

Shaping Business Competitiveness Through Logistics Capability and Supply Chain Resilience

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ABSTRACT

Logistics capability and supply chain resilience have become increasingly important for organisations seeking to maintain competitiveness within uncertain and rapidly changing business environments. This article examines how logistics capability can strengthen business competitiveness through the development of supply chain resilience. It focuses on the strategic importance of logistics flexibility, supply chain visibility, information capability, collaboration, and resource adaptability in supporting effective responses to operational disruptions. The article identifies several critical issues, including limited logistics flexibility, fragmented information and weak supply chain visibility, coordination difficulties among supply chain partners, and the challenge of balancing resilience investment with business performance. The discussion indicates that logistics capability and supply chain resilience should be developed as complementary strategic capabilities because organisations must maintain operational efficiency while remaining sufficiently adaptable to changing supply chain conditions. Accordingly, the article proposes adaptive and flexible logistics planning, integrated supply chain visibility and information capability, stronger collaborative resilience among supply chain partners, and the alignment of resilience investment with competitive business priorities. Overall, the article concludes that organisations capable of combining efficient logistics operations with flexibility, visibility, collaboration, and resilience are better positioned to maintain business continuity, protect customer value, respond effectively to disruption, and strengthen long term business competitiveness.

Keywords: Logistics, Resilience, Competitiveness, Flexibility, Visibility

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1. INTRODUCTION

Logistics capability has become an increasingly important source of business competitiveness as organisations operate within markets characterised by globalisation, shorter product cycles, demanding customers, and increasingly complex supply networks. Logistics is no longer limited to transportation and storage because it incorporates the coordinated management of physical flows, information, inventory, customer fulfilment, and relationships across supply chain participants. From a strategic perspective, logistics capability represents an organisation's ability to deploy logistics resources and processes in ways that support customer value and competitive objectives. Esper et al. (2007) position logistics learning capability as an important mechanism through which organisations develop and apply logistics knowledge. Similarly, Gligor and Holcomb (2012) associate supply chain agility with organisational capabilities that enable firms to respond effectively to changing market requirements. As competitive environments become more uncertain, logistics capabilities involving flexibility, information processing, integration, responsiveness, and operational coordination become increasingly important (Abdullah et al., 2020). The dynamic capability perspective further suggests that competitive performance depends on the ability of organisations to integrate, develop, and reconfigure competencies as environmental conditions change (Teece et al., 1997). Consequently, logistics capability should be understood as a strategic organisational capability that enables firms to coordinate resources, respond to changing customer requirements, and strengthen their competitive position rather than simply as a collection of operational logistics activities.

The strategic value of logistics capability becomes particularly evident when organisations are required to respond quickly to changes in customer demand and supply chain conditions. Markets increasingly reward firms that can provide reliable delivery, appropriate inventory availability, shorter response times, and effective coordination with suppliers and customers. However, achieving these outcomes requires more than physical logistics infrastructure. Information sharing and connectivity are particularly important because organisations require timely knowledge of demand, inventory, supply conditions, and emerging operational problems. Brandon Jones et al. (2014) demonstrate that supply chain connectivity and information sharing contribute to visibility, which subsequently strengthens supply chain resilience and robustness. Integration among supply chain participants can similarly improve the organisation's ability to coordinate activities and respond to changing operational conditions (Ataseven & Nair, 2017). From an agility perspective, Gligor and Holcomb (2012) emphasise the importance of organisational capabilities that facilitate rapid and effective responses to environmental changes. Logistics capability therefore provides an important connection between internal operational resources and external market requirements. Organisations capable of integrating information, relationships, transportation, inventory, and fulfilment processes are better positioned to respond to customer requirements while maintaining operational efficiency. Such capabilities can become particularly valuable when competitors have access to similar physical resources but differ considerably in their ability to coordinate and deploy them effectively.

Business competitiveness, however, increasingly depends not only on efficiency and responsiveness during normal operating conditions but also on the ability to maintain and restore operations when disruptions occur. This requirement has strengthened academic and managerial interest in supply chain resilience. Christopher and Peck (2004) argue that increasing supply chain complexity and vulnerability create a need for organisations to develop supply chains capable of responding effectively to unexpected disturbances. Ponomarov and Holcomb (2009) subsequently conceptualise supply chain resilience around adaptive capability and the ability to prepare for unexpected events, respond to disruptions, and recover while maintaining continuity. The resilience literature has progressively expanded this perspective by examining capabilities that support preparedness, response, recovery, and adaptation. Abd Wahab and Yusof (2010) emphasise the need to balance supply chain vulnerabilities against resilience capabilities, while Jüttner and Maklan (2011) connect resilience with flexibility, visibility, velocity, and collaboration. In addition, Wieland and Wallenburg (2013) distinguish between proactive and reactive dimensions such as robustness and agility. These perspectives indicate that resilience should not be interpreted simply as recovery after disruption. Instead, it involves a broader organisational capacity to anticipate uncertainty, absorb operational shocks, adapt resources, maintain critical activities, and recover effectively when disruptions affect supply chain operations.

The relationship between organisational resources and resilience is particularly important because firms cannot develop resilience merely by recognising that disruptions may occur. They require capabilities that allow available resources to be reorganised and deployed when operating conditions change. Ambulkar et al. (2015) demonstrate that disruption orientation alone is insufficient for developing firm resilience and show that resource reconfiguration and risk management infrastructure play important roles in strengthening the ability to respond to disruptions. This argument is consistent with the dynamic capability perspective because resilience involves the ability to adjust organisational resources rather than relying exclusively on predetermined routines. Chowdhury and Quaddus (2017) conceptualise supply chain resilience using dynamic capability theory, reinforcing the importance of organisational capabilities in preparing for and responding to changing conditions. Collaboration also contributes to resilience because organisations rarely manage major supply disruptions independently. Scholten and Schilder (2015) demonstrate that collaborative activities can strengthen supply chain resilience through information sharing, collaborative communication, joint relationship efforts, and knowledge creation. Likewise, Hohenstein et al. (2015) identify several resilience strategies within the supply chain literature, including proactive and reactive approaches. Collectively, these studies suggest that resilience emerges from combinations of organisational capabilities rather than from a single risk management practice, making logistics capability potentially important in building adaptive and responsive supply chains.

The connection between logistics capability and resilience becomes increasingly relevant when supply chains experience high levels of environmental uncertainty. Global sourcing, geographical dispersion, lean operations, dependence on interconnected suppliers, and increasing customer expectations can improve efficiency while simultaneously increasing exposure to disruption. Blackhurst et al. (2011) demonstrate that organisations can develop supply chain resiliency through appropriate capabilities that improve their response to disruptive events. Similarly, Tukamuhabwa et al. (2015) identify flexibility, redundancy, collaboration, visibility, and agility among important strategies for strengthening supply chain resilience. Kamalahmadi and Parast (2016) further demonstrate through their review that resilience involves multiple organisational and supply chain capabilities that support preparation, response, and recovery. The importance of these capabilities became particularly visible during the COVID 19 crisis, which exposed vulnerabilities across globally interconnected production and logistics networks. Yusof and Abd Wahab (2020) extend the resilience discussion towards supply network viability, emphasising the ability of interconnected supply networks to survive and continue providing goods and services under major disruption. This perspective indicates that organisations need logistics systems capable of maintaining essential flows while adjusting sourcing, inventory, transportation, and distribution decisions. Logistics capability can therefore support resilience by providing the flexibility, visibility, coordination, and responsiveness necessary to manage changing supply chain conditions.

