	18
FINDINGS.....	20
Introduction.....	20

Data Overview	21
Supply Chain Restructuring	22
Trade and Market Access Adjustments	23
Financial and Risk Management Strategies	25
Summary of findings	27
ANALYSIS AND DISCUSSION.....	29
Revisiting the research question.....	29
Linking findings to theory.....	30
Implications.....	31
CONCLUSION	33
REFERENCES.....	35
APPENDICES	40

Strategic Responses of EU Firms to Supply Chain Disruptions Post-Brexit

INTRODUCTION

Brexit is the process in which the United Kingdom (UK) voted to exit the European Union (EU), which Sidaway and Bachmann (2021) claim was meant to reflect Britain's cultural inheritance and imperial past. The UK officially withdrew from the EU on January 31, 2020, after a withdrawal agreement was ratified between the UK and the EU. Brexit has had considerable implications for EU firms that operated in Britain and British firms that operated in the EU. It introduced regulatory barriers, custom checkpoints, and tariffs that significantly affected EU-UK trade. EU imports from the UK fell from 13% in 2010 to about 7% in 2023, with the decline accelerating significantly after the beginning of the Brexit campaign 2016 (André et al., 2024). Although trade has risen, it is still below pre-Brexit volumes. Supply Chain Planning.ie (2025) explain this decline and delays in ports like Calais and Dover, which increased the exporting costs, particularly the SMEs.

Research Aim

This study aims to analyze how EU firms in the manufacturing industry adjusted their supply chains in response to post-Brexit changes.

Research question

How did the EU manufacturing firm, especially the small and medium enterprises (SMEs) adapt their supply chains in reaction to Brexit shocks?

Literature review

How past supply chain disruptions affected the EU manufacturing firms

The historical supply chain disruptions that affected the EU manufacturing industries can shed light on potential firm reactions to Brexit. In the 2008 Financial Crisis, Békés (2012) indicates that resilience, agility, and supply chain reconfiguration themes were prevalent in various categories of shocks. During the 2008 Financial Crisis, the EU manufacturers experienced a drastic demand decline. Numerous of them reacted by being flexible in terms of trade connections. Indicatively, an example of an EU firm analysis showed that exports decreased more than local sales, and companies needed to find a source of flexibility by cutting imports and turning to outsourcing. That is, the companies reduced foreign inputs or outsourced production work as required. Big and more productive businesses were nimbler, and relied on their international connections to maintain production (instead of placing protectionist barriers). This implies that cost-control, resource redeployment, together with the dependence on flexible supplier networks were a part of the strategies in the case of the demand-led crisis. Efficiency and survival in communication to the stakeholders was probably a priority of firms at the time because communication strategies were not a research priority.

The eruption in Iceland in 2010 stalled air traffic in Europe in the Volcanic Ash Cloud. It revealed weak supply chains of high-value parts that were based on just-in-time. Interestingly, the European car manufacturers such as BMW, Nissan and Audi were forced to halt production as

sensors that were essential in Ireland were cut off by airborne delays. It was demonstrated by the shock that even the companies that had their suppliers mostly local may be paralyzed by reliance on one mode of transportation. Reflectively, those companies with contingency plans like alternative logistics or stock of spare parts performed better, whereas those without were worse hit (Parker, 2015). The case also taught companies to diversify the mode of transport and take into account buffering of important parts. It has also placed an emphasis on communication of risks: this would be followed by some industry professionals calling on the need to better plan scenarios to reduce such widespread disruptions.

The Fukushima nuclear crisis and the 2011 Japan earthquake shook Japanese supply chains of automobile and electronics. This made most manufacturers reformulate just-in-time practices. As an example, car manufacturers and their suppliers engaged to increase inventories and dual sourcing. The suppliers in the world are now stocking back-up production equipment in a greater number of plants that are owned by their suppliers. Chemical and technological companies such as Merck KGaA and ZF-TRW also stocked more in multi-month stock of essential inputs and added more production lines (Tajitsu, 2016). Nevertheless, the companies traded resilience with cost: others maintained lean stocks, rather than standardized parts, and enhanced visibility, e.g., Toyota and Nissan created supply-chain databases and they needed backup sourcing plans of new parts).

The COVID-19 Pandemic (2020-2022) was a systemic shock in terms of logistics, demand and labor. The reaction by EU manufacturers was to quickly install dynamic resilience capabilities. The literature points out that some of the high-order capabilities were adaptation, response, and learning. Some of the operational practices that supported these capabilities included flexible production, digital tools to track inputs and cross-functional teams to make rapid decisions. In case

studies of EU companies, it has been demonstrated that supply chain resilience is constructed by stacking practices that support the higher levels of capabilities (Ali et al., 2024). Concisely, the healthy firms would develop an early sense of disruption, adjust resources, and learn on the fly.

Theoretical frameworks

Various theoretical perspectives facilitate interpreting how firms responded to the supply chain shocks related to Brexit. Resource-Based View (RBV) is a perspective that denotes that the sources and capabilities of firms are the path to sustained advantage (Jurevicius, 2023). Resource-Based View (RBV): RBV assumes that valuable, rare, inimitable resources determine performance in firms (Barney et al., 2001). According to an RBV, the ability of manufacturers to absorb shocks is dependent on the material and organizational resources available to them (e.g. financial slack, supply contracts, technology assets). RBV dictates why bigger or more endowed firms can withstand disruptions. Even so, RBV itself is criticized as being too dynamic: it simply does not focus sufficiently on the fact that firms should reconfigure resources during crisis in a dynamic manner. It is not only enough to have resources (warehouses, capital) in a turbulent situation such as Brexit but adaptive processes. Therefore, RBV offers a starting point, but not a way of development of strategies.

Dynamic capabilities (DC) theory further stresses firms' capability to recombine their resources in the face of change. According to Teece (2025), a dynamic capability is the capacity of the firm to integrate, build, and reconfigure both internal and external competencies of the firm in response to the quickly changing environments. DC theory focuses on the capability of a firm to reconfigure, integrate and redeploy internal and external competencies during change (Ming et al., 2021). The adaptability of firms to uncertainty is imposed through high-order DC processes

sensing, seizing and reconfiguring. DC is used in supply chains to describe how manufacturers learn and can pivot (e.g. to form new relationships with suppliers, to go paperless) in response to disruptions.

