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Analysis of Disruption, Resilience, and Reconfiguration of Global Value Chains in the Post-COVID Era under Geopolitical Pressures: A Systematic Literature Review

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ABSTRACT

This study aims to analyze the forms of disruption, the factors influencing resilience, and the reconfiguration strategies of Global Value Chains (GVCs) in the post-COVID-19 era amid increasing global geopolitical pressures. The study employs a Systematic Literature Review (SLR) methodology following the PRISMA guidelines. The literature search was conducted using the Scopus database with keywords related to global supply chain disruptions, the COVID-19 pandemic, and geopolitical tensions. Of the 368 articles initially identified, 89 met the inclusion criteria and were included in the final synthesis. The findings reveal that post-pandemic GVC disruptions can be categorized into six major types: production disruptions, logistics disruptions, trade disruptions, geopolitical disruptions, energy disruptions, and environmental and climate-related disruptions. Factors influencing GVC resilience include operational, organizational, network, and technological dimensions. Furthermore, the most frequently identified reconfiguration strategies in the literature include supplier and production location diversification, supply chain regionalization, interorganizational collaboration, enhanced risk management, and supply chain digitalization. These findings suggest that scholarly attention has shifted from an efficiency-oriented perspective toward strengthening the resilience of global value chains in response to increasingly complex uncertainties. This study provides a comprehensive synthesis of the evolving literature on GVC disruption, resilience, and reconfiguration and offers valuable insights for future research and policymaking.

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1. Introduction

Global Value Chains (GVCs) have become a fundamental pillar of the modern international production and trade system, as they enable production, distribution, and consumption activities to be interconnected across countries through increasingly complex networks. However, the COVID-19 pandemic exposed the high vulnerability of GVCs to multiple disruptions occurring simultaneously at the global level. Lockdowns, mobility restrictions, shortages of raw materials, logistical bottlenecks, and reduced production capacity resulted in unprecedented supply chain

disruptions. These conditions were further exacerbated by escalating geopolitical tensions, trade wars, regional conflicts, energy crises, and protectionist economic policies, creating new uncertainties regarding the sustainability of global GVCs (Alessandria et al., 2023; Flynn et al., 2021; Lafrogne et al., 2023; Xiao & Bai, 2022).

Numerous studies have demonstrated that the impacts of GVC disruptions extend beyond operational supply chain issues and significantly affect global economic stability. Global supply chain pressures have been shown to contribute to rising inflation (Aastveit et al., 2026). Furthermore, disruptions in global maritime networks—including the Red Sea crisis, constraints in the Panama Canal, and conflicts affecting major strategic chokepoints—have highlighted the vulnerability of the international trading system to the combined effects of economic and geopolitical shocks (Arvis et al., 2026; Saidi et al., 2026; Tsantis et al., 2026). These findings suggest that post-pandemic GVC disruptions have evolved into a structural challenge with cross-sectoral and cross-regional implications.

In response to these challenges, the concept of resilience has emerged as a central focus in the supply chain and GVC literature. Resilience is generally understood as the ability of organizations and supply chain networks to anticipate, respond to, adapt to, and recover from various forms of disruption. Previous studies indicate that operational stability, supplier diversification, logistics network flexibility, digitalization, and organizational adaptability are critical factors in strengthening supply chain resilience against global disruptions (Teshima et al., 2026; Vali-siar & Roghanian, 2022; Vanany et al., 2021). At the same time, growing geopolitical uncertainty has encouraged firms and governments to reconfigure GVCs through strategies such as regionalization, reshoring, nearshoring, and the redesign of global production and distribution networks (Gao & Xu, 2024; Setyadi & Pawirosumarto, 2025).

Although research on supply chain disruptions, resilience, and geopolitical tensions has expanded considerably, most studies have been conducted in a fragmented manner. Some focus primarily on the impacts of the COVID-19 pandemic on supply chains, while others emphasize geopolitical risks, regional conflicts, or resilience strategies within specific sectors and regions (Araújo et al., 2026; Balicevac et al., 2026; Saidi et al., 2026). This fragmented body of literature indicates a limited understanding of the complex interrelationships among post-pandemic disruptions, global geopolitical pressures, supply chain resilience, and the transformation of GVC structures within an integrated analytical framework.

Against this backdrop, the present study is important because it seeks to synthesize the body of knowledge generated by previous studies on disruption, resilience, and the reconfiguration of GVCs in the post-COVID-19 era amid intensifying global geopolitical pressures. By employing a Systematic Literature Review (SLR) approach, this study aims to provide a comprehensive mapping of disruption patterns, the factors influencing GVC vulnerability and resilience, and the adaptation strategies identified in the literature for addressing increasingly complex global uncertainties.