Supply chain resilience can also contribute to competitiveness because organisations that manage disruptions effectively may protect service reliability, customer relationships, operational continuity, and market position. Resilience should therefore be considered not merely as a defensive capability but as part of the organisation's broader competitive capacity. Brandon Jones et al. (2014) demonstrate that visibility supported by connectivity and information sharing can enhance both resilience and robustness, illustrating how supply chain resources can generate valuable organisational capabilities. Ambulkar et al. (2015) similarly show that resource reconfiguration contributes to resilience under disruption, reinforcing the strategic importance of adaptable organisational resources. From a broader perspective, Ali et al. (2017) identify supply chain resilience as a multidimensional concept involving capabilities that allow supply chains to prepare, respond, recover, and develop following disruptive events. Pettit et al. (2019) further emphasise that organisations can strengthen resilience by understanding the relationship between vulnerabilities and capabilities and by developing appropriate managerial responses. Competitive firms consequently need logistics systems that perform efficiently under normal circumstances while retaining sufficient adaptability to operate under uncertainty. This balance is important because excessive emphasis on efficiency may create vulnerabilities, while resilience initiatives that ignore cost and customer value may weaken competitiveness. The strategic challenge is therefore to develop logistics capabilities that simultaneously support efficiency, responsiveness, adaptability, and continuity.

The COVID 19 pandemic provided an exceptional demonstration of why the relationship between logistics capability, supply chain resilience, and competitiveness deserves greater attention. Severe disruptions to production, transportation, sourcing, and distribution exposed the limitations of supply chains designed predominantly around stable operating conditions. Ivanov and Dolgui (2020) argue that the pandemic requires resilience thinking to be extended towards supply network viability because organisations must consider not only

recovery but also the continued functioning of interconnected supply networks during prolonged disturbances. The crisis also demonstrated the strategic importance of visibility, alternative sourcing, flexible logistics arrangements, inventory decisions, and coordinated responses across supply chain partners. Existing resilience research provides important foundations for understanding these requirements. Christopher and Peck (2004) emphasise supply chain reengineering, collaboration, agility, and risk management culture, while Brandon Jones et al. (2014) demonstrate the importance of information sharing and connectivity for resilience. Furthermore, resource reconfiguration allows organisations to adapt existing capabilities when disruptions create unfamiliar operational conditions (Ambulkar et al., 2015). These insights demonstrate that logistics capability and resilience are closely interconnected strategic concerns. Firms that can reconfigure logistics resources, coordinate partners, maintain information visibility, and adjust operations rapidly may be better positioned to preserve business continuity and competitive performance during periods of significant uncertainty.

Despite extensive research examining logistics capability and supply chain resilience independently, greater attention is required to understand how these capabilities collectively shape business competitiveness. Logistics capability provides organisations with resources and competencies for coordinating product, information, and service flows, while supply chain resilience enables these systems to withstand, adapt to, and recover from disruption. The dynamic capability perspective provides a useful foundation for connecting these concepts because competitive advantage increasingly depends on the ability to modify organisational competencies in response to environmental change (Teece et al., 1997). Resilience research similarly demonstrates that resource reconfiguration, visibility, collaboration, flexibility, and risk management capabilities influence organisational responses to disruption (Ambulkar et al., 2015). Brandon Jones et al. (2014) further establish the importance of information sharing and connectivity in creating visibility and resilience, while Ivanov and Dolgui (2020) extend resilience thinking towards maintaining viable supply networks under severe disruption. Accordingly, this article examines how logistics capability can strengthen business competitiveness through the development of supply chain resilience. Particular attention is given to logistics responsiveness, information visibility, integration, flexibility, resource reconfiguration, and disruption management as interconnected capabilities that can support continuity and competitive performance within increasingly uncertain business environments.

2. LITERATURE REVIEW

The relationship between logistics capability, supply chain resilience, and business competitiveness has attracted increasing attention as organisations face more dynamic markets and greater exposure to operational disruption. Logistics capability involves more than the efficient movement of goods because it incorporates integration, flexibility, information management, coordination, responsiveness, and the effective deployment of logistics resources. Research increasingly suggests that these capabilities can contribute to resilience by helping firms adjust operations when supply chain conditions change. Brusset and Teller (2017) found that integration and flexibility capabilities can strengthen supply chain resilience, while Kim et al. (2020) demonstrate that logistics integration is influenced by relational factors that support cooperation among supply chain partners. Resilience research has simultaneously progressed from a narrow emphasis on recovery towards broader capabilities involving preparation, response, adaptation, and learning (Yusof and Abd Wahab, 2021). More recent systematic evidence also identifies readiness, response, and recovery as major resilience dimensions (Han et al., 2020). Accordingly, this review examines four interconnected areas that support the focus of this article: strategic logistics capability, supply chain resilience capabilities, logistics integration and adaptability, and the contribution of resilience to business competitiveness and performance.

2.1 Strategic Logistics Capability and Business Competitiveness

Logistics capability can provide strategic value when organisations develop resources and routines that enable them to respond effectively to changing market and customer requirements. Logistics performance depends increasingly on how firms coordinate transportation, inventory, information, suppliers, customers, and internal functions rather than on the efficiency of individual logistics activities. Brusset and Teller (2017) demonstrate that operational supply chain capabilities, particularly integration and flexibility, contribute positively to resilience, highlighting the importance of capability development in uncertain environments. Logistics integration is particularly relevant because coordinated relationships can reduce information gaps and improve the alignment of supply chain activities. Kim et al. (2020) found that trust, satisfaction, and commitment influence logistics integration decisions, demonstrating that relational capabilities are important alongside physical logistics

resources. The ability to integrate internal and external activities can also influence overall performance. Meta analytical evidence presented by Ataseven and Nair (2017) establishes a positive relationship between supply chain integration and performance. Consequently, logistics capability should not be evaluated only through transportation cost or delivery efficiency. Its strategic importance also derives from the ability to connect organisational resources, partners, information, and operational processes in ways that strengthen responsiveness and competitive positioning.

The competitive contribution of logistics capability becomes particularly important under conditions of market dynamism and disruption. Firms require capabilities that allow them to sense operational changes, reorganise resources, and maintain effective material and information flows when established routines become less suitable. Yu et al. (2019) demonstrate that supply chain dynamism influences disruption orientation and resilience, while resilience subsequently contributes to financial performance. This finding indicates that logistics and supply chain capabilities can produce strategic outcomes when they enable organisations to cope with environmental change. Innovation capability provides another mechanism through which firms can strengthen resilience. Sabahi and Parast (2020) found that firm innovation can support supply chain resilience from a dynamic capability perspective, suggesting that innovative organisations may possess stronger abilities to modify processes and respond to disruption. Digital technologies can also strengthen information based capabilities and operational responsiveness, although their effectiveness depends on how they are integrated with organisational routines (Ralston & Blackhurst, 2020). These studies suggest that logistics competitiveness increasingly depends on adaptability rather than efficiency alone. Organisations that develop flexible logistics arrangements, information visibility, integration, and innovative problem solving capabilities may be better positioned to maintain service, respond to disruption, and protect their competitive position when business conditions become unstable.