The central concept in disruption literature is Supply Chain Resilience (SCRES). Definitions differ a bit, but a shared element is the capacity to recover after a shock. Ming et al. (2021) describe resilience in supply chains as the ability to facilitate fast recovery of the firms to their normal state after disruption, i.e., to change and restructure after disturbance. The frameworks of supply chain resilience tend to specify buffering measures, such as additional inventory and flexibility, such as diversified suppliers, as important dimensions. Resilience theory in the Brexit case would make our search to see how resilience theory can help firms absorb trade shocks through safety stocks, multiple suppliers, or flexible logistics networks. It specifically deals with disruptions, which is not the case with generalized strategic theories. Recent literature holds that SCRES capabilities are nothing more than dynamic capabilities to supply chains. This model brings out certain resilience practices that have been employed by firms in the past. Applying to the Brexit case, the SCRES theory can help to analyze the actual tactics (stockpiling, diversification of suppliers) and the ability to overcome delays at the border or a change in regulations.

How firms respond to supply chain disruptions

Recent empirical case studies, surveys, and industry reports identify various strategic responses that firms tend to take to overcome the supply chain challenges. The core strategies include inventory buffering, market and supplier diversification, digitization of supply chains, and nearshoring and operational realignment.

Inventory buffering

The most common adjustment is stockpiling to inoculate businesses from supplier delays.

According to André et al. (2024) reports, more than 50% of the EU retailers (particularly machinery, electronics, automotive, and other non-perishables) reacted by increasing stock inventory. About 56% of companies in these subsectors created extra inventory to inoculate themselves from potential vulnerabilities. These adaptations align with dynamic theory with a focus on survival and thriving under adversities (Duchek, 2019).

Market and supplier diversification

Some companies respond by expanding their supplier networks or diversifying markets in new countries to reduce reliance on a single supplier or market. André et al. (2024) suggest that 20-31 per cent of firms said they had diversified their countries of imports. Even twenty percent of firms with a lesser dependence on cross-border inputs, such as construction, diversified their supplier networks. Policy incentives also encouraged diversification leading to a situation where firms receiving grants were far more likely to diversify or import more countries.

Digitization of the supply chain

Today, many companies have invested in digital technologies to enhance the visibility and agility of their supply chains. A noticeable response was digital shipment and inventory tracking. EIB statistics reveal that between 20 and 27 per cent of the manufacturing companies adopted digital inventory or input-tracking devices (André et al., 2024, p.19). The firms used digital custom platforms, blockchain to document, and IoT trackers to automate compliance and eliminate delays (Supply Chain Planning.ie, 2025). Therefore, technology emerged as an enabler of resilience, facilitating coordination at new regulatory interfaces.

Nearshoring and operational realignment

Firms also implemented longer structural measures. Others decentralized portions of their operations or strategically moved production nearer to their markets. Guérineau (2025) shows that organizations opt to move or relocate some functions because when they predict a potential disruption. Many companies hedged by adding local or intra-EU suppliers, although only a small part of the companies reduced the total amount of imports.

Key debates and research gaps

The perspective of EU-based manufacturers is paid very little attention. Much of the Brexit studies have focused on UK firms and UK markets; EU firms have been understudied. The above reviewed evidence is usually based on general EU or global research, but not analysis of EU industry. That creates a second gap: we do not know in-depth information about what particular supply-chain strategies EU manufacturers have implemented and how successful they have been since Brexit (Guerineau, 2025). Further analysis will be necessary to develop a full picture of structural and strategic responses that SMEs had to make in order to build their resilience. Future research may use case studies and content analysis to answer the research question.

Conclusion

In order to illuminate the post-Brexit situation, this review has summarized the evidence on the manner in which EU manufacturing companies historically and most recently reacted to significant disruptions. The main findings include: in times of crisis, fast adaptability, dual sourcing, and effective communication are the characteristics of resilient firms. The reconfiguration processes of resources firms go through can be well-described with the help of theoretical frameworks of DC and Resource Capability approach. According to the literature, the

EU manufacturers will adopt the strategies such as stockpiling, diversification of source of imports and digital tracking. These are in line with the best practices that the DC/SCRES literature forecasts. Nevertheless, the manner in which companies explain and defend such measures has not been well investigated. Notably, this review establishes that no previous research examined the strategies of EU manufacturers to adapt to the Brexit systematically through their own words. The majority of knowledge is based on surveys or economic data as opposed to the views of the firms. In this regard, we suggest qualitative research based on the analysis of secondary data namely the analysis of content of annual reports and associated disclosures of manufacturing companies in order to address this gap. This methodology is capable of defining the framing and focus which companies employ and offers new insights beyond aggregate patterns.

RESEARCH METHODOLOGY

Introduction

This chapter explains the methodological process to be followed in the study of how EU manufacturing companies responded to supply chain disruptions associated with Brexit. The research methodology is guided by Saunders et al. (2019) research onion, outlining the philosophy used, approach to theory development, methodological choice, research strategy, time horizon, and techniques and procedures for data collection and analysis (p.130). For each layer in the research onion, we state the choice, define it, justify its fit to the study, compare alternatives, and outline the strengths, weaknesses, and approaches to manage limitations.

Research philosophy

This study is situated within interpretivism, which is a philosophy that emphasizes the understanding of social constructions and subjective meanings as opposed to seeking objective and generalizable laws (Saunders et al., 2019).

Justification

The research aim is to interpret how firms and managers describe their Brexit responses based on firm-related annual reports, press releases, industry publications, trade association documents, supply chain disclosures, and published investment reports. These processes require interpretation of large volumes of information to find meanings. According to Pervin and Mokhtar (2022), interpretivism enable researchers to access and find valuable meanings in context. Interpretivism is the ideal philosophical choice considering that this study focuses on how companies report strategy rather than how many firms took a certain action.

Alternatives and reasons for exclusion

Positivism and critical realism could be considered among the alternative methodologies. However, positivism requires hypothesis testing and objective measurement, which would demand coding on pre-set variables and would not capture crucial managerial narratives (Alharahsheh & Pius, 2020). On the other hand, critical realism focuses on seeking causal structures beyond observed events and could only be relevant in case the aim was to explain causal factors across populations (Zhang, 2023). However, the primary goal of this study is to describe discourse rather than causal inference.