The objectives of this study are to analyze the forms and patterns of post-pandemic COVID-19 Global Value Chain disruptions influenced by geopolitical tensions, identify the dominant factors affecting GVC vulnerability, resilience, and transformation, and evaluate the various adaptation, resilience, and reconfiguration strategies discussed in the scientific literature. Accordingly, this study is expected to contribute theoretically to a deeper understanding of GVC dynamics in an era of global uncertainty while also providing a foundation for the development of more adaptive policies and business strategies.

Based on the foregoing discussion, the research question addressed in this study is: How do post-COVID-19 Global Value Chain disruptions manifest, what factors influence resilience,

and what reconfiguration strategies have been identified to address global geopolitical pressures, based on the synthesis of the available scientific literature?

2. Literature Review

2.1 Global Value Chains and the Evolution of Post-COVID-19 Disruption Studies

Global Value Chains (GVCs) refer to networks of production activities involving multiple actors and countries in the process of creating value for goods and services. Over the past few decades, globalization has fostered increasing integration of international supply chains through production specialization, cost efficiency, and cross-border trade connectivity. Under these conditions, firms have become increasingly dependent on global supplier networks distributed across various regions of the world. However, the COVID-19 pandemic revealed that the high degree of interdependence embedded within GVCs also creates significant vulnerabilities to multiple disruptions occurring simultaneously (Flynn et al., 2021; Xiao & Bai, 2022).

Post-pandemic literature demonstrates growing attention to supply chain disruptions as a consequence of mobility restrictions, production shutdowns, transportation bottlenecks, and shifts in global demand patterns. Alessandria et al. (2023) and Lafrogne et al. (2023) argue that the pandemic not only affected firms' operational activities but also altered international trade patterns and relationships among actors within global production networks. These studies suggest that disruptions within GVCs are no longer viewed as temporary events but rather as structural phenomena with the potential to reshape the global economy in a more permanent manner.

Subsequent research has expanded the discussion of disruptions toward the systemic interconnectedness of international trade networks. Li et al. (2025) demonstrate that increasing complexity in global trade relationships enables disruptions originating in one region to propagate across other regions through mechanisms of economic interdependence. This perspective reinforces the view that GVC vulnerability is determined not only by firm-level factors but also by the increasingly complex and interdependent structure of global networks.

2.2 Geopolitical Tensions in the Global Value Chain Literature

Beyond the pandemic, recent literature has increasingly highlighted geopolitical tensions as a critical factor affecting GVC stability. Doornich & Raspotnik (2020) explain that shifts in the global balance of power and intensifying interstate competition have begun to influence patterns of international economic relations. In this context, geopolitical issues are no longer viewed as external factors separate from business activities but rather as integral components of the strategic environment that directly affect global value chains.

Shi et al. (2021) demonstrate that growing trade tensions and protectionist policies have prompted firms to alter their approaches to managing international production networks. Furthermore, Christiansen & Kim (2023) argue that global economic fragmentation has become an increasing concern due to its potential to undermine the trade efficiency that has long served as a foundation of GVCs. Bednarski et al. (2025) similarly highlight that rising geopolitical uncertainty has encouraged countries to adjust industrial and trade policies, thereby affecting the configuration of global supply chains.

More broadly, the literature has begun to connect geopolitical issues with disruptions in logistics and international trade. Tsantis et al. (2026) examine changes in global shipping network connectivity, while Arvis et al. (2026) emphasize the importance of strategic trade routes in maintaining the smooth flow of global distribution. Saidi et al. (2026) further expand this perspective by identifying strategic chokepoints as critical elements of global supply chain resilience. Meanwhile, Araújo et al. (2026) demonstrate that regional conflicts generate

implications extending beyond geographic boundaries, affecting a wide range of actors connected through GVC networks.

These developments indicate that geopolitical tensions have become a central theme in contemporary GVC research. The literature no longer focuses solely on the efficiency of international trade but increasingly examines how geopolitical tensions reshape global economic relationships and influence the sustainability of international value chains.

2.3 Vulnerability and the Impacts of Disruptions in Global Supply Chain Networks

As research on disruptions and geopolitics continues to evolve, scholars have increasingly examined the broader economic consequences of GVC disruptions. Studies by Aastveit et al. (2026) show that global supply chain disruptions are closely linked to inflation dynamics. This perspective highlights that GVCs are not merely mechanisms for production and distribution but also essential components of the global economic system that influence indicator of economic development.

Other studies position GVC vulnerability within the context of network interconnectedness. Kashiwagi et al. (2021) and Hosseini & Ivanov (2022) emphasize the importance of understanding disruption propagation mechanisms within interconnected supply chain networks. Brusset & Torre (2023) further develop this discussion by examining network complexity and its implications for systemic risk in global supply chains. Collectively, this literature suggests that the higher the degree of interdependence within GVCs, the greater the potential for disruptions to spread across the network when disturbances occur in any particular node.