2.2 Supply Chain Resilience as an Adaptive Organisational Capability

Supply chain resilience has developed into a multidimensional concept involving the ability to prepare for disruption, respond effectively, recover operations, and adapt to changed conditions. Earlier resilience research frequently concentrated on the ability of supply chains to return to acceptable operating conditions following unexpected events. More recent studies have expanded this perspective by emphasising adaptation, learning, and capability reconfiguration. Ali et al. (2017) identify anticipation, adaptation, response, recovery, and learning as important resilience capabilities emerging from their systematic review. Similarly, Yusof and Abd Wahab (2020) organise resilience around readiness, response, and recovery and demonstrate that resilience capabilities should be considered together with relevant performance metrics. The capability perspective is further supported by Chowdhury and Quaddus (2017), who conceptualise supply chain resilience using dynamic capability theory and show that resilience involves organisational capacities that develop across different stages of disruption management. Broader literature reviews also demonstrate that resilience includes numerous strategic and operational capabilities rather than a single organisational practice (Kamalahmadi & Parast, 2016). Therefore, resilience should be understood as a continuously developed organisational capability that enables supply chains to function under uncertainty while adjusting resources and processes as conditions evolve.

The dynamic nature of resilience becomes particularly important because supply chain conditions do not remain constant before, during, and after disruption. Organisations need different capabilities depending on whether they are preparing for uncertainty, absorbing immediate impacts, restoring operations, or adjusting to a changed environment. Pettit et al. (2019) emphasise that resilience requires organisations to understand the balance between vulnerabilities and available capabilities rather than simply maximising redundancy. Singh et al. (2019) similarly identify performance indicators that can support the assessment and development of resilient supply chains. From a complex systems perspective, resilience can also change over time as supply chains experience stages of development, disturbance, reorganisation, and adaptation (Ponomarov, 2020). The COVID 19 pandemic reinforced the importance of such adaptive thinking because disruptions affected supply, demand, transportation, labour, and logistics networks simultaneously. Ivanov (2021) positions resilience around management, modelling, and technology approaches that support disruption mitigation and recovery. Collectively, this literature indicates that resilience should not be treated as an emergency response capability activated only after disruption. It requires ongoing investment in visibility, flexibility, knowledge, relationships, resources, and decision processes that enable organisations to adjust repeatedly as supply chain conditions evolve.

2.3 Logistics Integration, Flexibility and Information Capability for Resilience

Logistics integration provides an important foundation for resilience because organisations depend on coordinated information and resource flows when disruptions affect established supply chain arrangements. Strong integration can improve communication between suppliers, customers, logistics providers, and internal functions, allowing organisations to identify problems and coordinate responses more effectively. Brusset and Teller (2017) demonstrate that integration capability is particularly important in strengthening supply chain resilience, while flexibility also contributes positively to the ability of firms to respond to changing conditions. Relationships among supply chain partners further influence integration effectiveness. Kim et al. (2020) show that trust, satisfaction, and commitment support logistics integration, indicating that resilience can depend partly on the quality of interorganisational relationships. Collaborative arrangements can therefore strengthen the ability of supply chain members to share information and coordinate resources during disruptions. Systematic resilience research similarly identifies collaboration, visibility, and flexibility among important practices used to manage uncertainty (Hohenstein et al., 2015). These findings indicate that resilient logistics systems require both operational capabilities and relationship capabilities. Logistics integration becomes particularly valuable when firms can use collaborative relationships to access information, alternative resources, and coordinated responses more rapidly than would be possible through isolated internal decision making.

Information capability strengthens this integration by enabling organisations to recognise disruptions and make timely logistics decisions. Supply chains generate large amounts of operational information, but resilience depends on whether relevant information can be shared, interpreted, and converted into action. Brandon Jones et al. (2014) demonstrate that supply chain connectivity and information sharing can strengthen visibility, which subsequently supports resilience and robustness. Digital technologies can expand these capabilities by increasing real time information availability and improving coordination across supply chain activities. Ralston and Blackhurst (2020) examine Industry 4.0 in relation to resilience and demonstrate that smart technologies can either strengthen or weaken organisational capabilities depending on how they are implemented. Analytics capability provides another important mechanism. Research published in 2021 indicates that big data analytics capabilities can enhance supply chain resilience and firm performance through improvements in innovation and information quality (Dubey et al., 2021). Furthermore, logistics service providers responding to the COVID 19 crisis increased their emphasis on digitalisation and data management as part of resilience building (Herold et al., 2021). These studies demonstrate that information technology contributes to resilience when digital resources are combined with analytical competence, integration, and effective managerial decision making.

2.4 Supply Chain Resilience as a Driver of Business Competitiveness and Performance

Supply chain resilience can strengthen business competitiveness by helping organisations maintain critical operations, protect customer service, and recover more effectively when disruptions occur. Resilience therefore has potential strategic value that extends beyond traditional risk reduction. Yusof et al. (2020) demonstrate that supply chain resilience can positively influence financial performance, indicating that the ability to manage disruption may generate measurable business outcomes. A broader meta analytical investigation by Iftikhar et al. (2021) similarly examines organisational capability, supply chain flexibility, and supply chain integration as antecedents of resilience and establishes links between resilience and firm performance. These findings suggest that resilience can operate as a mechanism through which organisational capabilities contribute to competitive outcomes. Performance measurement remains important because firms need to understand whether resilience investments actually improve readiness, response, recovery, and broader business results. Han et al. (2020) integrate resilience capabilities with performance metrics, demonstrating the importance of evaluating resilience through multiple dimensions rather than through recovery time alone. Resilient organisations can consequently protect competitiveness by maintaining product availability, service reliability, operational continuity, and stakeholder confidence during uncertain conditions. However, resilience should complement rather than replace efficiency, requiring organisations to develop capabilities that provide adaptability without creating unnecessary costs or excessive resources.

The COVID 19 crisis provides particularly strong evidence of the relationship between logistics capability, resilience, and competitive continuity. Severe disruption required organisations to modify transportation arrangements, increase information sharing, redesign operations, and reallocate resources under rapidly changing conditions. Herold et al. (2021) found that logistics service providers responded by strengthening transport flexibility, digitalisation, logistics infrastructure, personnel capacity, and alternative revenue activities. These responses demonstrate how logistics capability can become a practical foundation for maintaining resilient supply

chains during major disruptions. Yusof and Abd Wahab (2020) extend resilience thinking towards supply network viability, emphasising the ability of interconnected supply networks to continue functioning during prolonged crises rather than simply returning to their previous state. Innovation capability can further strengthen this adaptation because firms able to redesign processes and develop alternative responses may recover more effectively (Sabahi & Parast, 2020). In addition, Ali and Golgeci (2019) identify continuing development of resilience research around capabilities, disruption management, and strategic supply chain responses. Together, these studies support the argument that logistics capability and resilience should be considered complementary sources of business competitiveness. Effective logistics capabilities enable organisations to respond and adapt, while resilience helps convert those capabilities into continuity, recovery, and stronger competitive performance under uncertainty.