Strengths and limitations

Interpretivism is good where depth and contextualization are desired. However, it inhibits statistical generalizability (Alharahsheh & Pius, 2020). This limitation will be managed using purposeful sampling, focusing on SMEs in the manufacturing sectors.

Approach to theory development

This research applies the abduction approach to theory development. Abduction is a combination of inductive and deductive logic, moving between theory and data, and through which emerging themes can sharpen theoretical knowledge (Ramesh & Howlett, 2025).

Justification

In this study, there are established models such as Resource Based View (RBV), Dynamic Capabilities, SCRES, and signaling, according to which the expectations regarding content are guided. But the new question, e.g., how companies socialize these strategies, can begin to reveal patterns which are not entirely covered by those theories. An abductive method permits the researcher to begin with sensitising ideas of theory, to analyse the papers to determine new themes, then repeatedly focus on theoretical explanation (Ramesh & Howlett, 2025). This is very appropriate in document-based thematic analysis.

Alternatives and reasons rejected

Pure induction (grounded theory) would disregard pre-existing useful structures and run the risk of re-inventing theory. Pure deduction would limit analysis to the testing of prespecified propositions, and would be unaware of unexpected framings.

Strengths & weaknesses

Abduction is theory and data balanced with reflexivity. The researcher will maintain an analytical memo history in which the codes are going to be recorded in relation to how theoretical concepts shaped the use of the theoretical codes (Ramesh & Howlett, 2025).

Methodological choice

The study applies mono-method qualitative analysis because it uses thematic analysis to identify common themes about strategy in documents. A mono qualitative approach involves a one-qualitative data collection approach and qualitative data analysis approach (Saunders et al., 2019). In this case, textual documents are targeted by the study, and thematic/content analysis is carried out.

Justification

The research question should be deeply interpreted using text. Regular reports of the companies are the natural data source to study the way the companies frame strategy publicly. The use of a single, rigorous qualitative approach allows a profoundly similar and consistent analysis of documents and it corresponds to the interpretivist philosophy.

Alternatives & reasons rejected

Mono quantitative (e.g. content counts) would remove richness to frequencies. It might be enriched by using mixed methods (e.g. surveys and document analysis) but it is not required within the scope of the dissertation and would add complexity as well as demand more resources.

Strengths and weaknesses

Qualitative mono-method is feasible to thick description and interpretive insight and prone towards single-method bias. To enhance reliability the project shall (a) employ more than one type

of document (annual reports, sustainability reports, press releases), (b) code in a documented codebook and (c) assess inter-coder reliability (peer or supervisor double coding on a sample).

Research strategy

The study methodology involves archival analysis as it offers comparative case sampling of document-based cases involving manufacturing firms. Document (archival) studies examine written sources that are already in existence (Ventresca & Mohr, 2017). Comparative case sampling includes the choice of several organisations in order to make comparisons of framing in different settings.

Justification

Annual reports and sustainability reports are references in archives where firms declare the strategies and legitimacy claims to their stakeholders. A comparative study design, such as sampling twenty manufacturing firms in EU member states and subsectors, would allow cross case pattern identification such as differences by firm size, subsector, or country. This design is aligned with the objective of the study that is to identify framing patterns and sectoral variation.

Alternatives and reasons rejected

Interviews would provide direct managerial intent and demand primary access and possibly introduce social desirability; in addition, the supervisor recommended secondary data is permissible and more viable. Attitudes would be quantified by surveys but the subtleties of rhetorical framing would not be present.

Strengths & weaknesses

Archival strategy employs unobtrusive data, readily available, and documents official accounts. Weaknesses are: they may be biased in promotion reporting, and language barriers.

Mitigations: incorporate various document types to triangulate messages, choose companies whose reports are in English language or have good translations and critically analyze the type of document.

Time Horizon

The study will implement a cross-sectional review of documents published between 2020-2024/25 reporting cycles. Cross-sectional studies examine data at a single point or a limited, short-term period instead of following change in extended temporal intervals (Saunders et al., 2019).

Justification

A cross-sectional study is practical and achievable on a dissertation deadline and yet it can still be used to examine the immediate post-Brexit framing. A limited recent window can be selected to record the current stories of firms and at the same time eliminates the unreality of using multi-year documentary tracks.

Rejected alternatives & reasons

Longitudinal analysis may show the dynamics of change, but that needs a long period of time and repeated reporting beyond the dissertation.

Strengths and limitations

Cross-sectional design constrains the capability to make conclusions on the ways framing will change across time. To partially compensate this, the sample will consist of firms that provide supplementary Brexit-related updates or investor presentations during the window, which will allow the limited temporal comparison to be made where possible.

Techniques and Procedures

Data Sources and Sampling

Zach (2006) recommends the inclusion of multiple cases to support pattern identification and replication. As a result, the sample will include 20 firms, which will be sufficient to conduct in-depth qualitative coding. For inclusion, a document has to be about a firm categorized within manufacturing, involved in EU-UK trade, published between 2022 and 2024, and accessible in English language. Approved document types include annual reports, press releases, industry publications, trade association documents, supply chain disclosures, and published investment reports.

Data Collection Procedure

Systematic search will be conducted on google after which documents that meet the inclusion criteria will be downloaded or URL stored. The data will be logged in a data log with each document being catalogued according to firm, year, document type, subsector, and country.

Data analysis

The six-step thematic analysis developed by Braun and Clarke (2019) offers a versatile approach to the theme detection of qualitative data: (1) familiarisation, (2) initial coding, (3) theme development, (4) theme review, (5) definition and naming, (6) reporting.

Data Management and Access, Ethics

There is no high risk of harm to the participants directly since the research involves public documents. Nevertheless, representation and sensitivity to context also must be accurate in the ethical practice (Okorie et al., 2024). Any confidential commercial data that may be encountered will be handled delicately; word-to-letter quotes will be correct and referred to the firm and

document. Ethical permission will be obtained at the university and both ethics forms signed will be attached.