More recent studies have integrated energy, environmental, and climate-related concerns into analyses of GVC vulnerability. Albahouth (2025), Barakat et al. (2023), Kim & Lee (2025), Luo et al. (2026), Zhang et al. (2026) and Zheng et al. (2024) demonstrate that energy and environmental dynamics are becoming increasingly intertwined with the stability of global supply chains. This perspective broadens the scope of GVC research beyond economic and logistical dimensions toward a more multidimensional analytical framework.

2.4 The Evolution of the Resilience Concept in Global Value Chains

The growing frequency of global disruptions has stimulated extensive research on resilience within supply chains and GVCs. The concept of resilience initially emerged in response to the increasing need for organizations to maintain operational continuity when confronted with disruptions. Within the GVC literature, resilience is generally defined as the ability of a system to anticipate, adapt to, respond to, and recover from various forms of disruption (Vali-siar & Roghanian, 2022; Vanany et al., 2021).

Research developments indicate that resilience is no longer viewed solely as a technical or operational capability but rather as an organizational capability encompassing multiple dimensions. Teshima et al. (2026)emphasize operational aspects of supply chain resilience, whereas Balicevac et al. (2026) identify organizational characteristics as critical factors in managing environmental uncertainty. These studies suggest that resilience has evolved into a multidimensional concept encompassing resources, organizational structures, business processes, and interorganizational relationships.

Recent literature has also highlighted the growing importance of leadership and organizational capabilities in fostering resilience. Al-omoush et al. (2022); Ali et al., (2024, 2025), and Amio et al. (2024) emphasize that an organization's capacity to manage change and uncertainty is a key determinant of supply chain resilience. From this perspective, resilience is

understood as the outcome of interactions among human factors, organizational capabilities, and the broader business environment.

In addition, digital transformation has emerged as an important theme within the resilience literature. Agrawal et al. (2024), Ambrogio et al. (2022), Dubey et al. (2021), and Dura et al. (2026) discuss how digital technologies can enhance visibility, coordination, and decision-making capabilities within supply chains. These developments indicate that resilience research is increasingly shifting toward the integration of organizational capabilities and digital technologies.

2.5 Global Value Chain Reconfiguration as a Response to Disruption

The growing body of research on disruption and resilience has also stimulated increasing interest in the concept of reconfiguration within GVCs. Reconfiguration refers to the process of adjusting structures, relationships, and strategies within global value chains in response to changes in the external environment. The literature suggests that heightened post-pandemic uncertainty and geopolitical pressures have encouraged firms to reassess the supply chain configurations upon which they have traditionally relied (Gao & Xu, 2024; Setyadi & Pawirosumarto, 2025).

Studies on reconfiguration frequently discuss diversification strategies and efforts to reduce dependence on resources concentrated in specific regions. Habibi et al. (2026), Vali-siar & Roghanian (2022), and Vanany et al. (2021) demonstrate that network flexibility and supplier diversification have become central themes in strengthening supply chain resilience. This literature indicates that firms are increasingly reconsidering the balance between efficiency and resilience in managing GVCs.

Furthermore, López et al. (2025) and Saidi et al. (2026) broaden the discussion of reconfiguration by incorporating collaboration, risk governance, and adaptive capabilities as essential components of strategies for addressing global uncertainty. Arora et al. (2025) also demonstrate that changes in the business environment are driving the emergence of new approaches to information management and decision-making processes. Consequently, the literature on reconfiguration reflects a broader paradigm shift from an efficiency-oriented perspective toward the development of more adaptive and resilient supply chain systems.

3. Research Methodology

3.1 Research Design

This study employs a qualitative approach using a Systematic Literature Review (SLR) design to analyze the development of research on post-pandemic COVID-19 Global Value Chain (GVC) disruptions and geopolitical tensions by utilizing the Watase UAKE website. The SLR approach was selected because it enables a comprehensive synthesis of disruption patterns, vulnerability factors, resilience, and global supply chain reconfiguration strategies based on previous studies. The research process was conducted systematically through the stages of identification, screening, eligibility assessment, and integration of relevant scientific literature. The primary focus of the study was directed toward literature discussing supply chain disruption, geopolitical tensions, resilience strategies, digital transformation, reshoring, regionalization, and global trade disruption within the post-COVID context. This study also conceptualizes GVC disruption as a multidimensional phenomenon influenced by pandemics, geopolitical conflicts, energy shocks, and uncertainty in international trade, as highlighted in previous studies. Accordingly, the SLR approach was employed to generate a conceptual mapping and empirical synthesis of global GVC transformation in an era of international uncertainty.