3. Critical Issues in Leveraging Logistics Capability and Supply Chain Resilience for Business Competitiveness

Although logistics capability and supply chain resilience are increasingly recognised as important sources of business competitiveness, organisations continue to face difficulties in developing these capabilities in a coordinated and sustainable manner. Modern supply chains operate within environments characterised by changing customer demand, global sourcing, complex supplier relationships, digitalisation, and exposure to unexpected disruptions. Under such conditions, efficient logistics operations alone may be insufficient to protect organisational performance. Brusset and Teller (2017) demonstrate that operational capabilities such as integration and flexibility contribute to supply chain resilience, while organisational preparedness and resource configuration also influence the ability to respond to disruptions (Ambulkar et al., 2015). Supply chain resilience itself involves several capabilities associated with anticipation, response, recovery, adaptation, and learning (Ali et al., 2017). Furthermore, the COVID 19 crisis demonstrated how disruptions can simultaneously affect supply, demand, transportation, production, and distribution networks, increasing the need for viable and adaptable supply chain structures (Ivanov & Dolgui, 2020). Accordingly, four critical issues require particular attention: insufficient logistics flexibility under changing conditions, weak supply chain visibility and information integration, difficulties in coordinating partners during disruptions, and tensions between resilience investment and competitive performance.

3.1 Limited Logistics Flexibility in Responding to Rapid Supply Chain Changes

One important issue concerns the ability of logistics systems to adjust quickly when demand, supply availability, transportation capacity, or customer requirements change unexpectedly. Many organisations develop logistics processes primarily around efficiency, predictable demand, and stable operating conditions. Although such arrangements may perform effectively during normal periods, they can become vulnerable when disruptions require rapid changes in transportation routes, inventory positioning, sourcing arrangements, or fulfilment priorities. Brusset and Teller (2017) identify flexibility as an important operational capability contributing to supply chain resilience, demonstrating that organisations require alternatives when established logistics arrangements become ineffective. Similarly, Yusof and Razali (2020) identify flexibility among important strategies used to strengthen resilience, together with collaboration, visibility, redundancy, and agility. Logistics flexibility should therefore involve more than maintaining additional resources. It requires organisations to possess the ability to modify processes and redeploy available resources according to changing conditions. Chowdhury and Quaddus (2017) further position resilience within a dynamic capability perspective, suggesting that organisations need capabilities that allow resources and routines to be reconfigured as environments change. When logistics systems remain highly rigid, organisations may experience delays, inventory shortages, service failures, or increased costs during disruption.

The challenge is intensified by the tension between flexibility and operational efficiency. Organisations frequently attempt to minimise transportation costs, inventory levels, unused capacity, and supplier duplication because these practices can improve cost performance under stable conditions. However, excessive dependence on highly optimised logistics structures may reduce the alternatives available when disruption occurs. Pettit et al. (2010) argue that resilience requires organisations to balance vulnerabilities with appropriate capabilities rather than simply maximising efficiency or redundancy. This balance is particularly important because maintaining excessive logistics capacity can create unnecessary costs, while insufficient flexibility can expose organisations

to serious service failures. Yu et al. (2019) show that environmental dynamism and disruption orientation influence supply chain resilience, indicating that firms operating under greater uncertainty may require stronger adaptive capabilities. Innovation can also strengthen this adaptive capacity. Sabahi and Parast (2020) demonstrate that firm innovation can contribute to supply chain resilience from a dynamic capability perspective. Therefore, the central issue is not simply whether organisations possess flexible logistics resources, but whether they can determine the appropriate degree of flexibility for their operating environment. Logistics capability must provide sufficient adaptability to respond to changing conditions without creating structures that are unnecessarily expensive or operationally inefficient.

3.2 Weak Supply Chain Visibility and Fragmented Information Capability

A second critical issue concerns insufficient visibility across logistics and supply chain activities. Organisations cannot respond effectively to disruption when they lack timely information concerning inventory levels, supplier conditions, transportation status, customer demand, or emerging operational problems. Brandon Jones et al. (2014) demonstrate that supply chain connectivity and information sharing contribute to visibility, which subsequently strengthens resilience and robustness. This finding indicates that information availability represents an important foundation for resilient logistics decisions. However, many supply chains consist of multiple organisations operating different information systems and decision processes, which can make information fragmented or delayed. Digital technology may increase the amount of information available without necessarily improving decision quality. Ralston and Blackhurst (2020) explain that Industry 4.0 technologies can influence resilience capabilities, but the performance effects of technology depend on how digital resources are implemented and integrated. Information capability should therefore extend beyond collecting data. Organisations require appropriate systems, relationships, analytical skills, and decision processes that enable relevant information to reach the right participants at appropriate times. Without these conditions, increased digitalisation may create large volumes of disconnected information while providing limited improvement in actual logistics responsiveness.

The challenge becomes more significant when organisations attempt to use information across organisational boundaries. Supply chain partners may be reluctant to share sensitive information or may use incompatible technologies and data standards. As a result, individual organisations can possess detailed internal information while remaining uncertain about upstream supply conditions or downstream customer requirements. Scholten and Schilder (2015) demonstrate that collaboration supports resilience through mechanisms including information sharing, collaborative communication, joint relationship efforts, and knowledge creation. This suggests that visibility is partly a relational capability rather than purely a technological capability. Kim et al. (2020) similarly show that relational factors such as trust, satisfaction, and commitment influence logistics integration, reinforcing the importance of cooperative relationships in information exchange. The increasing application of analytics introduces additional requirements because organisations must interpret data and convert information into timely actions. Evidence from supply chain research indicates that analytical capabilities can support agility and organisational performance when they are effectively incorporated into operational decision making (Dubey et al., 2019). Consequently, weak visibility should not be addressed only through investment in technology. Organisations need stronger information integration, partner trust, analytical capability, and decision coordination if logistics information is to become a meaningful source of resilience and competitiveness.

3.3 Coordination Difficulties Across Supply Chain Partners During Disruptions

Supply chain resilience also depends heavily on coordination among organisations because major disruptions frequently extend beyond the boundaries of individual firms. Suppliers, manufacturers, logistics providers, distributors, retailers, and customers may all experience different consequences from the same disruptive event. Effective response therefore requires organisations to coordinate information, resources, priorities, and recovery actions. However, supply chain members may possess different commercial objectives, risk perceptions, capabilities, and levels of preparedness. Yusof and Salleh (2021) demonstrate that collaborative relationships can strengthen supply chain resilience, particularly through communication, information sharing, joint efforts, and knowledge creation. Hohenstein et al. (2015) similarly identify collaboration as an important strategy within the

supply chain resilience literature. Nevertheless, collaboration can become difficult when disruption creates resource scarcity and each organisation attempts to protect its own immediate interests. Logistics providers may prioritise particular customers, suppliers may allocate limited inventory differently, and buyers may increase orders as protection against shortages. These responses can weaken overall coordination and increase instability throughout the supply chain. Therefore, resilience requires relationships capable of supporting cooperation not only during normal operations but also when partners face uncertainty and conflicting priorities.