FINDINGS

Introduction

This chapter depicts the most vital findings based on the review and analysis of secondary data gathered on selected manufacturing companies in the EU. The main goal was to estimate the ways these companies were changing their operational and strategic systems to accommodate the challenges and uncertainties presented by Brexit. The sources of data included publicly released company reports, annual reports, sustainability reports, investor briefs and industry reports published in the period between 2016 and 2024.

The results are thematically presented in accordance with three research questions that had been used to focus this research: supply chain restructuring, financial and risk management strategies and market access and customer relationship adjustments to frame the effect of Brexit. The themes were recurrent throughout the sample and present the diversity of corporate response to a complicated geopolitical event.

In the segments, evidence is provided by various manufacturing companies, which vary in terms of size, industry, and location in the EU. Although there are differences between companies, the trend and patterns were clear, which has a foundation to be further interpreted in the next chapter of the discussion. The analysis does not focus on the description of specific cases of companies but on capturing general trends of adaptation at the European manufacturing industry after Brexit.

Data Overview

In an effort to have a wide cross section of industries, size of firms, and geographical locations, this study used a sample of twenty manufacturing companies which are headquartered in different EU member states. The sample consisted of companies operating in different sectors including automotive, pharmaceutical, food and beverages, machinery and consumer goods, all of which have a substantial trading relationship with the United Kingdom. The companies were selected due to the availability of their corporate reports, sustainability reports, investor communications and official press releases on post-Brexit strategies and operational modifications.

The sample was made up of both big multinational firms like Allianz SE (Germany), Total Energies (France), and Airbus (Netherlands) and medium sized enterprises that are dependent on the UK exports or supply chains. This combination enabled comparative knowledge on companies that had large global networks and those that were more regionally anchored in the EU-UK trade passage. Other factors that were considered in the analysis included the level of market exposure to the UK, which was between firms that have large subsidiaries or production plants in Britain and firms that have minimal cross border trade.

The selection criteria of the data collection were the publicly available documents that were published between 2020 and 2024, which included the period prior to the Brexit transition, the transition itself, and the post transition period. The annual reports, strategic updates, and sustainability disclosures were also analyzed to determine trends in the way these companies reported the challenges, risks, and adaptation strategies. A particular focus was placed on such

recurring themes as restructuring the supply chain, compliance in trade, labour mobility, and financial protection against currency volatility.

Supply Chain Restructuring

The necessity of restructuring supply chains has been one of the most acute and considerable effects of Brexit on the manufacturing firms based in EU. The exit of the United Kingdom out of the EU single market and customs union brought in fresh obstacles to the trading process, including the establishment of customs checks, regulatory divergence, and the imposition of high transportation costs (Ioannides, 2025). The trend in the twenty companies studied was to focus on improving the resilience of the supply chain and decreasing the reliance on suppliers and logistics networks in the UK.

Some of the large manufacturers, such as Siemens, Bosch, and Michelin, cited their initial diversification efforts as early as 2017, which was geared at addressing the risks posed by the post-Brexit uncertainty (Du et al., 2024). These companies have made the percentage of raw materials and components originated in the EU much higher, and at the same time set up other distribution centers in continental Europe (Du et al., 2024). In the case of mid-sized enterprises, the process of restructuring was more cost-driven and reactive. A high number of the SMEs could not afford to replicate supply chains and, instead, focused on issuing new supplier contracts or using third-party logistics providers (Britishchambers, n.d.). One strategy that was repeated by several companies was the adoption of dual sourcing whereby there were two suppliers, one in the UK and the other in EU as a protective measure against possible disruptions (Ioannides, 2025). This strategy provided flexibility and increased operational expenses through the simultaneous compliance and certification processes.

The process of restructuring was also affected by regulatory realignment. The case of companies in industries like pharmaceuticals and automotive was especially tough as the UK regulative authorities like MAC or Medicines and healthcare products Regulatory Agency (MHRA) went off course in line with EU guidelines (Moulins, 2020). Companies such as Sanofi and BMW Group reacted by centralizing regulatory and compliance activities in the EU to retain access to the market (Taylor, 2025). Other manufacturers, especially those whose products are fragile, relocated final assembly operations within the EU territory so that they could keep their products EU approved.

Geographically, another interesting finding of the restructuring was the eastward change of the logistics networks. Some of the companies also increased their presence in countries like Poland, Czech Republic as well as Hungary based on the cheaper production costs and the good logistical access to the western Europe (Du et al., 2023). All these relocations were aimed not just to avoid bottlenecks in the UK but also to be more resilient to future geopolitical upheavals.

Overall, the results have shown that the restructuring of the supply chain after Brexit was preventive and adaptive. Pre-emptive diversification was sought by bigger companies whereas minor adjustments were embraced by smaller companies. The overall commonality in the board was a shift towards EU self-reliance, digital modernisation and risk mitigation. Although disruptive, Brexit turned out to be a reason to reconsider efficiency, redundancy, and regionalism in the European manufacturing supply chains.

Trade and Market Access Adjustments

Brexit changed the nature of trade among the manufacturers in the EU, and many companies had to re-align their supply chains, as well as their strategies of accessing the market

and their trades. Since the UK is no longer a member of the EU single market and customs union, the companies were hit by new tariff and non-tariff obstacles, customs delays, and disruptions with the free movement of goods and services (Ioannides, 2025). A broad and intentional change towards concentrating access to EU market together with rebalancing the trade flows with UK was observed across the twenty investigated companies to reduce exposure to post Brexit volatility.

In the case of a number of multinational manufacturing firms, including Airbus, Renault, and Michelin, the UK had long been a key manufacturing base, as well as, a key consumer market. In the aftermath of Brexit, these companies adopted two-fold strategies of maintaining operations in the UK where they could be strategic and concentrating investment in their trade routes in the EU (Du et al., 2023). An example is that Airbus has also retained its production facilities in the UK, but moved important certification and documentation to Toulouse, guaranteeing that no EU aviation standards have been compromised (Reuters, 2022). Equally, Renault minimized exports using the Dover Calais route by using alternative ferry services using Zeebrugge and Dunkirk to alleviate congestion and administrative expenses (Reuben, 2021).