3.2 Participants

The data sources for this study were obtained from the Scopus database using combinations of the following keywords: "global value disruption," "global chain disruption," "supply chain shocks," "pandemic supply disruption," "geopolitical supply disruption," "global trade disruption," "global production disruption," "supply network disruption," "international supply disruption," and "pandemic." The initial identification process yielded a total of 368 scientific articles related to the research topic. Subsequently, 58 duplicate articles, 20 articles that did not meet the publication-year automation criteria for 2020-2026, 32 non-Q1, Q2, and Q3 articles, and 8 articles without abstracts were excluded. Following the screening phase, a total of 250 articles remained and proceeded to a comprehensive eligibility evaluation process. Of these, 109 articles were found to be inaccessible in full text, while 53 articles were excluded due to their lack of alignment with the research objectives. At the final stage, 88 primary articles and 1 additional article from other sources were determined to meet the inclusion criteria and were subsequently analyzed further.

3.3 Instruments

The research instrument employed in this study consisted of a systematic literature review protocol used to identify, classify, and evaluate articles based on the research themes. The classification instrument included categories related to forms of GVC disruption, supply chain vulnerability factors, resilience capability, geopolitical tensions, adaptation strategies, digital transformation, and global supply chain reconfiguration. Data collection was conducted through literature documentation, abstract review, article content analysis, and the recording of key findings from previous studies.

3.4 Data Analysis Procedures

The collected data were analyzed using descriptive qualitative analysis and thematic synthesis techniques to identify patterns of relationships among variables as well as trends in research development over time. The analysis also involved comparisons among various theoretical and empirical approaches related to GVC disruption, resilience, and geopolitical fragmentation in international trade. Through this approach, the study is expected to generate a comprehensive synthesis regarding the transformation of Global Value Chains in the post-COVID era and amid increasing geopolitical tensions.

4. Findings

4.1 Trends in Research Publications on Post-COVID GVC Disruption and Geopolitical Tensions

The literature search results indicate that research on post-pandemic COVID-19 Global Value Chain (GVC) disruptions and geopolitical tensions has increased significantly since 2020. Based on keyword searches conducted in the Scopus database, the number of publications prior to the pandemic was relatively low and sporadic. The distribution of the reviewed studies is presented in Figure 1.

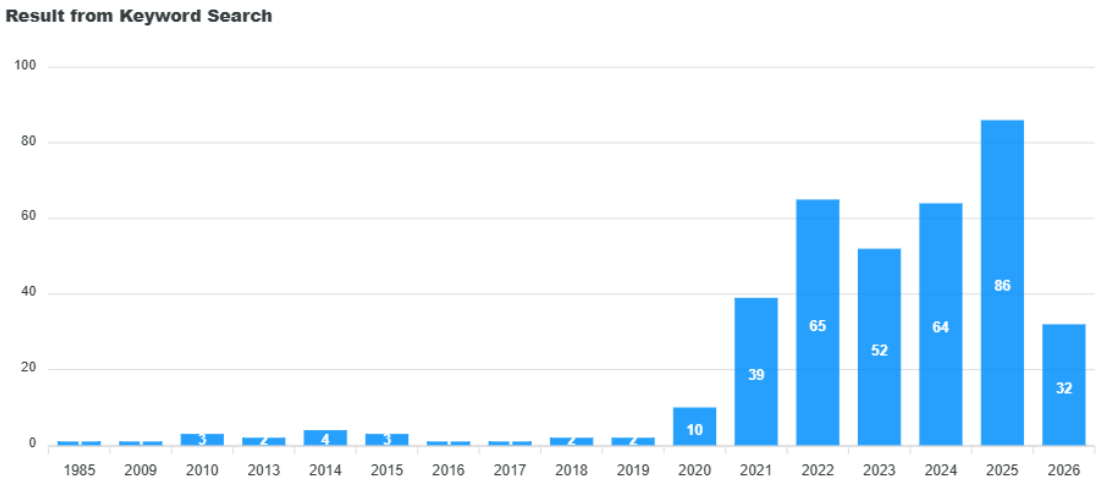

Figure 1: Publication Trend Graph
Source: Processed Data Generated from Watase UAKE Tools, 2026

A substantial escalation in scientific publications was observed beginning in 2020, with a total of 10 articles published, increasing to 39 articles in 2021, 65 articles in 2022, and 52 articles in 2023. In 2024, the number of publications increased again to 64 articles and reached its peak in 2025 with 86 articles. Meanwhile, in 2026, 32 articles had already been published during the early stage of the research year. These findings indicate that issues related to GVC disruptions and geopolitical tensions have become major focal points of global research in the post-COVID-19 era.

The increasing number of publications from 2020 until 2026 demonstrates that academic attention toward supply chain disruption has evolved from an operational issue into a global strategic concern. Previous studies not only examined the impacts of the pandemic on logistics and international trade, but also linked these issues to trade wars, sanctions, energy crises, and global economic fragmentation. Most of the identified articles focused on supply chain resilience, geopolitical disruptions, digital transformation, reshoring, regionalization, and adaptive strategies in addressing global uncertainty. Thus, the development of the literature reflects a shift in research perspectives from supply chain efficiency toward resilience-oriented global networks.