Trust represents a particularly important element of this coordination challenge because organisations are more likely to share information and cooperate when they believe partners will behave reliably. Kim et al. (2020) demonstrate that relational conditions influence logistics integration, indicating that integration cannot be established through contractual or technological arrangements alone. Stronger relationships may allow organisations to communicate emerging problems earlier and coordinate alternative logistics solutions before disruptions become more severe. Supply chain integration can also contribute to performance when internal and external activities are effectively coordinated (Ataseven & Nair, 2017). However, highly integrated relationships can simultaneously create dependencies that increase exposure when critical partners fail. Resilience therefore requires organisations to develop close collaboration while maintaining sufficient alternatives and adaptability. Blackhurst et al. (2011) show that resilient supply chains require capabilities that enable organisations to manage disruptive events and recover effectively. The COVID 19 crisis further demonstrated that logistics service providers needed to adapt transportation capacity, infrastructure, personnel, and digital processes rapidly (Herold et al., 2021). Consequently, coordination should involve contingency planning, clearly defined communication processes, shared understanding of critical logistics activities, and relationships that allow supply chain partners to reorganise resources collectively when disruptions occur.

3.4 Balancing Resilience Investment with Business Competitiveness and Performance

The final critical issue involves determining how much organisations should invest in resilience without weakening cost competitiveness and financial performance. Resilience capabilities such as flexible transportation arrangements, alternative suppliers, additional inventory, redundant capacity, digital visibility, employee development, and contingency planning can reduce disruption exposure, but they may also require substantial resources. Organisations therefore face a strategic tension between maintaining efficient logistics operations and developing sufficient resilience for uncertain conditions. Pettit et al. (2019) emphasise that resilience requires an appropriate balance between supply chain vulnerabilities and capabilities, indicating that greater resilience does not necessarily mean maximising every possible protective measure. Organisations need to identify which vulnerabilities are most critical and develop capabilities that provide proportional protection. Ambulkar et al. (2015) similarly demonstrate that resilience depends on resource reconfiguration and risk management infrastructure, suggesting that organisations should focus on capabilities that allow existing resources to be adapted effectively. Resilience investments should consequently be evaluated according to their contribution to continuity, service performance, recovery capability, and strategic flexibility rather than treated solely as additional costs.

The connection between resilience and competitiveness becomes more complex because some resilience investments may generate value only when disruption occurs. Managers may therefore find it difficult to justify investments whose financial returns are uncertain under normal operating conditions. However, empirical research suggests that resilience can contribute to organisational performance. Yu et al. (2019) find that supply chain resilience positively influences financial performance, indicating that adaptive capabilities can provide economic value. Resilience can also protect customer relationships and service reliability by allowing organisations to continue operating or recover more rapidly after disruption. Ivanov and Dolgui (2020) extend this argument through the concept of supply network viability, which emphasises the capacity of supply networks to continue functioning under major disturbances. Rather than attempting to eliminate all risk, organisations should therefore develop logistics capabilities that provide economically appropriate protection against important vulnerabilities. The challenge is to avoid both extremes: highly efficient but fragile supply chains and excessively protected supply chains that become financially uncompetitive. Business competitiveness can be strengthened when organisations combine cost efficiency with sufficient flexibility, visibility, collaboration, and resource reconfiguration. This balance positions supply chain resilience not as an isolated defensive expenditure but as a strategic capability supporting continuity and long term competitive performance.

4. DISCUSSION ON STRENGTHENING BUSINESS COMPETITIVENESS THROUGH LOGISTICS CAPABILITY AND SUPPLY CHAIN RESILIENCE

The critical issues identified in the preceding section demonstrate that logistics capability and supply chain resilience should be developed as complementary strategic capabilities rather than treated as separate operational priorities. Competitive organisations require logistics systems that operate efficiently under normal conditions while retaining sufficient flexibility, visibility, coordination, and adaptive capacity to respond when conditions change. Brusset and Teller (2017) demonstrate that operational capabilities, particularly integration and flexibility, contribute to supply chain resilience, indicating that logistics capability provides an important foundation for managing uncertainty. Resilience also requires organisations to mobilise and reconfigure resources when established processes become unsuitable (Ambulkar et al., 2015). Furthermore, effective resilience depends on collaboration and information exchange across organisational boundaries, as emphasised by Scholten and Schilder (2015). The COVID 19 crisis further demonstrated that prolonged disruption can require organisations to maintain network viability rather than concentrating solely on returning operations to their previous condition (Ivanov & Dolgui, 2020). Accordingly, the four issues identified previously are discussed through strengthening logistics flexibility, improving supply chain visibility and information capability, developing stronger coordination among supply chain partners, and balancing resilience investment with business competitiveness and performance.

4.1 Strengthening Logistics Flexibility for Dynamic Supply Chain Conditions

Logistics flexibility should be viewed as a strategic capability that enables organisations to modify transportation, inventory, distribution, sourcing, and fulfilment arrangements when established operating conditions change. A highly efficient logistics system may perform effectively when demand and supply remain predictable, but excessive dependence on fixed processes can create vulnerability when disruptions occur. Brusset and Teller (2017) demonstrate that flexibility contributes significantly to supply chain resilience, supporting the argument that organisations require alternative logistics arrangements rather than relying exclusively on optimised routine processes. This perspective is consistent with Tukamuhabwa et al. (2015), who identify flexibility, agility, redundancy, collaboration, and visibility among important strategies for strengthening resilience. Logistics flexibility can involve alternative transportation routes, adjustable inventory positions, multiple fulfilment options, flexible capacity, or the ability to modify relationships with logistics partners. However, flexibility should not be interpreted simply as maintaining excessive resources. From a dynamic capability perspective, organisations require the ability to adapt and reconfigure existing resources when conditions change (Chowdhury & Quaddus, 2017). Therefore, the competitive value of logistics flexibility depends not only on resource availability but also on managerial capability to recognise changing conditions and reorganise logistics activities rapidly and effectively.

The appropriate level of flexibility should also reflect the organisation's exposure to uncertainty because maintaining unnecessary alternatives can increase operating costs and weaken efficiency. Resilience consequently requires balance rather than maximum flexibility. Pettit et al. (2010) argue that organisations should balance vulnerabilities with appropriate resilience capabilities, suggesting that resilience strategies should correspond with the risks faced by the supply chain. Organisations operating in highly uncertain markets may require greater transportation alternatives, inventory flexibility, or supplier options than firms operating under relatively stable conditions. Yu et al. (2019) demonstrate that supply chain dynamism influences disruption orientation and resilience, while resilience can subsequently contribute to financial performance. This relationship indicates that flexible logistics capabilities can have strategic value when they help organisations protect business performance under changing conditions. Innovation can further support adaptation because firms capable of modifying processes and developing alternative solutions may respond more effectively to disruption. Sabahi and Parast (2020) identify innovation as an important contributor to supply chain resilience from a dynamic capability perspective. Therefore, logistics flexibility should be developed selectively according to operational vulnerability, customer requirements, market uncertainty, and the potential consequences of disruption rather than implemented as a uniform strategy throughout the organisation.