The new trade frictions were especially dangerous to mid-sized enterprises. In 2021-2022, companies like BASF, ThyssenKrupp and Stainless Gobain announced temporary declines in exports to the UK because of new customs documentation and rule of origin checks (Du et al., 2024). These companies have reacted by turning into intra EU trade growth with increased focus on relationships with competitors in Germany, France and the Benelux (Du et al., 2024). Moreover, several companies were interested in finding new trade routes through the ports of southern Europe, in particular, Trieste and Valencia which became the favorite ports to achieve the access to the global markets without relying on the UK routes (Ioannides, 2025).

Since 2020, many companies such as Unilever and Heineken have relocated their primary centres of distribution to the Netherlands and Belgium due to the strong logistics infrastructure of these countries and the fact that they remain part of the EU (Ioannides, 2025). Not only did this alleviate friction in the customs, but it also provided greater predictability of the supply chain, and minimized delivery led times to the customers in the EU.

Overall, the results demonstrate that Brexit compelled EU manufacturers to follow a multi route, multi market approach, and balance the minimization of risks with expansion. Trade with the UK is still important, but the focus has changed to the development of intra EU networks, the reinforcement of the logistics infrastructure in the continent, and the development of global markets. In fact, Brexit did not only change the trade routes, but also transformed the geographic logic of competitiveness among European manufacturing companies (Du et al., 2023).

Financial and Risk Management Strategies

The economic uncertainties and regulatory crises of Brexit were significant financial risks to manufacturers in the EU, particularly those with significant trading connections to the UK. The investigated twenty companies had various advanced approaches in managing risks and finances in order to reduce the effects of currency fluctuations, tariffs exposure, uncertainty in investment opportunities and chances of disruption of capital flow.

One of the issues was the fluctuation of the British pound against the Euro. The referendum of 2016 brought an immediate depreciation that has hit the profit margins of EU exporters to UK (Du et al., 2024). In response to this, companies such as Siemens, Philips and Danone have used currency hedging instruments such as forward contracts and options to firm

up the revenue streams and safeguard against exchange rate shocks (Du et al., 2024). Multi-currency pricing mechanisms were also adopted by companies having high UK exposure like Airbus and Michelin, in which transactions in euros were made at any opportunity possible instead of the Sterling Pound (Reuters, 2022). This minimized financial exposure to the fluctuations of the pound and broiled financial reporting in the corporate structures in the euro.

Simultaneously, companies re-examined tariff and customs risk. The UK does not belong to the EU customs union, and most companies were afraid of increased cross border goods duty. A number of manufacturers distributed their supplies chains and established backup stock in strategically positioned warehouses within the EU to reduce delays and prevent the increase in tariffs (Ioannides, 2025). This hoarding, albeit capital intensive, guaranteed continuity in production and distribution in the first post Brexit transition when there were massive bottlenecks at the ports.

In addition, companies strengthened insurance and financial resiliency. The coverage of trade credit insurance was increased so as to reduce the risks associated with late payment of UK purchasers and liquidity buffers were increased by providing short term credit facilities and issuing corporate bonds (British Chambers, n.d). An example of this is Michelin, which issued capital in green bonds denominated in euros to finance the diversification of sustainable production in the EU itself, which helped not only to mitigate financial risks but also to pursue the overall ESG goals.

Interestingly, digitalization in financial operations was also fastened by Brexit. Risk analytics tools and enterprise resource planning (ERP) systems using AI were applied at enterprises to monitor the changing costs in real time, exchange rates, and fees on documents

(British chambers, n.d). This technological upgrade was able to better risk detection besides enhancing the overall financial transparency within multinational subsidiaries.

Overall, the EU manufacturers viewed Brexit as a systemic event with a long period of financial risks and needed a systemic adjustment, not an ad-hoc one. Their plans included hedging, diversification, liquidity fortification, and digital surveillance, and created a robust structure against the economic chaos after Brexit. Although the expenses of these changes were high, the companies that took early and evidence-backed financial precautions appeared in a better situation to retain their balance, investor trust, and profitability in a restructured European trade complex.

Summary of findings

The results of this study indicate that the reaction of EU-based manufacturing businesses to Brexit was based on the strategic restructuring, financial adjustments, and operational resilience. Although the sectors and size of the firms studied varied, a few common themes arose in all the twenty firms.

To begin with, Brexit served as a catalyst in the restructuring of a supply chain. To locate the areas of weakness in connection to UK dependencies, most of the firms had extensive audits of their production and logistics chains. The outcome was a clear step toward consolidation within the EU-based operations, that is, to transfer warehousing, distribution and certification operations of the UK to the continent. Siemens and Michelin, among others, diversified their suppliers, embraced multi sourcing and became more automated in an effort to mitigate the risks of border disruptions. The supply chain transformation decreased risk, as well as, increased the resilience to the shock in the long term.

Secondly, it was found that there was a realignment of trade routes and market access strategies. Companies stopped using the old UK-EU routes such as Dover Calais, and instead resorted to using alternative gateways such as Zeebrugge, Dunkirk, and Rotterdam. Large companies Airbus, Unilever and Heineken restructured the UK to become a third country market with a localized subsidiary but increasing intra EU trade and global trade ties. This diversification was also applied in the new market of North America and Asia, where the trade agreements like CETA and the EU Japan EPA are used as a safeguard against the possible losses of the UK.

Thirdly, Brexit caused a financial and risk management innovation wave. Companies activated currency hedging systems, increased liquidity buffers and made use of automated risk analytics to monitor live financial exposure. Green bonds and capital market instruments were also used by larger corporations to fund diversification-oriented and sustainability-oriented investments.

Collectively, the results indicate a trend of strategic development and not retrenchment. Manufacturers of the EU did not leave the UK market outright, rather, they restructured their businesses, diversified routes and strengthened their financial systems to be in the new geopolitical reality. The general trend of adaptive resilience born out of the inconveniences of Brexit, was a chance to modernize logistics and enhance internal integration within the EU and embark on new global opportunities.

ANALYSIS AND DISCUSSION

Revisiting the research question

This study aimed to provide the response to the main research question: How did EU manufacturing companies respond to challenges and uncertainties of Brexit? In sum, they accomplished it through stockpiling, diversification, digitalization, and building legitimacy, but the degree and character of such adjustments were different depending on the size of the firm and its reliance on the UK market.