4.2 Results of the Literature Selection Process Based on PRISMA

The article identification process was conducted using the Scopus database with combinations of keywords related to GVC disruption, supply chain shocks, geopolitical disruptions, and pandemic supply disruption. Figure 2 presents the PRISMA flow diagram illustrating the process of article identification, screening, eligibility assessment, and final inclusion in the review.

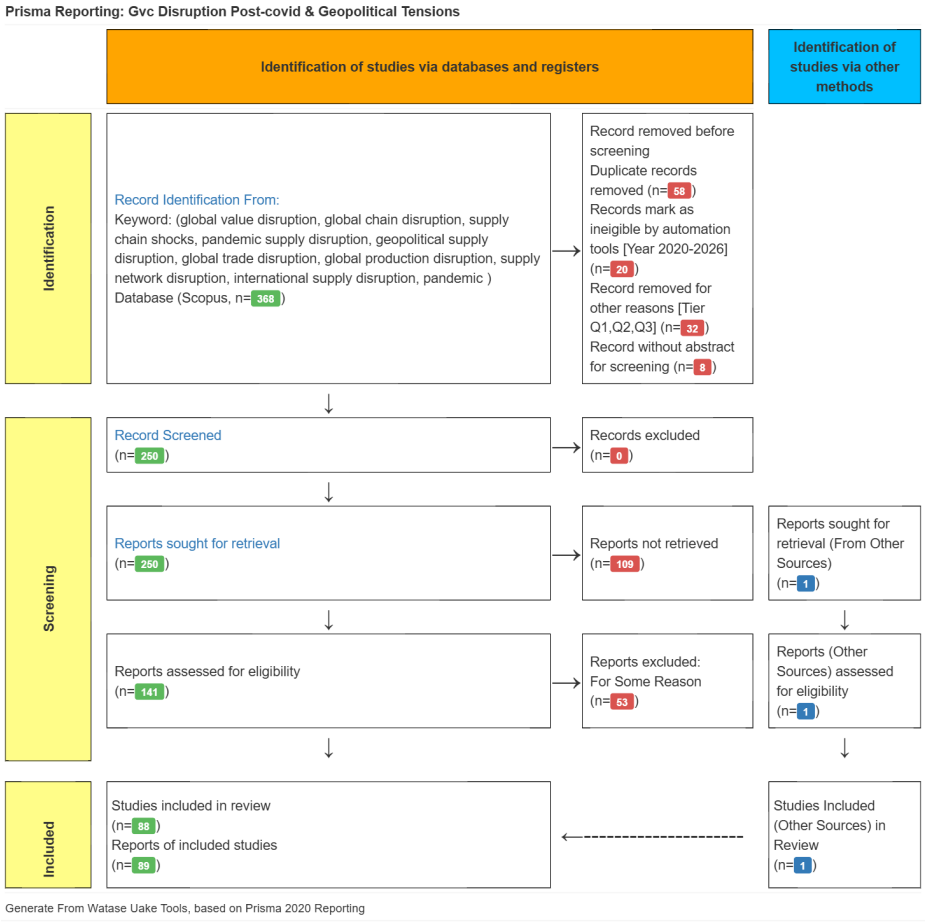

Figure 2: PRISMA Reporting

Source: Processed Data Generated from Watase UAKE Tools, 2026

The initial identification stage yielded a total of 368 articles related to the research subject. Subsequently, 58 duplicate articles, 20 articles that did not meet the publication-year criteria for 2020-2026, 32 non-Q1, Q2, and Q3 articles, and 8 articles without abstracts were excluded during the preliminary screening stage. Following this process, 250 articles remained for the screening and retrieval stages.

At the subsequent stage, 109 articles could not be fully accessed and were therefore excluded from further analysis. An eligibility assessment was then conducted on the remaining 141 accessible articles. A total of 53 articles were excluded because they were not aligned with the research focus on post-COVID disruptions and geopolitical tensions in Global Value Chains. At the final stage, 88 primary articles and 1 additional article from other sources met the inclusion criteria and were selected for analysis in this study, as graphically illustrated in Figure 2. The findings from the selection process indicate that the majority of related studies concentrated on themes of supply chain resilience, geopolitical conflicts, disruptions in global trade, and the transformation of international supply chain networks.

4.3 Characteristics of the Reviewed Literature

A total of 89 articles that met the inclusion criteria were analyzed and synthesized. These articles were published between 2020 and 2026, with the highest concentration appearing during the post-pandemic period. Table 1 summarizes the main research themes identified from the 89 studies that passed the screening process and were included in the final synthesis.