4.2 Improving Supply Chain Visibility and Integrated Information Capability

The visibility issue demonstrates that effective logistics decisions depend on an organisation's ability to obtain timely and reliable information about activities occurring throughout the supply chain. Logistics managers cannot respond effectively to disruption when they lack information concerning inventory availability, transportation status, supplier capacity, customer demand, or emerging operational constraints. Brandon Jones et al. (2014) demonstrate that connectivity and information sharing contribute to supply chain visibility, which subsequently strengthens resilience and robustness. This suggests that visibility should be considered an important logistics capability rather than merely an information technology outcome. Organisations should therefore integrate information from procurement, transportation, inventory management, distribution, suppliers, customers, and logistics service providers to develop a more complete understanding of supply chain conditions. Collaboration is also relevant because information visibility frequently depends on the willingness of external partners to exchange useful information. Scholten and Schilder (2015) show that information sharing and collaborative communication contribute to supply chain resilience. Digital technologies can improve the speed and volume of information exchange, but technological connectivity alone is insufficient. Organisations need common information standards, reliable data, clearly defined responsibilities, and managerial processes capable of converting information into coordinated logistics decisions. Visibility becomes strategically valuable when information enables earlier identification of disruption and faster organisational response.

Information capability should also include the ability to analyse and interpret data because large volumes of information do not automatically improve resilience or competitiveness. Organisations increasingly use digital technologies to monitor supply chain activities, but decision quality depends on whether managers can convert data into relevant operational knowledge. Ralston and Blackhurst (2020) explain that Industry 4.0 technologies can influence supply chain resilience capabilities, demonstrating that digital resources need to be incorporated effectively within organisational processes. Analytical capability can further improve responsiveness by allowing managers to recognise patterns, anticipate problems, and evaluate alternative logistics decisions. Dubey et al. (2019) find that big data analytics capability contributes to supply chain agility, with organisational flexibility influencing the strength of this relationship. These findings suggest that information capability combines technological infrastructure, analytical competence, managerial judgement, and interorganisational information sharing. During significant disruptions, logistics organisations may need information to determine transportation alternatives, prioritise customer orders, reposition inventory, or modify capacity. Research concerning logistics service providers during COVID 19 similarly demonstrates increasing attention to digitalisation and information management as part of resilience responses (Herold et al., 2021). Therefore, stronger visibility can improve resilience when accurate information is integrated with analytical capability and timely logistics decision making.

4.3 Strengthening Coordination and Collaboration Across Supply Chain Partners

The coordination issue illustrates that supply chain resilience cannot be created by individual organisations acting independently because logistics activities frequently depend on multiple interconnected partners. Transportation providers, suppliers, manufacturers, distributors, and customers must coordinate resources and information when disruptions affect normal supply chain arrangements. Scholten and Schilder (2015) demonstrate that collaboration contributes to resilience through information sharing, collaborative communication, joint relationship efforts, and knowledge creation. These activities can enable supply chain partners to recognise emerging problems more quickly and develop coordinated responses before disruptions become more severe. Collaboration is also identified as an important resilience strategy across the wider literature (Hohenstein et al., 2015). However, effective coordination requires relationships that have been developed before disruptions occur. Organisations that establish communication procedures and cooperative relationships only after an emergency begins may encounter delays and uncertainty concerning responsibilities. Logistics capability should therefore include relationship management and interorganisational coordination as well as physical transportation and distribution capabilities. Stronger relationships can improve the availability of alternative capacity, transportation options, and operational knowledge during periods of uncertainty. Consequently, collaborative logistics arrangements can contribute to resilience by allowing organisations to access capabilities beyond those controlled internally and mobilise resources more effectively when supply chain conditions deteriorate.

Effective collaboration nevertheless requires trust because organisations may hesitate to share sensitive information or resources with supply chain partners when relationships are weak. Kim et al. (2020) demonstrate that trust, satisfaction, and commitment influence logistics integration, suggesting that relational quality plays an important role in creating coordinated logistics systems. Stronger integration may support business performance

when organisations can align internal and external supply chain activities (Ataseven & Nair, 2017). However, organisations should also recognise that close integration can create dependencies. Excessive dependence on a single supplier, logistics provider, or distribution arrangement can increase vulnerability when that partner experiences disruption. Coordination should therefore combine strong relationships with appropriate contingency alternatives. Blackhurst et al. (2011) emphasise the development of capabilities that enable supply chains to respond effectively to disruptive events. The COVID 19 crisis provides practical evidence of this requirement because logistics service providers needed to adapt transportation capacity, workforce arrangements, infrastructure, and digital processes under rapidly changing conditions (Herold et al., 2021). Supply chain coordination should consequently incorporate shared contingency planning, clear communication channels, joint problem solving, and appropriate alternative arrangements. Such practices can strengthen collective response while reducing the possibility that disruptions affecting one partner spread unnecessarily across the wider supply network.

4.4 Balancing Resilience Investment with Business Competitiveness and Performance

Resilience investment should be approached strategically because organisations need to strengthen their ability to withstand disruption without creating cost structures that weaken normal competitive performance. Additional inventory, alternative suppliers, flexible transportation capacity, digital visibility systems, workforce development, and contingency resources can improve resilience, but these capabilities require financial and managerial investment. Yusof et al. (2020) emphasise that resilience depends on maintaining an appropriate balance between vulnerabilities and capabilities. This perspective suggests that organisations should identify their most important vulnerabilities before determining which resilience investments provide sufficient protection. Not every logistics process requires the same level of redundancy or flexibility. Critical products, customers, suppliers, routes, and distribution facilities may justify stronger resilience capabilities because disruption could generate significant financial or service consequences. Ambulkar et al. (2015) demonstrate that resource reconfiguration and risk management infrastructure strengthen firm resilience during supply chain disruption. The implication is that organisations do not necessarily need to maintain large quantities of unused resources. They can instead develop capabilities that allow existing resources to be reorganised quickly when disruptions occur. This approach can reduce unnecessary resilience costs while retaining the ability to respond effectively when logistics conditions change.

Resilience should ultimately be connected with business competitiveness because the strategic purpose of resilience is not simply to survive disruption but to protect the organisation's ability to create customer and business value. Yu et al. (2019) demonstrate that supply chain resilience can positively influence financial performance, providing evidence that resilience capability can generate economic benefits. Resilient logistics systems can protect service reliability, inventory availability, customer relationships, and operational continuity when competitors experience more significant disruption. However, excessive resilience investment can reduce these advantages if additional resources create unsustainable operating costs. Organisations should therefore evaluate resilience investments according to both disruption protection and their contribution to customer value and competitive performance. Ivanov and Dolgui (2020) extend this perspective through supply network viability, emphasising the ability of interconnected supply networks to continue providing goods and services during major disturbances. This shifts resilience thinking from restoring previous operations towards maintaining strategically important functions under changing conditions. Logistics capability becomes particularly important because transportation, inventory, distribution, information, and partner relationships determine whether products and services can continue reaching customers. Business competitiveness can therefore be strengthened when organisations achieve an appropriate balance among logistics efficiency, flexibility, visibility, collaboration, resilience, and financial performance.