Strategic diversification was the main mechanism of adaptation used by large multinational companies such as Volkswagen and BMW (Taylor, 2023). They reorganized the production networks, distributed the distribution centers to continental Europe and diversified the suppliers to reduce the risks of the customs and border. In between, medium sized producers were more inclined to relying on stocking policies, which entailed stocking inventory to ensure the continuation of production in the face of transition disturbances.

The movement to digitalization became strong across the board with regard to the size of the firm. Businesses invested in improved systems of supply chain management, automation of customs and AI-based predictive tools to improve visibility and responsiveness in more fragmented trade networks (British chambers, n.d). This change in technology was not only a functional requirement but a catalyst of more industry 4.0 developments in European manufacturing.

Lastly, companies sought building legitimacy that strengthened their devotion to sustainability, openness, and European monetary stability. Altogether, the effect of Brexit was

not the withdrawal but the strategic rejuvenation since EU manufacturers made out of disruption the chance to modernize, be resilient, and gain a stronger image.

Linking findings to theory

The results of the given research are rather consistent with a number of theoretical frameworks describing organizational adaptation in the uncertain conditions, in particular Institutional Theory, Resource-Based View (RBV), and Contingency Theory (Ramesh & Howlett, 2025). Combined, these models assist in explaining the reaction of the EU manufacturing firms to the disruption caused by Brexit in both strategic and structural terms.

According to the Institutional Theory, companies operated in the environment of the transforming regulatory and normative demands. Brexit has upset established institutional frameworks that have been supporting the cross-border commerce and companies need to reorganize their practices in response to the new rules and legitimacy requirements. An example of institutional lobbying as an adaptive mechanism is that the European automakers coordinated an appeal to the European Commission to postpone post Brexit tariffs (Taylor, 2023). These firms aimed at maintaining the status quo in the regulating environment by taking part in collective advocacy which is in line with the theory that states that organizations pursue legitimacy through conformity or influence (Zach, 2006).

Conversely, Resource-Based View (RBV) is used to describe how companies used internal capabilities and resources to remain competitive. The historical examples of supply chains reorganization in companies like Siemens and BMW indicate how the redeployment of resources turned out to be both defense oriented and offensive strategy. Reorganization of logistics, supplier diversification, and capitalization in digital processes increased flexibility of

operations. The next-generation Mini has taken BMW longer to be introduced due to cost rationalization and uncertainty on the production due to the deliberate conservation of resources to secure long term strategic resources (Taylor, 2023). At the same time, the ability of Volkswagen to invest more rapidly in electric vehicle (EV) production, even when it may not be quite clear, within the short term, is an example of how companies take advantage of core competences to position themselves in a favorable way in a new environment.

The emergence of digitalization and automation of manufacturing companies is also reminiscent of organizational learning and resilience building theories. Companies that embraced digital monitoring, automation of their customs, and forecasting with the help of AI were not responding to Brexit, but turning short term issues into long term competitive benefits. This is compatible with the concept of absorptive capacity, the capacity to identify, internalize and utilize new knowledge to drive innovation (Pervin & Mokhtar, 2022). Collective lobbying, inter-firm alliances, and shared advocacy help firms to become stable in turbulent environments.

Therefore, Brexit served as a disequilibrium shock and a strategy booster, with resilience, digitalization, and institutional fit becoming the main attributes of post-Brexit European manufacturing.

Implications

The results of the present study have significant theoretical, practical, and methodological implications on the study of the ways in which manufacturing companies are able to cope with such massive geopolitical upheavals as Brexit.

Theoretically, the research supports and deepens the current models of institutional and contingency theory. It shows that the adaptation of organizations is not only responsive but is built strategically in institutions. EU manufacturers were keen on ensuring that they remain legitimate by adhering to EU policies and working together, as well as orienting towards EU sustainability policies, which demonstrates that the concept of legitimacy seeking behavior represents more of a forward seeking behavior than a conformity behavior.

The results also contribute to the Resource Based View (RBV) by demonstrating that resilience may be dynamically developed based on the dynamic capabilities, including digital integration and diversification of supply chains, to react to the turbulence in the environment. Last but not the least, it makes a step forward in testing the contingency theory by proving that the structural features of a firm, including size, industry and market reliance, determine the firm response that there is no universal adaptive strategy applicable to all firms.

The practical implications are also important. The research to policy makers highlights the need to have clarity in regulation and collaborative governance during significant transitions. Risks were aggravated by the uncertainty surrounding Brexit and compelled companies to make early or defensive changes. Transparency and gradual implementation should be considered in future trade negotiations and regional policies in order to limit the disruption. The study identifies the importance of strategic foresight and digital resilience to industry leaders. Digital supply chain tools, predictive analytics, and risk management systems reduced the immediate shocks of Brexit as well as prepared firms to be competitive in a highly unstable global economy in the long term.

CONCLUSION

This study examined the ways in which the manufacturing companies based in EU reacted strategically to the Brexit shocks. The study involved a qualitative analysis of documents of twenty companies based on major industries to identify changes in supply chain restructuring, market access changes, and financial and risk management, as a response to regulatory and logistical uncertainty. The results indicated that companies followed a mix of hoarding, diversification, digitalization, and building legitimacy to remain competitive and guarantee existence. The bigger companies that worked on setting up subsidiaries in the UK and reinforcing compliance teams, whereas the smaller companies were relying on agility and partnering networks. Finally, the paper indicated that Brexit was a source of disruption and transformation- forcing companies into more resilient, transparent and adaptive ways of doing business.

Flexibility in EU manufacturing companies needs to be institutionalized whereby scenario planning, digital traceability, and dual sourcing must be incorporated into the long-term planning of companies. The partnership with logistics partners and trade agencies is to be reinforced to better control non-tariff barriers and custom procedures. In the meantime, policymakers ought to focus on openness in trading systems and invest in the digital infrastructure of cross-border trade to facilitate administrative tension. With the case of businesses, it is even more critical to diversify the markets beyond the UK, particularly by making specific investments in the EU single market and emerging markets. Investment in compliance, automation, and upskilling of the workforce will be an essential factor in remaining competitive. Lastly, industry associations ought to promote knowledge sharing platforms in which the firms can share their practices of adaptation enabling small-scale manufacturers to

utilize the experience of the big players. Although Brexit is politically based, it still presents its corresponding operation lessons that can be applied well beyond the UK-EU corridor.