Table 1: Distribution of Major Themes in the Literature

Major Theme	Research Focus
GVC Disruptions	Pandemic, trade wars, geopolitical conflicts, logistics disruptions
Supply Chain Resilience	Agility, robustness, adaptability, recovery
Geopolitical Tensions	Regional conflicts, economic sanctions, trade wars
GVC Reconfiguration	Diversification, regionalization, production relocation
Digitalization	Industry 4.0, AI, analytics, forecasting
Systemic Risks	Inflation, energy, climate, network complexity

Source: Author's synthesis based on the reviewed literature, 2026

Based on literature content, the reviewed studies addressed issues related to Global Value Chain (GVC) disruptions, supply chain resilience, geopolitical tensions, digital transformation, supply chain network complexity, inflation, international trade, maritime logistics, energy, and global value chain reconfiguration strategies.

4.4 Forms of Post-COVID-19 Global Value Chain Disruptions

The synthesis findings indicate that the forms of disruption most frequently discussed in the literature can be classified into six major categories, as presented in Table 2.

Table 2: Categories of Disruptions Identified

Disruption Category	Forms of Disruption
Production	Manufacturing shutdowns, reduced production capacity, labor shortages, raw material shortages, disruptions to global production activities
Logistics	Port congestion, shipping delays, limited transportation capacity, disruptions to international shipping, reduced maritime connectivity
Trade	Trade restrictions, shifts in export–import patterns, international trade barriers, global trade fragmentation
Geopolitical	Trade wars, regional conflicts, economic sanctions, uncertainty in international relations, global economic fragmentation
Energy	Energy price volatility, disruptions to energy supply, energy crises, increased production costs resulting from energy pressures
Environmental and Climate-Related	Climate change, extreme weather events, floods, droughts, El Niño–Southern Oscillation (ENSO) events, environmental disruptions affecting supply chain networks

Source: Author's synthesis based on the reviewed literature, 2026

The first category is production disruption, which is associated with manufacturing shutdowns, labor shortages, disruptions in raw material supply, and reductions in production capacity resulting from the COVID-19 pandemic and global supply chain disturbances (Alessandria et al., 2023; Flynn et al., 2021; Lafrogne et al., 2023; Xiao & Bai, 2022). Studies

within this category emphasize how disruptions to production activities became one of the primary sources of instability in post-pandemic GVCs.

The second category is logistics disruption, which includes transportation bottlenecks, port congestion, limited shipping capacity, changes in maritime connectivity, and disruptions to international distribution networks (Arvis et al., 2026; Tsantis et al., 2026). Research in this area highlights the critical role of logistics and transportation infrastructure in maintaining the uninterrupted flow of goods within global value chains.

The third category is international trade disruption, characterized by increasing trade barriers, shifts in export–import patterns, instability in trade relations among countries, and disturbances in global trade networks (Bednarski et al., 2025; Christiansen & Kim, 2023; Lafrogne et al., 2023; Li et al., 2025). The literature in this category suggests that changes in the international trade environment have become a significant source of pressure on the sustainability of GVCs.

The fourth category is geopolitical disruption, encompassing trade wars, regional conflicts, economic sanctions, global economic fragmentation, and growing uncertainty in international relations (Araújo et al., 2026; Doornich & Raspotnik, 2020; López et al., 2025; Saidi et al., 2026; Shi et al., 2021). This category has emerged as an increasingly dominant theme in the post-pandemic literature, reflecting the growing influence of geopolitical dynamics on global production and trade systems.

The fifth category is energy disruption, which links supply chain disturbances to energy price volatility, energy security concerns, and their broader implications for inflation and global economic activity (Aastveit et al., 2026; Albahouth, 2025; Barakat et al., 2023; Diaz et al., 2023, 2024; Kim & Lee, 2025). Studies within this category explore the interdependence between energy systems and the stability of global value chains.

The sixth category is environmental and climate-related disruption, including climate change, extreme weather events, the El Niño–Southern Oscillation (ENSO), floods, droughts, and various forms of environmental shocks that affect global production and distribution networks (Luo et al., 2026; Zhang et al., 2026; Zheng et al., 2024). This body of literature indicates that environmental factors are increasingly recognized as strategic sources of risk within contemporary GVC studies.

4.3 Factors Influencing GVC Vulnerability and Resilience

The literature indicates that the factors influencing GVC resilience can be grouped into four major dimensions, as presented in Table 3.

Table 3: Resilience Factors Identified

Dimension	Primary Focus
Operational	Production, quality, stability
Organizational	Leadership, risk management
Network	Complexity, interdependence
Technological	AI, analytics, Industry 4.0

Source: Author's synthesis based on the reviewed literature, 2026

The first dimension is operational factors, including production stability, process quality, resource availability, and operational recovery capabilities. These themes are evident in the studies of Teshima et al. (2026), Gopalan & Reddy (2025), and various other resilience-related studies.

The second dimension is organizational factors, encompassing leadership, organizational culture, managerial capabilities, and risk management practices. Studies by Ali et al. (2025), Balicevac et al. (2026), and several others demonstrate substantial attention to organizational capacity in managing uncertainty.