5. STRATEGIC SUGGESTIONS FOR STRENGTHENING LOGISTICS CAPABILITY, SUPPLY CHAIN RESILIENCE AND BUSINESS COMPETITIVENESS

Logistics capability and supply chain resilience should be strengthened together because both directly influence how organisations respond to uncertainty while maintaining competitive performance. The preceding discussion shows that flexibility, visibility, collaboration, and appropriate resilience investment are particularly important. Pettit et al. (2019) emphasise the need to balance supply chain vulnerabilities with suitable resilience capabilities,

while Scholten and Schilder (2015) highlight the importance of collaboration in supporting resilience. Accordingly, four practical suggestions are proposed to strengthen logistics capability, improve resilience, and support long term business competitiveness.

5.1 Developing Adaptive and Flexible Logistics Planning

Organisations should develop adaptive logistics planning that enables transportation, inventory, distribution, sourcing, and fulfilment activities to be adjusted when operating conditions change. Logistics flexibility should not depend exclusively on maintaining additional resources because excessive capacity can increase costs and reduce operational efficiency. Instead, organisations should identify critical logistics activities and determine which processes require alternative arrangements. Pettit et al. (2019) explain that effective resilience requires an appropriate relationship between vulnerabilities and capabilities, suggesting that firms should develop resilience according to their specific exposure rather than attempting to maximise every capability. Flexibility can therefore be incorporated through alternative transportation arrangements, multiple distribution options, adjustable inventory policies, alternative suppliers, and flexible resource allocation. Research also indicates that resilience has strategic performance implications. Yu et al. (2019) found that supply chain dynamism affects disruption orientation and resilience, while resilience subsequently influences financial performance. This relationship suggests that logistics planning should account for the level of uncertainty facing the organisation. Firms operating within highly volatile environments may require greater flexibility than those experiencing relatively predictable supply and demand. Adaptive planning should consequently be based on vulnerability assessment, operational priorities, customer requirements, and potential disruption consequences.

Flexible logistics planning should also incorporate scenario preparation and resource reconfiguration so that organisations can respond rapidly without designing entirely new solutions after disruptions have already occurred. Managers can identify critical suppliers, transportation routes, distribution facilities, inventory categories, and customer segments and determine appropriate alternatives for each area. This approach allows resilience resources to be concentrated where operational disruption could create the greatest business consequences. The COVID 19 experience demonstrates the practical importance of such preparedness. Herold et al. (2021) found that logistics service providers changed their focus across areas including transportation, digitalisation, infrastructure, personnel, and financial stability when responding to pandemic related disruption. Furthermore, Ivanov and Dolgui (2020) argue that supply chain resilience should extend towards supply network viability, which involves maintaining the functioning of interconnected supply networks during severe and prolonged disruption. Organisations should therefore regularly evaluate whether logistics alternatives remain realistic as markets and supply networks change. Flexible logistics capability should be continuously reviewed rather than developed only following a major disruption. Such preparation can strengthen responsiveness while allowing firms to preserve service continuity and competitive performance when established logistics arrangements become temporarily unavailable or ineffective.

5.2 Establishing Integrated Supply Chain Visibility and Information Capability

Organisations should strengthen supply chain visibility by integrating relevant information across logistics activities and supply chain partners. Visibility is particularly important because managers need timely knowledge concerning inventory availability, supplier performance, transportation movements, order status, capacity limitations, and customer requirements before they can make effective disruption decisions. However, organisations should avoid treating visibility simply as a technology investment. Information becomes strategically valuable only when it is accurate, timely, accessible, and connected with decision processes. Collaboration research demonstrates that information sharing and collaborative communication contribute to resilience through stronger visibility, velocity, and flexibility (Scholten & Schilder, 2015). Organisations should consequently establish clear procedures concerning what information should be shared, who should receive it, and how quickly emerging problems should be communicated. Logistics managers can prioritise information relating to critical products, suppliers, routes, inventory positions, and customer commitments rather than attempting to monitor every activity at the same level. This approach can improve decision quality while reducing unnecessary information complexity. Supply chain visibility should therefore connect technological systems with organisational routines and collaborative relationships so that emerging disruptions can be recognised earlier and appropriate logistics responses can be initiated more quickly.

Information capability should also be strengthened through analytical competence and structured decision processes. Managers need the ability to interpret logistics information, distinguish critical disruptions from normal operational variation, and evaluate available response alternatives. Digital systems can support these activities by improving information availability, but organisations should ensure that technology is aligned with actual logistics requirements. The importance of digital capability became particularly evident during the pandemic, when logistics organisations needed stronger information and communication mechanisms to maintain operations. Herold et al. (2021) show that logistics service providers placed greater attention on digitalisation as they adapted their operations and resilience strategies during COVID 19. Organisations should therefore develop integrated information platforms that support coordination among logistics, procurement, inventory, transportation, and customer service functions. Relevant employees should also receive appropriate training to interpret operational information and translate it into decisions. Visibility should ultimately enable managers to answer practical questions concerning where disruption is occurring, which activities are affected, what resources remain available, and which response provides the strongest operational outcome. By combining reliable information, digital connectivity, analytical competence, and managerial judgement, organisations can strengthen logistics responsiveness and make visibility a meaningful source of resilience and competitiveness.

5.3 Building Collaborative Resilience Across Supply Chain Partners

Organisations should establish collaborative resilience with suppliers, logistics providers, distributors, and other critical supply chain partners before disruptions occur. Collaboration is essential because supply chain continuity depends on resources, information, and capabilities distributed across multiple organisations. Transportation capacity may depend on logistics providers, product availability on suppliers, while fulfilment performance may require coordination among manufacturers, distributors, and retailers. Scholten and Schilder (2015) demonstrate that collaboration strengthens supply chain resilience through information sharing, collaborative communication, joint relationship efforts, and knowledge creation. Similarly, global supply chains require organisations to reconsider how relationships and interconnected activities are managed when economic and operational conditions become uncertain (Zinn & Goldsby, 2020). Organisations should therefore establish clear communication structures, responsibilities, information sharing procedures, and response priorities with critical partners. Such arrangements allow supply chain members to recognise emerging problems and coordinate actions more rapidly. Zhu and Krikke (2020) further demonstrate the importance of coordinated resilience strategies when supply chains experience severe disruptions that affect their normal operating structures. Collaborative planning should consequently identify critical products, customers, logistics activities, and resources that require priority when capacity becomes constrained. Establishing these arrangements before disruption can reduce uncertainty, improve preparedness, and strengthen the ability of supply chain partners to respond collectively.

Collaborative resilience should also be developed without creating excessive dependence on individual supply chain partners. Strong relationships can improve coordination and resource sharing, but organisations may become vulnerable when essential logistics activities rely entirely on a single supplier, transportation provider, or distribution arrangement. The objective should therefore be to combine strong relationships with sufficient alternatives and adaptive capacity. Supply chain partners can jointly assess vulnerabilities, identify potential capacity limitations, and determine how transportation, inventory, information, and other resources could be reorganised during disruption. Herold et al. (2021) demonstrate that logistics service providers responding to COVID 19 adjusted areas including transportation, digitalisation, infrastructure, personnel, and operational capacity. Ivanov and Dolgui (2020) similarly emphasise the importance of maintaining viable interconnected supply networks during extraordinary disruptions. Digital connectivity can further support collaboration because real time information can strengthen monitoring and coordination across supply chain participants. Zhu (2020) shows that Internet of Things applications can improve information transmission, reduce information asymmetry, and support closer cooperation among supply chain members. Organisations should therefore integrate important partners into contingency planning, information sharing, and resilience reviews. Collaborative resilience can provide access to additional information, expertise, capacity, and response alternatives, strengthening the collective ability of the supply network to maintain critical flows and protect customer service during periods of uncertainty.