REFERENCES

- Ali, A., Labib, A., Afonso, P., & Mahfouz, A. (2024). Developing dynamic supply chain resilience capabilities: a study of Irish firms' response to the COVID-19 pandemic. *Production*, 34. <https://doi.org/10.1590/0103-6513.20230076>
- Alharahsheh, H. H., & Pius, A. (2020). A review of key paradigms: Positivism VS interpretivism. *Global academic journal of humanities and social sciences*, 2(3), 39-43.
- André, M. C., Delanote, J., Gutierrez, D. A., Harasztosi, P., Weiss, C., & European Investment Bank. (2024). *Navigating supply chain disruptions: New insights into the resilience and transformation of EU firms*. European Investment Bank. https://www.eib.org/attachments/lucalli/20240179_navigating_supply_chain_disruptions_en.pdf
- Archival records as evidence. (2010). *Encyclopedia of Case Study Research*. <https://doi.org/10.4135/9781412957397.n12>
- Barney, J., Wright, M., & Ketchen Jr, D. J. (2001). The resource-based view of the firm: Ten years after 1991. *Journal of management*, 27(6), 625-641.
- Békés, G., Halpern, L., Koren, M., & Muraközy, B. (2012). Still standing: Global crisis and European firms.
- Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport Exercise and Health*, 11(4), 589–597. <https://doi.org/10.1080/2159676x.2019.1628806>

Britishchambers (n.d.). The trade and cooperation agreement Four Years on. (n.d.).

<https://www.britishchambers.org.uk/wp-content/uploads/2024/12/The-Trade-and-Cooperation-Agreement-Four-Years-On.pdf>

Du, J., Liu, X., Shepotylo, O., & Shi, Y. (2024, September 16). *Research paper unbound: UK Trade post-Brexit*. <https://www.aston.ac.uk/>. <https://www.aston.ac.uk/sites/default/files/2024-09/Full%20Report.pdf>

Du, J., Satoglu, E. B., & Shepotylo, O. (2023). How did Brexit affect UK trade? *Contemporary Social Science*, 18(2), 266–283. <https://doi.org/10.1080/21582041.2023.2192043>

Duchek, S. (2019). Organizational resilience: a capability-based conceptualization. *BuR - Business Research*, 13(1), 215–246. <https://doi.org/10.1007/s40685-019-0085-7>

Guérineau, A. (2025). The Impact of Brexit on Companies' Supply Chains. In *Metropolia*. Metropolia.

https://www.theseus.fi/bitstream/handle/10024/887271/Guerineau_Anais.pdf;jsessionid=A5F7010FA47A8247597D14121EEDC025?sequence=2#:~:text=It%20appears%20that%20Brexit%20created,sized

Ioannides, I. (2025, April 20). *EU-UK trade flows - european parliament*. European Parliamentary Research Service.

[https://www.europarl.europa.eu/RegData/etudes/BRIE/2025/765767/EPRS_BRI\(2025\)765767_E_N.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2025/765767/EPRS_BRI(2025)765767_E_N.pdf)

Jurevicius, O. (2023, October 24). *Resource-Based view*. Strategic Management Insight. <https://strategicmanagementinsight.com/tools/resource-based-view/#:~:text=The%20resource,1>

Ming, L. Y., Omain, S. Z. B., & Kowang, T. O. (2021). Supply Chain Resilience: A review and research direction. *International Journal of Academic Research in Business and Social Sciences*, 11(12). <https://doi.org/10.6007/ijarbss/v11-i12/11985>

Moulins, C. (2020, January 31). *Medtech Europe welcomes the ratification of the brexit withdrawal agreement by the United Kingdom and the European Union*. MedTech Europe. <https://www.medtecheurope.org/news-and-events/press-releases/medtech-europe-welcomes-the-ratification-of-the-brexit-withdrawal-agreement-by-the-united-kingdom-and-the-european-union/>

Okorie, N. G. N., Udeh, N. C. A., Adaga, N. E. M., DaraOjimba, N. O. D., & Oriekhoe, N. O. I. (2024). ETHICAL CONSIDERATIONS IN DATA COLLECTION AND ANALYSIS: A REVIEW: INVESTIGATING ETHICAL PRACTICES AND CHALLENGES IN MODERN DATA COLLECTION AND ANALYSIS. *International Journal of Applied Research in Social Sciences*, 6(1), 1–22. <https://doi.org/10.51594/ijarss.v6i1.688>

Parker, C. F. (2015). Complex negative events and the diffusion of crisis: lessons from the 2010 and 2011 Icelandic volcanic ash cloud events. *Geografiska Annaler: Series A, Physical Geography*, 97(1), 97-108.

Pervin, N., & Mokhtar, M. (2022). The Interpretivist Research Paradigm: a subjective notion of a social context. *International Journal of Academic Research in Progressive Education and Development*, 11(2). <https://doi.org/10.6007/ijarped/v11-i2/12938>

Ramesh, M., & Howlett, M. (2025). Educating for uncertainty: Integrating abductive reasoning into the public policy curriculum. *Policy Design and Practice*, 1–13. <https://doi.org/10.1080/25741292.2025.2506262>

Reuben, A. (2021, January 8). *Were there hold-ups in first week after Brexit?*. BBC News.