The third dimension is network factors, which include supply chain complexity, interdependence among actors, supplier concentration, and risk propagation through global networks. These themes are discussed in the studies of Araújo et al. (2026), Li et al. (2025), and Luo et al. (2026).

The fourth dimension is technological factors, including the adoption of Industry 4.0 technologies, artificial intelligence, forecasting systems, digital analytics, and supply chain visibility tools. Studies by Dura et al. (2026), Arora et al. (2025), and other digital transformation researchers indicate that technology has become one of the dominant themes in post-pandemic resilience literature.

4.4 Global Value Chain Adaptation and Reconfiguration Strategies

The synthesis results presented in Table 4 indicate that supplier diversification is the most frequently identified reconfiguration strategy in the literature. This strategy aims to reduce dependence on a single source of supply and enhance supply chain flexibility in the face of disruptions. The second most common strategy is supply chain regionalization, which involves the relocation of production activities through approaches such as nearshoring, reshoring, and the strengthening of regional production and distribution networks. These strategies are intended to reduce exposure to risks associated with geographically dispersed and highly concentrated global supply chains.

The third strategy is enhanced collaboration among supply chain actors, achieved through improved coordination, information integration, and stronger relationships with suppliers and customers. Such collaborative approaches are viewed as essential mechanisms for improving information sharing, responsiveness, and collective problem-solving capabilities during periods of disruption. The fourth strategy is the strengthening of risk management systems, including disruption monitoring, early warning systems, contingency planning, and adaptive planning mechanisms designed to improve preparedness and response capabilities under conditions of uncertainty.

Another prominent theme emerging from the literature is supply chain digitalization. Numerous studies emphasize the role of digital technologies in enhancing visibility, transparency, risk prediction, and decision-making capabilities in highly uncertain environments. This strategy is particularly evident in studies addressing Industry 4.0 technologies, artificial intelligence (AI), digital forecasting systems, and supply chain analytics. The findings suggest that digital transformation has become a critical enabler of resilience and adaptability, supporting firms in managing increasingly complex and uncertain global value chain environments.

Table 4: Global Value Chain Reconfiguration Strategies Identified in the Literature

Reconfiguration Strategy	Forms of Implementation	Key References
Supplier and Production Location Diversification	Multi-sourcing, supplier diversification, diversification of production locations, reduction of dependence on a single supplier or production region	Gao & Xu (2024), Habibi et al. (2026), Setyadi & Pawirosumarto, (2025), Vali-siar & Roghanian (2022), Vanany et al. (2021)
Supply Chain Regionalization	Relocation of production activities, nearshoring, reshoring, strengthening of regional production networks	Gao & Xu (2024), Setyadi & Pawirosumarto, (2025)
Collaboration among Supply Chain Actors	Cross-actor coordination, information integration, strengthening relationships with suppliers and customers, supply chain network collaboration	Al-omoush et al. (2022), Amio et al. (2024), López et al. (2025)
Strengthening Risk Management Systems	Disruption monitoring, early warning systems, adaptive planning, resilience frameworks, risk mitigation strategies	Saidi et al. (2026), Vali-siar & Roghanian (2022), Vanany et al. (2021)
Supply Chain Digitalization	Industry 4.0 technologies, artificial intelligence (AI), digital forecasting, supply chain analytics, digital visibility, predictive analytics	Agrawal et al. (2024), Ambrogio et al. (2022), Arora et al. (2025), Dubey et al. (2021), Dura et al. (2026)

Source: Author's synthesis based on the reviewed literature, 2026

4.5 Dominant Research Themes in the Literature

The mapping of the 89 articles reveals that research attention is not evenly distributed across topics. Most studies examine the relationship between supply chain disruption and resilience. Another major group of studies focuses on geopolitical tensions and their implications for international trade and global production networks. Several studies investigate digital transformation as a mechanism for strengthening supply chain resilience, while others explore the effects of disruptions on inflation, energy, maritime logistics, and firm performance.

Overall, the synthesis findings indicate that the post-COVID-19 GVC literature has evolved around three major themes: (1) the forms of disruptions emerging in the aftermath of the pandemic, (2) the factors influencing vulnerability and resilience within global value chains, and (3) the reconfiguration strategies adopted to address geopolitical and global economic uncertainties. These three thematic clusters were consistently identified across the entire body of reviewed literature.