5.4 Aligning Resilience Investment with Competitive Business Priorities

Organisations should align resilience investment with business priorities rather than attempting to protect every logistics activity equally. Resilience capabilities require financial resources, managerial attention, technology, infrastructure, and sometimes additional operational capacity. Therefore, investments should be concentrated on vulnerabilities that could significantly affect customer service, business continuity, financial performance, or strategic relationships. Pettit et al. (2019) emphasise that resilience management requires an appropriate balance between vulnerabilities and capabilities, supporting a selective rather than excessive approach to resilience investment. Organisations can begin by identifying critical logistics activities and assessing the operational and financial consequences if those activities are disrupted. Different resilience responses can then be considered according to their expected value. For example, some operations may require alternative suppliers or transportation arrangements, while others may benefit more from improved information visibility or flexible inventory policies. The purpose is not to eliminate uncertainty because complete protection is unrealistic and potentially expensive. Instead, organisations should develop sufficient capability to manage important disruptions while preserving efficient everyday operations. This approach can help prevent resilience initiatives from becoming disconnected from the organisation's competitive and financial objectives.

Resilience investment should also be evaluated according to its contribution to business performance rather than being treated solely as an additional operating cost. Yu et al. (2019) provide empirical evidence that supply chain resilience can positively influence financial performance, indicating that resilience capabilities may produce strategic economic benefits. These benefits can arise when resilient logistics operations maintain product availability, fulfil customer commitments, protect market relationships, and recover more rapidly than competitors during disruption. At the same time, organisations should avoid excessive redundancy that increases costs without providing proportionate strategic value. The concept of supply network viability proposed by Ivanov and Dolgui (2020) provides a useful perspective because it emphasises maintaining the ability of supply networks to provide goods and services during severe disturbances rather than simply restoring previous operating structures. Resilience investment should therefore support the continuation of strategically important activities while allowing logistics resources to adapt when circumstances change. Organisations can periodically review resilience investments according to changes in supplier networks, transportation conditions, customer requirements, technology, and market uncertainty. By connecting resilience decisions with logistics capability and competitive priorities, firms can achieve a more sustainable balance among cost efficiency, operational continuity, adaptability, customer value, and long term business competitiveness.

6. CONCLUSION

The capacity to compete in increasingly uncertain business environments is no longer determined solely by operational efficiency, cost reduction, or the optimisation of individual logistics activities. Sustainable competitiveness increasingly depends on whether organisations possess the capabilities to anticipate changing conditions, mobilise resources, maintain critical flows, and respond decisively when established supply chain arrangements are disrupted. The analysis demonstrates that logistics capability provides an essential strategic foundation for this capacity by connecting transportation, inventory, information, fulfilment, resources, and interorganisational relationships with broader competitive priorities. Its strategic significance becomes particularly evident when logistics flexibility, supply chain visibility, information capability, integration, and responsiveness are developed collectively rather than as isolated operational practices. Supply chain resilience strengthens this foundation by enabling organisations to absorb disruption, reorganise resources, sustain essential activities, recover effectively, and adapt to emerging operating conditions. The relationship between logistics capability and resilience should therefore be understood as mutually reinforcing, with logistics capabilities providing the operational mechanisms for adaptation while resilience determines how effectively those capabilities can be mobilised under uncertainty.

The findings further demonstrate that resilience does not emerge from excessive redundancy or indiscriminate investment in protective resources. Competitive organisations must achieve a deliberate balance between efficiency and adaptability by directing resilience capabilities towards vulnerabilities that have the greatest implications for customer value, operational continuity, and strategic performance. Logistics flexibility must provide viable alternatives without creating unnecessary cost, while supply chain visibility must convert timely

and reliable information into actionable decisions. Collaboration must extend beyond routine information exchange towards coordinated problem solving, shared preparedness, and collective resource mobilisation across supply chain partners. At the same time, digital and analytical capabilities must strengthen managerial judgement rather than merely increase the volume of available information. These requirements demonstrate that resilient logistics systems are created through the purposeful alignment of resources, relationships, information, technology, and decision processes. Organisations that achieve this alignment are better equipped not only to recover from disruption but also to preserve service reliability, maintain customer confidence, protect strategically important activities, and respond more effectively than competitors when market and supply chain conditions become unstable.

Ultimately, the strategic value of logistics capability lies in its ability to transform supply chain resilience from a defensive response into a source of enduring business competitiveness. Organisations capable of continuously reconfiguring logistics resources, strengthening visibility, coordinating supply chain relationships, and adapting operational priorities can develop supply chains that remain efficient during stability while retaining sufficient responsiveness during uncertainty. This capability is increasingly important as global supply networks become more interconnected, digitally enabled, and exposed to disruptions that cannot always be predicted or prevented. Business competitiveness should therefore be pursued through logistics systems designed not only for optimal performance under expected conditions but also for continuity, adaptability, and intelligent recovery when those conditions change. By integrating logistics capability with resilience-oriented decision making, organisations can move beyond short-term disruption management towards a more adaptive and strategically sustainable model of supply chain management. Such an approach positions resilience as an integral component of competitive strength, enabling organisations to protect customer value, sustain operational continuity, respond confidently to uncertainty, and reinforce long-term competitive performance within an increasingly complex business environment.

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8. CONFLICT OF INTEREST

The authors declare that there are no financial, professional, institutional, or personal conflicts of interest that could have influenced the preparation, analysis, interpretation, or publication of this article. All academic arguments and conclusions presented in the study were developed independently and in accordance with established principles of research integrity, scholarly objectivity, and responsible academic practice.

9. AUTHOR CONTRIBUTION STATEMENT

Azahari Jamaludin contributed to the conceptualisation of the study, development of the article framework, literature review, and preparation of the original manuscript.

Ahmad Fauzi Ahmad Zaini contributed to the synthesis and interpretation of scholarly evidence, critical analysis of logistics capability and supply chain resilience, and development of the discussion and strategic recommendations.

Shahri Abu Seman contributed to the critical review of the manuscript, refinement of the conceptual arguments, evaluation of the academic content, and editorial revision.

All authors reviewed and approved the final version of the manuscript for publication.

10. ETHICS STATEMENT

This study is conceptual in nature and was developed through the review, critical analysis, and synthesis of previously published academic literature and secondary scholarly sources. As the study did not involve human

participants, personal or confidential information, surveys, interviews, experimental procedures, or animal subjects, formal ethical approval and informed consent were not required. The authors nevertheless maintained appropriate standards of academic integrity, responsible authorship, accurate acknowledgement of scholarly sources, and ethical publication practices throughout the preparation of the manuscript.

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