<https://www.bbc.com/news/55573772>

Reuters. (2022, October 12). *Airbus “turns page” on Brexit but presses UK on helicopters, space* / reuters. www.reuters.com. <https://www.reuters.com/business/aerospace-defense/airbus-turns-page-brexit-presses-uk-helicopters-space-2022-10-12/>

Riley, C. (2016, July 26). *Brexit forces changes to the biggest beer deal in History* / CNN business. CNN. <https://edition.cnn.com/2016/07/26/news/ab-inbev-sabmiller-deal-offer-brexit>

Sidaway, J. D., & Bachmann, V. (2021). Critical Review: Post-Brexit geopolitics. *Geoforum*, 127, 67–70. <https://doi.org/10.1016/j.geoforum.2021.07.005>

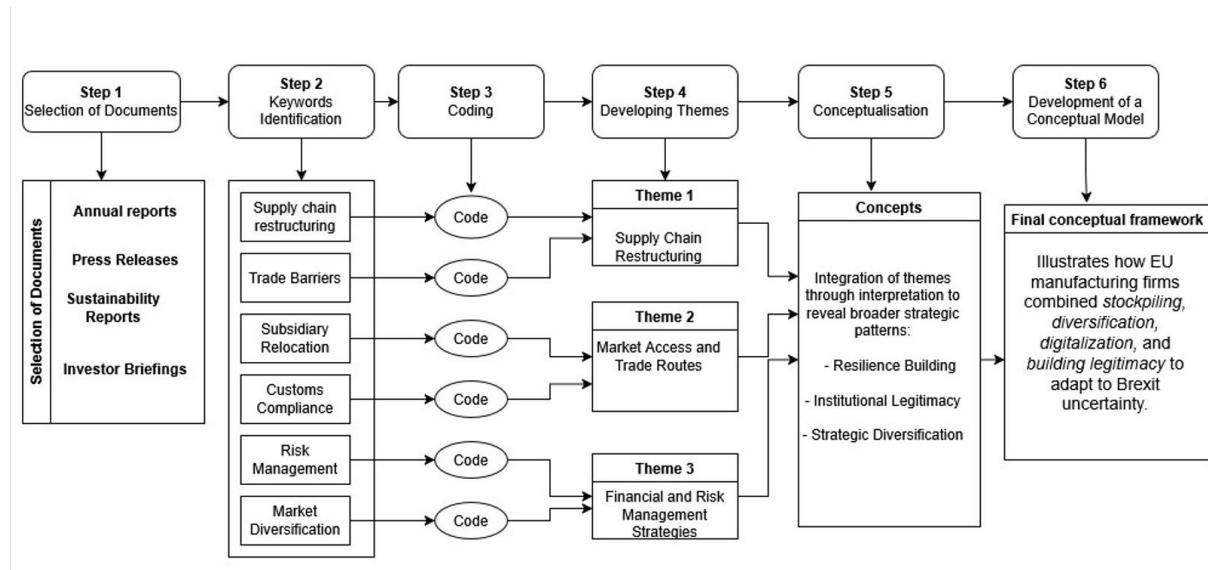
Supply Chain Planning.ie. (2025, April 30). Brexit 5 Years On: What have we learned about supply chain? - Supply Chain Planning.ie. *Supply Chain Planning.ie - Supply Chain Planning knowledge bank*. <https://supplychainplanning.ie/brexit-5-years-on-what-have-we-learned-about-supply-chain/#:~:text=Evidence%3A%20The%20introduction%20of%20customs,sized%20enterprises%20%28SMEs>

Tajitsu, N. (2016, March 30). *Five years after Japan quake, rewiring of auto supply chain hits limits*. Reuters. <https://www.reuters.com/article/business/five-years-after-japan-quake-rewiring-of-auto-supply-chain-hits-limits-idUSKCN0WW09K/#:~:text=TRW%2C%20which%20specialises%20in%20vehicle,more%20of%20its%20suppliers%27%20plants>

- Taylor, N. P. (2020, December 11). *UK shares post-Brexit device guidance as uncertainty around EU split looms.* MedTech Dive. <https://www.medtechdive.com/news/uk-shares-post-brexit-device-registration-guidance-as-hard-split-from-eu-lo/592024/>
- Taylor, G. (2023, October 25). *Ford, Volkswagen and BMW ASK Europe for delay to “cliff-edge” post-brexit tariffs.* City AM. <https://www.cityam.com/ford-volkswagen-and-bmw-ask-europe-for-delay-to-cliff-edge-post-brexit-tariffs/>
- Teece, D. (2025, April 21). *Dynamic capabilities.* <https://www.davidjteece.com/dynamic-capabilities#:~:text=Dynamic%20capability%C2%A0is%20E2%80%9Cthe%20firm%20ability,Gary%20Pisano%2C%20and%20Amy%20Shuen>
- Ventresca, M. J., & Mohr, J. W. (2017). Archival research methods. The Blackwell companion to organizations, 805-828.
- Zach, L. (2006). Using a Multiple-Case Studies design to investigate the Information-Seeking behavior of arts administrators. *Library Trends*, 55(1), 4–21. <https://doi.org/10.1353/lib.2006.0055>
- Zhang, T. (2023). Critical realism: A critical evaluation. *Social Epistemology*, 37(1), 15-29.

APPENDICES

The following thematic analysis was used:



List of the 20 studied companies:

Company	Country	Subsector	Document type	Year
Allianz SE	Germany	Financial services	Annual Report	2022
Iberdrola	Spain	Energy Utilities	Integrated Report, Annual Report, Investor Presentation	2024, 2025
Medtronic PLC	Ireland	Medical Technology	Annual Report, Investor Presentation, Press Release	2022, 2025
Anheuser-Busch InBev	Belgium	Food & Beverages	Quarterly Results, Annual Report	2022, 2025
Intesa Sanpaolo	Italy	Financial Services	Interim Report, Investor Presentation, Press Release	2024, 2025

Volkswagen Group	Germany	Automotive	Supplier Disclosures, Internal Communications	2022–2025
BMW Group	Germany	Automotive	Production Disclosures, Supplier Documents	2022–2025
TotalEnergies	France	Energy	Press Release, Investment Reports	2024, 2025
Siemens	Germany	Technology	Annual Report (UK Subsidiary)	2024, 2025
Heineken	Netherlands	Beverages	Annual Report, Investor Presentation	2023, 2025
Sanofi	France	Pharmaceuticals	Annual Report, Press Release	2022–2024
Michelin	France	Automotive	Financial Report	2022
Unilever	Netherlands	Consumer Products	Annual Report	2023
Airbus	Netherlands	Aerospace	Annual Report, Press Release	2022, 2024
Philips	Netherlands	Healthcare	Quarterly Results	2025
Danone	France	Consumer products	Research Report	2023–2024
European Logistics Sector (Various)	EU	Logistics	Industry Publications	2022–2025
EssilorLuxottica	France	Healthcare (Eyewear)	Annual Report	2022
L'Oréal	France	Consumer Goods	Annual Report	2022
Enel SpA	Italy	Energy Utilities	Annual Report	2022