5. Discussion

The findings of this study indicate that post-COVID-19 Global Value Chain (GVC) disruptions have evolved from disruptions initially centered on the pandemic into a multidimensional phenomenon encompassing production, logistics, trade, geopolitical, energy, and environmental dimensions. This finding addresses RQ1, demonstrating that the pattern of GVC disruptions identified in the literature has shifted from supply-side disruptions toward systemic disruptions involving complex interconnections across sectors and countries. These results are consistent with the studies of Alessandria et al. (2023), Flynn et al. (2021), and Xiao

& Bai (2022), which argue that the pandemic exposed fundamental vulnerabilities within global production networks. The findings also reinforce the work of Bednarski et al. (2025), Christiansen & Kim (2023), and Doornich & Raspotnik (2020), who identify geopolitical tensions as an emerging source of pressure that exacerbates the risks of economic fragmentation and disruptions to international trade. Accordingly, post-pandemic GVC disruptions should no longer be viewed as temporary disturbances but rather as structural conditions that are reshaping the configuration of global value chains.

In addressing RQ2, the synthesis reveals that GVC resilience is influenced by a combination of operational, organizational, network, and technological factors. At the operational level, production stability, operational flexibility, and recovery capabilities emerge as critical determinants of resilience (Teshima et al., 2026; Vali-siar & Roghanian, 2022; Vanany et al., 2021). At the organizational level, leadership, managerial capabilities, and adaptive capacity play central roles in managing uncertainty and responding to disruptions (Al-omoush et al., 2022; Ali et al., 2024; Ali et al., 2025). Furthermore, the complexity of supply chain networks and the interdependence among actors demonstrate that vulnerability is shaped not only by firm-level characteristics but also by the structure of global networks, as highlighted by Brusset & Torre (2023), Hosseini & Ivanov (2022), and Kashiwagi et al. (2021). These findings suggest that GVC resilience is inherently multidimensional, emerging from the interaction between internal organizational capabilities and external environmental conditions.

With regard to RQ3, the findings indicate that the dominant GVC reconfiguration strategies identified in the literature include supplier and production location diversification, supply chain regionalization, interorganizational collaboration, enhanced risk management, and supply chain digitalization. These findings are consistent with the studies of Gao & Xu (2024), Habibi et al. (2026), Saidi et al. (2026), and Setyadi & Pawirosumarto (2025), which highlight a strategic shift from efficiency-oriented approaches toward resilience-oriented supply chain management. Moreover, the growing emphasis on digitalization through artificial intelligence, analytics, and Industry 4.0 technologies, as discussed by Agrawal et al. (2024), Ambrogio et al. (2022), Dubey et al. (2021), and Dura et al. (2026), indicates that digital transformation has become a critical component of GVC reconfiguration efforts. These technologies enhance visibility, predictive capabilities, and decision-making processes, thereby enabling organizations to respond more effectively to increasingly complex global uncertainties.

The significance of this study lies in its ability to integrate three streams of literature that have often been examined separately: GVC disruptions, supply chain resilience, and reconfiguration strategies. The synthesis demonstrates that these themes are closely interconnected in explaining the dynamics of global value chains in the post-pandemic era and under conditions of increasing geopolitical pressure. The primary theoretical contribution of this study is the development of a more comprehensive understanding of the relationships among disruption patterns, resilience factors, and reconfiguration strategies within the GVC context. From a practical perspective, the findings provide valuable insights for firms and policymakers seeking to develop risk mitigation strategies, diversify supply chain networks, and strengthen digital capabilities in response to global uncertainty.

Despite these contributions, several limitations should be acknowledged. First, the analysis is restricted to articles that met the inclusion criteria within the selected time frame and databases, and therefore does not encompass all available publications on the topic. Second, the synthesis was conducted at a conceptual level and does not empirically evaluate the effectiveness of individual reconfiguration strategies. Third, the study does not specifically differentiate disruption and resilience characteristics across industrial sectors. Future research may therefore extend this work by conducting sector-specific analyses, undertaking cross-

regional comparisons, or empirically testing the relationships among disruption, resilience, and GVC reconfiguration in different industrial contexts.

In this section, it is necessary to examine the importance of the study results. A Findings and Discussion section can be used to combine these two aspects. This section provides an opportunity to interpret the results and elucidate their significance, while emphasizing any theoretical or practical implications. The Discussion section should comprise a well-reasoned and justified commentary on the significance of the findings, highlighting the importance of the problem and indicating how the results may contribute to a larger body of knowledge or confirm/disprove related propositions.

6. Conclusion

This study demonstrates that post-COVID-19 Global Value Chain (GVC) disruptions are influenced by a combination of production, logistics, trade, geopolitical, energy, and environmental factors. The findings further indicate that GVC resilience is shaped by operational, organizational, network, and technological dimensions, while the dominant reconfiguration strategies identified in the literature include diversification, regionalization, risk management, and digitalization. By synthesizing these interconnected themes, this study contributes to the literature by integrating research on GVC disruption, resilience, and reconfiguration within a comprehensive analytical framework. Future research is encouraged to empirically examine the effectiveness of reconfiguration strategies across different industries and geographical regions to enhance understanding of how organizations can strengthen resilience under conditions of growing global uncertainty.

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